

355 F.3d 1343, 1351-52 (Fed. Cir. 2004); *Brown & Williamson Tobacco Corp. v. Philip Morris, Inc.*, 229 F.3d 1120, 1121 (Fed. Cir. 2000) and *KSR*, 127 S.Ct. at 1740 (“a combination of elements ‘must do more than yield a predictable result’; combining elements that work together ‘in an unexpected and fruitful manner’ would not have been obvious”). Further, a suggestion to combine need not be express and may come from the prior art, as filtered through the knowledge of one skilled in the art. See *Certain Lens-Fitted Film Pkgs.*, Inv. No. 337-TA-406, Order No. 141 at 6 (May 24, 2005).

“Secondary considerations,” also referred to as “objective evidence of non-obviousness,” must be considered in evaluating the obviousness of a claimed invention, but the existence of such evidence does not control the obviousness determination. *Graham*, 383 U.S. at 17-18. A court must consider all of the evidence under the *Graham* factors before reaching a decision on obviousness. *Richardson-Vicks Inc.*, 122 F.3d at 1483-84. Objective evidence of non-obviousness may include evidence of the commercial success of the invention, long felt but unsolved needs, failure of others, copying by others, teaching away, and professional acclaim. See *Perkin-Elmer Corp. v. Computervision Corp.*, 732 F.2d 888, 894 (Fed. Cir. 1984), cert. denied, 469 U.S. 857 (1984); *Avia Group Int'l, Inc. v. L.A. Gear California*, 853 F.2d 1557, 1564 (Fed. Cir. 1988); *In re Hedges*, 783 F.2d 1038, 1041 (Fed. Cir. 1986); *Kloster Speedsteel AB v. Crucible Inc.*, 793 F.2d 1565 (Fed. Cir. 1986), cert. denied, 479 U.S. 1034 (1987). The burden of showing secondary considerations is on the patentee and, in order to accord objective evidence substantial weight, a patentee must establish a nexus between the evidence and the merits of the claimed invention; a *prima facie* case is generally set forth “when the patentee shows both that there is commercial success, and that the thing (product or method) that is commercially successful is the invention disclosed and claimed in the patent.” *In re GPAC Inc.*, 57 F.3d 1573, 1580 (Fed. Cir. 1995); *Demaco Corp. v. F. Von Langsdorff Licensing Ltd.*, 851 F.2d 1387, 1392 (Fed. Cir. 1988), cert. denied, 488 U.S. 956 (1988); *Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, Comm'n Op. (March 15, 1990). Once a patentee establishes nexus, the burden shifts back to the challenger to show that, e.g., commercial success was caused by “extraneous factors other than the patented invention, such as advertising, superior workmanship, etc.” (*Id.*) at 1393.

*111 Generally, a prior art reference that teaches away from the claimed invention does not create *prima facie* case of obviousness. *In re Gurley*, 27 551, 553 (Fed. Cir. 1994); see also *Andersen Corp. v. Pella Corp.*, No. 2007-1536, 2008 U.S. App. LEXIS 24087, *13-18 (Fed. Cir. Nov. 19, 2008); *Certain Rubber Antidegradants*, Inv. No. 337-TA-533 (Remand), Final ID (Dec. 3, 2008) (stating, “KSR2027345558;00574;2012126122;RT;;0000708; reaffirms that obviousness is negated when the prior art teaches away from the invention.”)). However, the nature of the teaching is highly relevant. *Id.*2027345558;00575;2017474653;OT;;0176344; “A reference may be said to *teach away* when a person of ordinary skill, upon reading the reference, would be *discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.*”” *Id.*2027345558;00576;2017474653;OT;;0176344; (emphasis added). For example, “a reference will teach away if it suggests that the line of development flowing from the reference's disclosure is unlikely to be productive of the result sought by the applicant.” *Id.*2027345558;00577;2017474653;OT;;0176344;

The Barth Patents

Respondents argue that the Barth Patents are invalid in light of the following twelve (12) prior art combination:

Asserted Claims Rendered Obvious by Prior Art

Prior Art Combination (1-12)	'353 Patent	'405 Patent	'109 Patent
1. Yano / Farmwald '037	11, 12, 13	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
2. Yano / SCI and Release 4	11, 12, 13	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
3. Dan / Farmwald '037	11, 12, 13	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
4. Dan / SCI and Release 4	11, 12, 13	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24

5. Farmwald '037 / Yano	11, 12, 13	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
6. Farmwald '037 / Dan	11, 12, 13	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
7. NeXTBus / Farmwald '037	—	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
8. NeXTBus / Release 4	—	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
9. Harriman / Farmwald '037	—	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
10. Harriman / Release 4	—	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
11. Farmwald '037 / NeXTBus	—	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24
12. Farmwald '037 / Harriman	—	11, 12, 13, 15, 18	1, 2, 4, 5, 12, 13, 20, 21, 24

*112 (RIB at 78.) Respondents perform an analysis of the various different groups of combinations, explaining why one of ordinary skill in the art would have been motivated to combine the references and which elements from each reference would be combined that would render the missing elements obvious. (RIB at 78-96.) The Respondents' obviousness arguments appear to be largely directed at four limitations that may not be disclosed in Yano, Dan, NeXTBus and/or Harriman and involve features well known in the prior art, including: (1) double data rate functionality (claims 12 and 13 of the '353 and '405 patents); (2) autoprerecharge functionality (claim 11 of the '405 patent, claims 2, 5, and 13 of the '109 patent); (3) multiple memory banks (claims 4, 5, 12, and 13 of the '109 patent); and (4) sense amplifiers (claim 18 of the '405 patent, claims 2 and 21 of the '109 patent). The evidence shows that the identified features were well known in the prior art and would have been obvious additions to the references discussed in the prior section on anticipation. Staff agrees. (SIB at 76-81.)

a) Combining Asynchronous/Synchronous Memory Systems

Before addressing the specific elements set forth *supra*, the ALJ finds it necessary to address Rambus's argument that certain prior art references cannot disclose each and every element of the asserted claims because they are asynchronous and that certain combinations should be rejected as improper because they combine features from asynchronous systems with features from synchronous systems. (CRB at 28-29; 44.) The evidence shows that the proposed asynchronous/synchronous combinations would have been obvious to a person of ordinary skill in the art. As the Board of Patent Appeals recently explained during the '405 Reexamination:

Respondent [Rambus] and the Examiner also do not rebut Mr. Paris's testimony describing how known asynchronous functions were being combined routinely with, and integrated into, synchronous DRAM systems by skilled artisans.

(SX-0008, September 1, 2011 Board Decision at 12; *see also id.* at 15 (finding asserted claims 11, 15, and 18 of the '405 patent invalid as obvious in view of the prior art); Przybylski, Tr. 2704:15-2710:01, 2711:03-2712:10, 2713:17-2714:08 (disagreeing with the Board's decision as to whether it would have been obvious to combine aspects of asynchronous and synchronous art).) The evidence shows that it would indeed have been obvious to combine aspects of asynchronous and synchronous art so as to achieve the inventions claimed in the Barth I patents. (RX-5429C, Jacobs Direct Q&A 105, 129, 492-496.)

b) Yano or Dan in combination with Farmwald or SCI and Release 4

As set forth *supra* in Section VI.B.1, the ALJ found that that Yano and Dan each render claim 11 of the '353 Patent invalid as anticipated under § 102. Furthermore, certain elements of claim 11 of the '353 Patent are similar to certain elements in the asserted claims of the '405 and '109 Patents, e.g., “‘strobe signal’DDDD/‘FFFF’FFFFsignal’DDDD”. Thus, to the extent that the elements of claim 11 of the '353 Patent are disclosed in Yano and Dan, the analysis for those elements applies equally to like elements found in the asserted claims of the '405 and '109 Patents.

***113** To the extent that Yano and/or Dan fail to disclose certain elements of the asserted claims of the Barth Patents, the ALJ finds it would have been obvious to one of ordinary skill in the art to combine that element from another prior art references with Yano or Dan. (*Id.* at Q466.) Specifically, it would have been obvious to one of ordinary skill in the art to combine Yano or Dan with the teachings of either (1) Farmwald '037 or (2) SCI with Release 4. (RX-5429C at Q467, 476.)

(1) Double Data Rate (“DDR”) Claim Elements

The double data rate, or “DDR,” elements of the asserted Barth claims may not be disclosed in Yano or Dan, but can be found in the disclosure of the Farmwald '037 and in the disclosure of SCI. (RX-5429C at Q468-469.) As set forth *supra* in Section VI.B.1.e, Farmwald '037 discloses the DDR elements. (*See* RX-4269 at 8:42-48; 27:58-63 (Claim 33).) Similarly, Figure 6 of SCI similarly illustrates first and second portions of data being sampled during a single clock cycle. (*See* RX-4278C.0004, Figure 6.)

The evidence shows that it would have been obvious to one of ordinary skill in the art as of the priority date of the Barth Patents to combine the DDR disclosure from Farmwald '037 or SCI with the write operations disclosed in Yano and Dan, respectively in order to improve the efficiency and speed of data access operations. (*See* RX-5357 at 28.) Yano, Dan, Farmwald '037, and SCI each sought to address the well-known need in the industry for faster data access operations, and creating faster data speeds without increasing the number of input/output pins by sampling two pieces of data during a single cycle of a clock or other periodic signal would be a desirable result. (RX-5429C at Q470.)

The evidence further shows that DDR was a well-known method in the art and that this method performs the same established function in the asserted Barth claims, namely capturing two pieces of data from the bus during a single period of a clock or other periodic timing signal. (RX-5429C at Q469-470.) Indeed, double data rate techniques were widely available and known in the art as an effective way to increase speed without significantly increasing circuit complexity, pincount, *etc.* (RX-5429C, Jacobs Direct Q&A 202-207.) As such, combining the DDR elements from either Farmwald '037 or from SCI with the known write operation method described in both Yano and Dan does no more than yield predictable results, and, therefore, such combinations would have been obvious to one of ordinary skill in the art. *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007).

(2) Precharge Claim Elements

The precharge elements of the asserted Barth claims also may not be disclosed in Yano or Dan, but are found in both Farmwald '037 and Release 4, which disclose the precharge elements of the asserted Barth claims. (RX-5429C at Q 471-472.) As set forth *supra* in Section VI.B.1.e, Farmwald '037 the precharge elements in a number of locations. (*See* RX-4269 at 10:62-11:2; 11:60; 28:5-20.) Similarly, Table 3.11.5-1 of JEDEC Release 4--the SDRAM Function Truth Table-- identifies “WRITE with AUTO Precharge” as a command option. (*See* RX-2108C.0111 at Table 3.11.5-1.)²² The evidence shows that it would have been obvious to a person of ordinary skill in the art to implement precharge functionality in systems that lacked such functionality, particularly as synchronous systems (and the associated autoprecharge capabilities used therewith) began overtaking asynchronous systems prior to the October 1995 filing date of the Barth I patents. (RX-5429C, Jacobs Direct Q&A 208-212.)

***114** The evidence shows that it would have been obvious to one of ordinary skill in the art as of the priority date of the Barth Patents to combine the precharge command from either Farmwald '037 or from JEDEC Release 4 with the write operations disclosed in Yano and Dan, respectively, to improve the efficiency and speed of data access operations. (RX-5429C at Q473.)

The evidence shows that Yano, Dan, Farmwald '037, and Release 4 each sought to address the well-known need in the industry for faster data access operations. (*See* RX-5357 at 28.) This is facilitated by conducting a precharge operation following the write operation when there potentially is no active operation on the bus instead of incurring a time penalty by waiting until the next memory operation to precharge the sense amplifiers. (RX-5429C at Q473.)

Thus, the evidence shows that providing a command to a memory device to initiate a precharge operation was a well-known method in the art and, further, that this command performs the same established function in the asserted Barth claims (*i.e.*, charging amplifiers to an indeterminate intermediate value that is neither logical 0 or 1). (RX-5429C at Q473.) As such, combining the precharge elements from either Farmwald '037 or JEDEC Release 4 with the known write operation method described in each of Yano and Dan does no more than yield predictable results, and therefore such combinations would have been obvious to one of ordinary skill in the art. (RX-5429C at Q473.) *See KSR*, 550 U.S. at 417.

(3) Multiple Memory Bank Claim Elements

The multiple memory banks elements are not disclosed in Yano but are disclosed in Dan where it discloses using a plurality of memory banks in Figure 4. (RX-4262 at 7:42-54; RX-5429C at Q476.) The memory bank elements are disclosed in the Farmwald '037 and in the JEDEC Release 4 reference. (RX-5429C at Q475.) As set forth *supra* in Section VI.B.1.e, Farmwald '037 plainly discloses each of the memory bank elements. (RX-4269 at 11:15-18; 23:54-56; 24:26; Fig. 15.) JEDEC Release 4 also discloses the memory bank elements of the asserted claims. (RX-2108C.0018 at 2.2, Section 2.1.6 (“In a RAM that has multiple banks in its architecture, [where] the BANK ADDRESS is used, at any instant of time, [to] select any one of the available banks.”); RX-2108C.0111, 5-5, Table 3.11.5-1.)

The evidence shows that it would have been obvious to one of ordinary skill in the art at the time of the Barth Patents to combine memory bank elements from Farmwald '037 or JEDEC Release 4 with the methods disclosed in Yano and Dan, respectively, to improve the speed of data access operations by allowing multiple banks to cycle in an interleaved fashion. Yano, Dan, Farmwald '037, and JEDEC Release 4 all sought to address the well-known need in the industry for faster data access operations. (RX-5357 at 28.) The evidence shows that it would have been obvious to a person of ordinary skill in the art to implement multiple memory banks in systems that lacked such functionality, particularly in light of the growing need for larger memory capacities and increased access speeds prior to the October 1995 filing date of the Barth I patents. (RX-5429C, Jacobs Direct Q&A 474-476, 512-514.)

***115** Thus, Farmwald '037 and JEDEC Release 4 show that providing bank selection information to a memory device containing a plurality of memory banks was a well-known method in the prior art to the Barth Patents and performs the same established function in the '109 Patent. (RX-5429C at Q476.) As a result, combining the memory bank elements disclosed in Farmwald '037 and in JEDEC Release 4 with the disclosures of Yano and Dan does no more than yield the predictable result of increased data access rates due to interleaved cycling between banks, and therefore such combinations would have been obvious to one of ordinary skill in the art. (RX-5429C at Q476.)

(4) Sense Amplifier Claim Elements

While Yano and Dan do not explicitly disclose sense amplifier elements, the evidence shows that providing a control code to a memory device specifying that a row of sense amplifiers be activated, or that a sense operation occur, in the memory device would be inherent in the write operations disclosed in Yano and Dan. (RX-5429C at Q478; *see also* RX-4261.0008 at Figure 2.) This is particularly true as synchronous systems (and the associated sense amplifiers used therewith) began overtaking asynchronous systems prior to the October 1995 filing date of the Barth I patents. (RX-5429C, Jacobs Direct Q&A 477-478, 515-518.)

Moreover, it would have been obvious for one of ordinary skill in the art as of the alleged October 19, 1995 priority date to apply the write operation methods described in Yano and Dan, respectively, to a variety of memory types including DRAM, in

which case the resulting method would necessarily include a code that specifies that a row of sense amplifiers be activated, or that a sense operation occur, in the memory device. (RX-5429C at Q478.)

c) Farmwald in combination with Yano or Dan

As set forth *supra* in Section VI.B.1.e, the ALJ found that Farmwald '037 failed to disclose the claimed “strobe signal” element of the Barth Patents. Rambus only disputed whether Farmwald '037 disclosed the “strobe signal” / “strobe signal” limitation and does not dispute that Farmwald '037 discloses the other features of the Barth Patents. (CRB at 24-25.) The evidence shows that Farmwald '037 discloses the other limitations of the Barth Patents. (RX-4269; RX-5429C at Q&A 366-384.) Furthermore, certain elements of the asserted claims of the '109 Patent are similar to certain elements in the asserted claims of the '405 and '353 Patents. Thus, to the extent that the elements of the asserted claims of the '109 Patent are disclosed in Farmwald '037, the analysis for those elements applies equally to like elements found in the asserted claims of the '405 and '353 Patents.

The evidence shows that it would have been obvious to one of ordinary skill in the art to combine the element(s) from Yano or Dan with the disclosure of the Farmwald '037, discloses the other missing elements of the Barth Patents from the Yano or Dan disclosures.

***116** As set forth in Section VI.B.1, both Yano and Dan each disclose the “strobe signal” elements of the asserted claims of the '353 and '405 patents. Specifically, Yano discloses that when “the data strobe signal (*DS*) creates the active state, the write data is transmitted by the databus (*DBx*) corresponding to this bit and the data is written to this bit.” (RX-4261 at 4:20-21.) Figure 2 of Yano shows that the data strobe signal is asserted and then deasserted when valid data is on the data bus. (*Id.* at Fig. 2; RX-5429C at Q487.)

Similarly, Figures 2 and 3 of Dan show the strobe signal beginning as an internal write strobe on communication path 230 and then continues past write strobe gate 203 onto the write strobe line 256 as the external strobe signal. (RX-4262 at Fig. 2, 3.) Once the external strobe is asserted at time 323, as shown in Figure 3, the memory interface 120 places data on the data bus 250. (*Id.* at Fig. 3.) Once data is placed on the data bus 250, it is written to memory upon the clocking of the strobe signal. (*Id.*; RX-5429C at Q487.) Thus, the “strobe signal” limitations of the asserted Barth claims were well-known in the art as of the alleged October 1995 priority date of the Barth Patents. (RX-5429C at Q488.)

The evidence shows that it would have been obvious to one of ordinary skill in the art to combine the “strobe signal” from Yano or Dan with the write operation method described in Farmwald '037 to improve the efficiency and speed of data access operations by indicating to the target memory device that data is on the bus, thereby enabling higher-frequency data access rates. (RX-5429C at Q488; *see also* RX-5357 at 28.) The claimed “strobe signal” and the “strobe signal” in Yano and Dan perform the same, namely timing signal that initiates the capture of data off of a bus. (*Id.*) As such, combining the “strobe signal” from Yano or Dan with the known write operation method described in Farmwald '037 does no more than yield predictable results, and therefore such combinations would have been obvious to one of ordinary skill in the art. *See KSR*, 550 U.S. at 417.

Moreover, Farmwald '037, Yano, and Dan all sought to address the well-known need in the industry for faster data access operations, including overcoming the inherent skew associated with various clocking schemes. (RX-5429C at Q488.) Farmwald '037 teaches that “[p]rior art memory systems have attempted to solve the problem of high speed access to memory with limited success.” (See RX-4269 at 2:12-24.) Similarly, Yano describes “a design can be created which enables processing at a higher speed in comparison to the prior art example.” (See RX-4261 at 3: 20-21.) And Dan discloses that “[t]o achieve an optimally functioning system, *i.e.*, peak performance, data should be held stable just long enough to meet external memory's timing requirements and not an instant longer.” (RX-4262 at 2:1-4.)

(1) Rambus's Arguments

*117 Rambus argues that Respondents' prior art combinations fail because Dan and Yano do not disclose the. "strobe signal" / "signal" elements of the Barth Patents and the combinations improperly combine synchronous and asynchronous systems. (CRB at 44-45.) As for the latter, argument, the ALJ found that combining synchronous and asynchronous systems would not be improper during the relevant time period. (*See supra* at Section VI.C.1.a.) Rambus's first argument also fails because, as set forth in the anticipation section (Section VI.B.1) the ALJ found that both Yano and Dan disclose the claimed "strobe signal" of the Barth Patents.

Therefore, the ALJ finds that Respondents have shown by clear and convincing evidence that Yano or Dan in combination with Farmwald '037 or SCI and JEDEC Release 4 and Farmwald '037 in combination with Yano or Dan render the asserted claims of the Barth Patents obvious.

d) NextBus and Harriman in combination with Farmwald or Release 4

As set forth *supra* in Section VI.B.1.c, the ALJ found that the NextBus Spec and Harriman each disclosed each and every element of claims 11-13 of the '353 Patent and claims 1, 20, and 24 of the '109 Patent. Furthermore, certain elements of claims 11-13 of the '353 Patent and claims 1, 20 and 24 of the '109 Patent are similar to certain elements in the asserted claims of the '405 Patent. Thus, to the extent that the elements of claims 11-13 of the '353 Patent and claims 1, 20 and 24 of the '109 Patent are disclosed in NextBus and Harriman, the analysis for those elements applies equally to like elements found in the asserted claims of the '405 Patent.

To the extent an element of a specific asserted Barth claim is not disclosed in the NextBus Spec or Harriman, it would have been obvious to one of ordinary skill in the art to combine that element from one of a number of prior art references with NextBus Spec, and/or Harriman. Specifically, it would have been obvious to one of ordinary skill in the art to combine NextBus Spec and Harriman with the teachings of either Farmwald '037 or Release 4. (RX-5429C at Q505.) And each of the four resulting combinations independently renders all of the asserted Barth claims invalid as obvious under 35 U.S.C. § 103. (*Id.* at Q505-06.)

(1) Double Data Rate ("DDR") Claim Elements

As set forth *supra* in Section VI.B.1.c, the ALJ found that NextBus and Harriman each disclose the DDR elements of the asserted Barth claims. However, to the extent that such elements are not found in those references, Farmwald '037 unquestionably discloses the all the DDR elements from the asserted Barth claims. And for the same reasons discussed previously in Section VI.C.1.b with respect to Yano and Dan, it would have been obvious to one of ordinary skill in art to combine the DDR elements from Farmwald '037 with each of the NextBus and Harriman. (RX-5429C at Q507-08.)

(2) Precharge Claim Elements

*118 To the extent the precharge elements of the asserted Barth claims are not disclosed in the NextBus or Harriman, the ALJ finds that such elements are found in Farmwald '037 and JEDEC Release 4 as discussed *supra* in Section VI.C.1.b. (RX-5429C at Q510.) In addition, it would have been obvious to one of ordinary skill in the art to combine NextBus and Harriman with Farmwald '037 for the same reasons discussed previously with respect to Yano and Dan. (*See* Section VI.C.1.b, *supra*.)

(3) Multiple Memory Bank Claim Elements

As set forth *supra* in Section VI.C.1.b, the use of a memory having multiple banks is disclosed in Farmwald '037 and JEDEC Release 4. The evidence shows that utilizing the plurality of banks and the transmission of bank selection information disclosed in Farmwald '037 or JEDEC Release 4 with the write operations disclosed in the NextBus Spec and Harriman, respectively, would have been obvious to one of ordinary skill in the art. (*Id.* at Q514.)

(4) Sense Amplifier Claim Elements

As set forth *supra* in Section VI.C.1.b, Farmwald '037 discloses the sense amplifier elements.²³ Specifically, Farmwald '037 discloses commanding memory devices to perform a sense operation in response to a write command was a well-known method in the art, and such a command performs the same established function in the asserted Barth claims that it was known to perform in Farmwald '037. (RX-5429C at Q&A 516-518; *see also* RX-4269 at 10:47-55; 11:31-38.) The evidence shows that one of ordinary skill in the art would have been motivated to combine the sense operation elements from Farmwald '037 with the write operations disclosed in the NextBus Spec and Harriman because all of these references sought to address the well-known need in the industry for faster and more efficient data access to memory. (RX-5429C at Q518.) Therefore, combining the sense operation elements from either Farmwald '037 or Release 4 with the known write operation methods described in the NextBus Spec and Harriman, respectively, does no more than yield predictable results, and these combinations would have been obvious to one of ordinary skill in the art.

e) Farmwald in combination with NextBus or Harriman

As set forth *supra* in Section VI.B.1.e, the ALJ found that Farmwald '037 failed to disclose the claimed “strobe signal” element of the Barth Patents. Rambus only disputed whether Farmwald '037 disclosed the “strobe signal” / “signal” limitation and does not dispute that Farmwald '037 discloses the other features of the Barth Patents. (CRB at 24-25.) The evidence shows that Farmwald '037 discloses the other limitations of the Barth Patents. (RX-4269; RX-5429C at Q&A 366-384.) Furthermore, certain elements of the asserted claims of the '109 Patent are similar to certain elements in the asserted claims of the '405 and '353 Patents. Thus, to the extent that the elements of the asserted claims of the '109 Patent are disclosed in Farmwald '037, the analysis for those elements applies equally to like elements found in the asserted claims of the '405 and '353 Patents.

*119 The evidence shows that it would have been obvious to one of ordinary skill in the art to combine those elements from the NextBus Spec or Harriman with the disclosure of Farmwald '037 because all the references sought to address the well-known need in the industry for faster data access operations by overcoming the inherent skew associated with various clocking schemes. (RX-5429C at Q524, 526; RX-5357 at 28.) Furthermore, the evidence shows that it would have been obvious to one of ordinary skill in the art to combine the “strobe signal” from NextBus or Harriman with the write operation method described in Farmwald '037 to improve the efficiency and speed of data access operations by indicating to the target memory device that data is on the bus, thereby enabling higher-frequency data access rates. (*See id.*)

As set forth *supra* in Section VI.B.1.c, the ALJ found that NextBus and Harriman disclose the “strobe signal” elements of the asserted claims of the '353 Patent. Specifically, NextBus and Harriman both disclose the use of a strobe signal DSTB* to sample data. (*See* RX-4265.0049 at Figs. 4-11; RX-4266 at Fig. 9.)

The claimed “strobe signal” and the “strobe signal” in NextBus and Harriman perform the same, namely timing signal that initiates the capture of data off of a bus. (RX-5429C at Q526.) As such, combining the “strobe signal” from NextBus and Harriman with the known write operation method described in Farmwald '037 does no more than yield predictable results, and therefore such combinations would have been obvious to one of ordinary skill in the art. *See KSR*, 550 U.S. at 417.

(1) Rambus's arguments

Rambus argues that Respondents' prior art combinations fail because NextBus, Harriman and Farmwald '037 do not disclose the “strobe signal” / “signal” elements of the Barth Patents. (CRB at 50-51.) However, as set forth in the anticipation section (Section VLB.) the ALJ found that both NextBus and Harriman disclose the claimed “strobe signal” of the Barth Patents.

Therefore, the ALJ finds that Respondents have shown by clear and convincing evidence that NextBus and Harriman in combination with Farmwald '037 and/or JEDEC Release 4 and Farmwald '037 in combination with NextBus and Harriman render the asserted claims of the Barth Patents obvious.

The Dally Patents

To the extent that particular motivation to combine and *prima facie* obviousness arguments are considered, they are considered above with respect to certain elements of certain claims. The ALJ deals with following remaining references.

f) Nakamura

According to Respondents, the asserted Dally patent claims would have been obvious in view of U.S. Patent No. 3,806,807 (“Nakamura”) in combination with other prior art, such as Wafer-Level Integrated Systems: Implementation Issues (1989) (“Tewksbury”) (RX-4416) or Mixed Digital / Analog Signal Processing for a Single-Chip 2B1Q U-Interface Transceiver (1990) (“Batruni”) (RX-4117).²⁴ However, the Respondents' post-trial briefing only provided a cursory analysis of claim 1 of the '857 patent and attempted to incorporate by reference the witness statement of their expert Dr. Hajimiri as to the remaining claims and contested claim limitations. (See RIB at 194 (citing RX-5430C at Q/A 169-266).

***120** The ALJ finds that the cursory treatment of these references violates the previously discussed instruction in Order No. 51 (September 15, 2011) that contentions are to be set forth in detail in the briefs. Accordingly, the ALJ finds that Respondents have waived their arguments with respect to Nakamura.

g) National Semiconductor Art

Respondents also attempt to rely on National Semiconductor's DP83840 device. The DP83840 is an Ethernet controller product that Respondents contend supports serial transmission, with pre-emphasis, over a twisted pair of copper wires. (RX-2360C.) Respondents argue that the DP83840 device provides the “Dally Solution” by performing pre-emphasis on a transmitter on-chip. (RIB at 189.) Respondents attempt to lump the DP83840 with U.S. Patent No. 5,541,957, issued to Lau (hereinafter referred to as “Lau”). (RX-4106; JX-142 at 60:8-10, 60:12-14.) They refer to the DP83840 and Lau as the National Semiconductor Art.

However, the Respondents' post-trial briefing only provided a cursory analysis of claim 1 of the '857 patent and attempted to incorporate by reference the witness statement of their expert Dr. Hajimiri as to the remaining claims and contested claim limitations. (See RIB at 189-194 (citing RX-5430C at Q/A 348-427).

The ALJ finds that the cursory treatment of these references violates the previously discussed instruction in Order No. 51 (September 15, 2011) that contentions are to be set forth in detail in the briefs. Accordingly, the ALJ finds that Respondents have waived their arguments with respect to the National Semiconductor Art.

h) Respondents Waived Additional Obviousness Combinations

The ALJ notes that Respondents list eighteen separate combinations of references that allegedly render obvious the asserted Dally claims. (RPB 292-93.) The ALJ finds that some of these combinations are mentioned in the other invalidity sections of their brief, and the ALJ has addressed them above in the context of those sections. Many of the alleged combinations, however, are not addressed elsewhere. Because Respondents have not provided any explanation on how these combinations render obvious the claimed inventions, Respondents have waived these arguments. See Ground Rules 8(f) and (h); Order No. 51.

Objective Indicia of Nonobviousness

As indicated above, one of the *Graham* factors that must be considered in an obviousness analysis, is “objective evidence of nonobviousness,” also called “secondary considerations.” See *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1536 (Fed. Cir. 1983) (“Thus evidence arising out of the so-called “secondary considerations” must always when present be considered en route to a determination of obviousness.”). However, secondary considerations, such as commercial success, will not always

testimony that relies solely on the same citation as evidence of long felt need particularly unpersuasive. It is certainly possible that there was a long felt need, but the evidence Rambus presented is completely insufficient to establish that and the ALJ gives it no weight. Moreover, even if this evidence did establish a long felt need that the Dally patents fulfilled, the ALJ finds the evidence cited by Rambus insufficient to overcome the strong prima facie case of obviousness. *See Agrizap, Inc. v. Woodstream Corp.*, 520 F.3d 1337, 1344 (Fed. Cir. 2008); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008); *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

(3) Licensing

Rambus argues that many companies expressed an interest in licensing the Dally inventions. (CIB at 269-270.) In particular, Rambus argues that AT&T had actually licensed the Dally patents and former “Respondent nVidia also expressed interest in licensing or purchasing rights to the Dally patents, only to find out that Rambus already had the rights.” (CIB at 269 (citing CX-7099C.0002 (“Based on what Bill [Dally] has briefly told me, NVIDIA might have some interest in this patent, either to license or purchase.”).) Rambus further argues that in addition to the interest shown by nVidia and AT&T, other parties have actually licensed the Dally patents as part of Rambus's SerDes license portfolio. Rambus contends that these licenses demonstrate that others have acquiesced to the validity of the claimed inventions and have chosen to adopt them rather than seek alternatives, thus objectively demonstrating the nonobviousness of the technology. (CIB at 270.)

The ALJ finds some weight should be given to this evidence, but not a great deal of weight. The ALJ concludes this for several reasons. First, there are a number of Dally patents and the nexus between these licenses and the particular claims at issue here is not particularly strong. Second, the ALJ notes that the Rambus portfolio licenses may be motivated by factors other than the validity of the Dally patents. In particular, the portfolio licenses may be motivated by avoiding litigation as Rambus has been engaged in a number of litigations over the past decade. Finally, without additional evidence regarding nVidia's interest in the Dally patents, the ALJ is reluctant to draw extensive conclusions from a single email. In sum, this evidence is not entitled to much weight, and in any event, the ALJ finds it is insufficient to overcome the strong prima facie case of obviousness discussed above. *See Agrizap, Inc. v. Woodstream Corp.*, 520 F.3d 1337, 1344 (Fed. Cir. 2008); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008); *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

(4) Praise By Others

*123 The final secondary consideration raised by Rambus is that members of the industry have also praised the Dally technology. (CIB at 270.) Rambus cites to testimony by Dr. Poulton, after presenting a paper disclosing the Dally technology at the Hot Interconnects conference in 1996, “people were pretty interested in this” and “[t]hey thought this was maybe a game changer, as, in fact, it turned out to be.” (JX-99C.0023 at 74:8-11; *see also* JX-99C.0023 at 74:14-25; *id.* at 74:19-22; *id.* at 80:5-8.) Rambus also contends that several members of the industry, including Respondent LSI Logic, Respondent Hewlett Packard, AT&T, and Toshiba, expressed interest in the Dally technology following the presentation and publication of the Hot Interconnects paper. (CIB at 270 (citing JX-122.0097).) Rambus also argues that the 1996 Hot Interconnects paper was also the subject of a write-up in trade publication EE Times and was selected for publication in IEEE Micro as one of “the best papers from the [Hot Interconnects] symposium.” (CIB at 271 (citing CX-6681C.0001; *see also* CX-6305C.0038).)

The ALJ finds that Rambus has completely failed to prove praise by others. First, the ALJ finds the evidence cited by Rambus to support this point unconvincing. As evidence of praise by others in the industry, Rambus cites a letter from Dr. Dally to a Dana Beach where he mentions “[w]e have had inquiries from LSI Logic, Hewlett Packard, AT&T and Toshiba.” (JX-122.0097.) This second hand, vague, self-serving statement in a grant report is not sufficient evidence to establish praise by others. Rambus submits no evidence to explain what that statement means. Rambus's other evidence suffers from similar faults. Rambus claims that the paper related to the patents (the 1996 Dally Hot Interconnects Paper) was written up in the EE Times and selected as one of the best papers of the conference. However, to support this claim Rambus cites to an email saying the paper was accepted (CX-6681C.0001) (bland praise at best) and an email from Dr. Dally mentioning the EE Times article (CX-6305C.0038). The ALJ does not find this evidence persuasive in the least. Once again, Rambus submits a self-serving statement of the inventor

to prove “praise by others,” when it could have cited to the actual write-up. Nor does the ALJ find Dr. Poulton's testimony particularly probing. This testimony relates to work he was intimately involved in, by his friend, and is years after the actual events in question. In sum, the ALJ finds Rambus's self-serving evidence to be utterly unconvincing. Even Dr. Poulton's testimony, the most probative (to use that word loosely) evidence offered, is still too vague to give any weight. His testimony that “people were interested” begs more questions than it answers. The ALJ finds that the evidence Rambus cites is simply too tenuous to overcome the clear prima facie case of obviousness in this case. See *Agvizap, Inc. v. Woodstream Corp.*, 520 F.3d 1337, 1344 (Fed. Cir. 2008); *Muniauction, Inc. v. Thomson Corp.*, 532 F.3d 1318, 1328 (Fed. Cir. 2008); *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007).

D. Written Description

*124 The first paragraph of 35 U.S.C. § 112 requires:

The specification *shall contain a written description of the invention*, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art ... to make and use the same ...

(emphasis added.)

The Federal Circuit has interpreted 35 U.S.C. § 112, ¶ 1, to require the patent specification to “describe the claimed invention so that one skilled in the art can recognize what is claimed.” *Enzo Biochem, Inc. v. Gen-Probe Inc.*, 323 F.3d 956, 968 (Fed. Cir. 2002). In evaluating whether a patentee has fulfilled this requirement, the standard is that the patent's “disclosure must allow one skilled in the art ‘to visualize or recognize the identity of the subject matter purportedly described.’” *Id.* (quoting *Regents of Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1573 (Fed. Cir. 1997)); see also *Cordis Corp. v. Medtronic Ave, Inc.*, 339 F.3d 1352, 1364 (Fed. Cir. 2003).

Terms need not be used *in haec verba*. *Eiselstein v. Frank*, 52 F.3d 1035, 1038 (Fed. Cir. 1995). The written description requirement can be satisfied by “words, structures, figures, diagrams, formulas, etc.” *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997) (emphasis added).

Barth Patents

Respondents argue that the Barth Patents are invalid for lack of written description. Specifically, Respondents argue (1) that “sampling” is not described in the specification; (2) neither the “strobe signal” or “signal” elements are timing signals used to sample data; and (3) the Barth Patents fail to describe how a “strobe” can be used in a write operation. (RIB at 21-28.) Respondents also argue that the claims are invalid because they do not recite a terminate signal. (RIB at 22 n.12.)

Rambus and Staff argue that the asserted claims meet the written description requirement. (CRB at 21-23; SIB at 40-45.)

The ALJ finds that Respondents have failed to prove by clear and convincing evidence that the asserted claims of the Barth Patents are invalid for failure to satisfy the written description requirement. First, as to Respondents' arguments related to the terminate signal, the ALJ finds that a few sentences in a footnote without any citations to evidence fails to meet the clear and convincing evidence standard.

With regard to whether the Barth Patents disclose sampling, the ALJ finds that the specification does, indeed, disclose “sampling.” The evidence shows that data transfers include capturing data, and, in the systems described in the specification, capturing data is accomplished by sampling. (HTr. 2669-70; CX-10765C at 18-19.) The evidence shows that the Barth Patents

disclose at least two data transfer operations, *i.e.*, read and write operations, both of which involve a memory controller, a memory device, and data capture. For example, the “Field Of The Invention” explains:

***125** The present invention relates to dynamic random access memory (DRAM), and more specifically, to a method and apparatus for controlling *data transfers to and from a dynamic random access memory*.

(’353 Patent, 1:11-14 (emphasis added).) A similar discussion appears on the ““Detailed Description” of the Barth I patents, which reads in part:

At step 814, the data is transmitted over the data bus 40 (BusData[8:0]). During this step, *the data may be transmitted to or from the target DRAM, depending on whether the data transfer operation is write or read operation*.

(’353 Patent, 7:40-43 (emphasis added).) A person of ordinary skill in the relevant art would understand that during the write operation, the memory controller is the data transferring device and the memory device is the data receiving device, such that the memory controller “writes” data to the memory device. (RX-5429C, Jacobs Direct Q/A 148-149; Jacobs, Tr. 1052:01-03, 1056:07-14.) By contrast, during a read operation, the memory device is the data transferring device and the memory controller is the data receiving device, such that the memory controller “reads” data from the memory device. (RX-5429C, Jacobs Direct Q/A 145-147; Jacobs, Tr. 1052:04-06.)

Furthermore, the ALJ finds that it is of no import that the phrase “initiate sampling” does not appear in the specification or drawings and only appears in the claims (CX-10765C, Przybylski Rebuttal Q&A 108-119.) Respondents point to nothing to support their argument that the failure to include those exact words in the specification proves the patent invalid -- there is no *in haec verba* requirement. Rather, a specification can adequately support issued claims for written description purposes using alternative words or phrases and though implicit or inherent disclosure understood by a person of ordinary skill in the art. (See MPEP § 2163(I)(B) (“While there is no *in haec verba* requirement, newly added claim limitations must be supported in the specification through express, implicit, or inherent disclosure.”).) Here, the Barth Patent specification uses the alternative word “samples” in a manner consistent with usage of the related term “sampling” in the asserted claims. (’353 patent, 24:19-21, 29:42-44, and 37:23-25; Przybylski, Tr. 2734:03-06.) The Barth Patent specification describes signals that cause a memory device to “latch” data on transitions thereof. (’353 Patent, 2:25-26; Przybylski, Tr. 2736:07-2738:18.) The evidence shows that the specification uses the term samples and, for example, refers to “bus samples,” which the Appendices show are taken twice per clock cycle. (’353 Patent at 19; JX-4 at 24:19-22, App. A, B.) Thus, the Barth Patent specification discloses sampling.

***126** The ALJ finds that the Barth Patent specification also discloses the use of “strobe signal” or “signal” elements as timing signals. Specifically, the Barth Patents explain that both read and write operations may involve the use of a “strobe signal” to facilitate the transfer of data between the memory controller and the memory device. For example, a strobe signal can be used to ““initiate sampling” of data propagated between a memory controller and a memory device, *i.e.*, to ensure that the receiving device captures data off the data bus when valid data is available for sampling. (’353 Patent, 8:59-64; CX-10765C, Przybylski Rebuttal Q&A 108-130; SX-5, Illustrated Dictionary of Electronics (5th Ed. 1991) at 318, 360 525, 599.) In the context of a write operation in particular, the strobe signal “initiates sampling” of data by the memory device such that the memory device captures valid data received from the memory controller via the data bus. (CX-10765C, Przybylski Rebuttal Q&A 120-130.)

The Barth Patents disclose at least two distinct ways in which a strobe signal can “initiate sampling” as part of the write operation in the asserted claims of the Barth Patents. In one configuration, the strobe signal *indirectly* initiates the sampling of data: the

memory devices in the preferred embodiments of the Barth Patents can be configured to sample data during a programmable number of clock cycles after first detecting the strobe signal. (Jacobs, Tr. 1058:12-22; Smith, Tr. 908:15-909:12, 943:03-944:04; Przybylski, Tr. 2677:08-12.) Thus, a transition of the clock signal *directly* controls the actual sampling of data by the memory device and the strobe signal preceding the data *indirectly* initiates that process by informing the memory device when sampling is to begin based on the clock signal. ('353 Patent, 10:34-38; Przybylski, Tr. 2677:13-2678:23, 2724:04-2725:06.) One such embodiment is shown in Appendix A of the Barth Patents:

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

('353 Patent, App. A.) In Appendix A, a write operation is instructed by the “write” command appearing at clock cycle 40. (Barth, Tr. 391:03-08; Przybylski, Tr. 2726:19-2729:03.) Thereafter, the “strobe” is issued once and only once (for that write operation) at clock cycle 47, one clock cycle before data associated with that write operation appears on the data bus BD[8:0] at clock cycle 48 (and is latched into memory by operation of a clock signal). (Barth, Tr. 391:09-393:14; Przybylski, Tr. 2679:24-2681:18, 2682:03-18, 2729:09-2732:08.) As this embodiment illustrates, the “strobe signal” need not directly control the actual sampling of data by a memory device to nonetheless “initiate sampling” as claimed.

In the other configuration, a strobe signal may *directly* initiate sampling by itself controlling actual sampling of data by a memory device. As set forth in the JEDEC standard, a transition in the DQS strobe signal (high-to-low or low-to-high) after an initial assertion low causes a JEDEC-complaint memory device to capture data off of the DQ data bus:

TABULAR OR GRAPHIC MATERIAL SET FORTH AT THIS POINT IS NOT DISPLAYABLE

*127 (CX-4347.0070; *see also* Przybylski, Tr. 2721:06-14; CX-9543C, Przybylski Direct Q&A 336.) This direct control configuration differs from preferred embodiments described previously in that the memory device need not utilize a clock signal to capture data because the DQS signal transitions at the appropriate time (*i.e.*, when valid data is available for sampling on the DQ data bus).

However, a key similarity between the direct control configuration utilized with JEDEC-complaint memory devices (*i.e.*, where the DQS strobe signal controls the latching of data) and the indirect control configuration of certain preferred embodiments in the Barth Patents (*i.e.*, where a clock signal controls the latching of data after first detecting a strobe signal) is that both configurations utilize a strobe signal to *initiate* the sampling of data by a memory device as part of a write operation. The evidence shows that this broad concept, *i.e.*, the use of a strobe signal to initiate sampling, is adequately disclosed by the specification for written description purposes. (Przybylski, Tr. 2738:19-2739:13.) Therefore, the ALJ finds that the evidence shows that the Barth I patents provide written description support for a strobe signal that initiates the sampling of data associated with a write operation.

Dally Patents

The Respondents raise written description and indefiniteness challenges to the asserted Dally patent claims under 35 U.S.C. § 112. (*See* RPB at 205-209.) According to the Respondents, the asserted Dally patent claims suffer from the following two related problems:

- (1) The term “output frequency” is indefinite (RIB at 205-207);
- (2) “Output frequency” lacks written description (RIB at 207-209).

The ALJ finds that none of these arguments is supported by clear and convincing evidence. (*See* CX-10764C at Q/A 50-74.)

Respondents also cast their indefiniteness arguments as written description and enablement arguments. Specifically, Respondents argue that “the written description fails to enable one of skill in the art to make and use the invention” as it relates to the “unbounded range” limitation. (RIB at 207.) The ALJ notes that while the Respondents' brief attempts to label this challenge a written description challenge, the ALJ agrees with Staff that this challenge solely raises an enablement challenge. Enablement

was not raised in Respondents' pre-hearing brief, so it is waived. However, even if this argument was not waived, it is without merit. First, with respect to "written description" proper, as described, *supra*, there is substantial description for the term as the ALJ has construed it. See *PowerOasis, Inc. v. T-Mobile USA, Inc.*, 522 F.3d 1299, 1306 (Fed. Cir. 2008) ("[T]o satisfy the written description requirement, the missing descriptive matter must necessarily be present in the [original] application's specification such that one skilled in the art would recognize such a disclosure." (quotation marks and alteration in original)). Second, as for enablement, Respondents have utterly failed to meet the burden of proving by clear and convincing evidence that the claims are not enabled. To meet the enablement requirement, "the specification of a patent must teach those skilled in the art how to make and use the full scope of the claimed invention without undue experimentation." *In re Wright*, 999 F.2d 1557, 1561 (Fed. Cir. 1993) (internal quotation marks omitted). "Whether undue experimentation is needed is not a single, simple factual determination, but rather is a conclusion reached by weighing many factual considerations." *In re Wands*, 858 F.2d 731, 737 (Fed. Cir. 1988). As the Federal Circuit has explained:

*128 Factors to be considered in determining whether a disclosure would require undue experimentation ... include (1) the quantity of experimentation necessary, (2) the amount of direction or guidance presented, (3) the presence or absence of working examples, (4) the nature of the invention, (5) the state of the prior art, (6) the relative skill of those in the art, (7) the predictability or unpredictability of the art, and (8) the breadth of the claims.

Id. Respondents have failed to undertake any analysis under the *Wands* factors. The ALJ finds this insufficient to carry their burden for proving invalidity by clear and convincing evidence. Accordingly, Respondents' § 112 arguments are without merit and are rejected.

E. Indefiniteness

Claims must "... particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention." 35 U.S.C. § 112, ¶ 2; *Miles Laboratories, Inc. v. Shandon Inc.*, 997 F.2d 870, 874-75 (Fed. Cir. 1994). The purpose of this definiteness requirement is to ensure that the claims delineate the scope of the invention using language that adequately notifies the public of the patentee's right to exclude. *Young v. Lumenis, Inc.*, 492 F.3d 1336, 1346 (Fed. Cir. 2007). If a claim read in light of the specification reasonably apprises one of ordinary skill in the art of its meaning, that claim satisfies § 112, ¶2. *Id.* In contrast, if a claim limitation is "insolubly ambiguous" or "not amenable to construction," then the claim containing that limitation is invalid for indefiniteness. See, e.g., *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347-1356 (Fed. Cir. 2005) (affirming summary judgment of invalidity due to indefiniteness); *Honeywell Int'l, Inc. v. United States Int'l Trade Comm.*, 341 F.3d 1332, 1338-1339 (Fed. Cir. 2003).

Barth Patents

Respondents argue that the asserted Barth Patent claims are invalid for indefiniteness. (RIB at 28.) Respondents' argument consists of only a single paragraph:

All of the asserted claims are deficient for failing to distinctly point out and particularly claim the subject matter the applicants regarded as their invention. As stated, the invention relates to data transfer, not data capture. Accordingly, the claims cannot properly encompass the concept of "sampling," let alone the specific use of a strobe signal to "initiate sampling." Indeed, the only disclosure of how to use a strobe signal in the Barth specification is "to initiate data transfers from a memory device to a controller in a read operation." Likewise, the specification nowhere discloses the use of a "strobe" as a timing signal--instead, the clock is meant to be used as a timing signal. Notwithstanding the complete lack of supporting disclosure, the asserted claims are directed to the use of a strobe in connection with a write operation to initiate sampling. These claims fail to claim the applicants' invention and are thus invalid.

*129 As an initial matter, the ALJ finds that Respondents cursory analysis and conclusory statements fail to rise to the level of clear and convincing evidence. Furthermore, even assuming that Respondents' analysis was sufficient, the ALJ further finds that Respondents have failed to show that the asserted claims of the Barth Patents are indefinite. In particular, Respondents' arguments in support of this defense parallel those for their written description defense. As set forth *supra* in Section VI.F, the ALJ found that the asserted claims of the Barth Patent are not invalid for failure to meet the written description requirement and for those same reasons, he finds that the asserted claims of the Barth Patents are not invalid for indefiniteness.

Dally Patents

The Respondents raise written description and indefiniteness challenges to the asserted Dally patent claims under 35 U.S.C. § 112. *See* RPB at 298-300. According to the Respondents, the asserted Dally patent claims suffer from the following two related problems:

- (1) The term “output frequency” is indefinite (RIB at 205-207);
- (2) “Output frequency” lacks written description (RIB at 207-209).

The ALJ finds that none of these arguments is supported by clear and convincing evidence. (*See* CX-10764C at Q/A 50-74.

Turning first to “output frequency of 1 GHz” limitation in claims 2, 31, and 49 of the '857 patent, the ALJ finds that the evidence shows that this phrase would be understood by a person of ordinary skill in the relevant art as referring to an output data rate of 1 Gbps as previously discussed in the claim construction portion of this brief.

Indefiniteness is a matter of claim construction, and the same principles that generally govern claim construction are applicable to determining whether allegedly indefinite claim language is subject to construction. *Datamize, LLC v. Plumtree Software, Inc.*, 417 F.3d 1342, 1348 (Fed. Cir. 2005). Indefiniteness, like claim construction, is a question of law, and we review a district court's entry of summary judgment on the issue of indefiniteness de novo. *Id.* at 1347.

The second paragraph of 35 U.S.C. § 112 requires that the specification of every patent must “conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.” This requirement serves a public notice function, ensuring that the patent specification adequately notifies the public of the scope of the patentee's right to exclude. *See Honeywell Int'l, Inc. v. Int'l Trade Comm'n*, 341 F.3d 1332, 1338 (Fed. Cir. 2003). A claim satisfies the definiteness requirement of § 112 “[i]f one skilled in the art would understand the bounds of the claim when read in light of the specification.” *Exxon Research & Eng'g Co. v. United States*, 265 F.3d 1371, 1375 (Fed. Cir. 2001). A claim will be found indefinite only if it “is insolubly ambiguous, and no narrowing construction can properly be adopted....” *Id.* On the other hand, “[i]f the meaning of the claim is discernible, even though the task may be formidable and the conclusion may be one over which reasonable persons will disagree, we have held the claim sufficiently clear to avoid invalidity on indefiniteness grounds.” *Id.*

*130 As the claim construction analysis, *supra*, demonstrates, this term was easily amenable to construction. Respondents raise a new argument in their post-hearing brief that based on the Federal Circuit's case *Halliburton Energy Services, Inc. v. M-ILLC*, that claims are indefinite when they “did not place any limit on the scope of what was invented beyond the prior art.” (RIB at 206 (citing 514 F.3d 1244, 1249-50 (Fed. Cir. 2008).) Respondents did not raise this argument in their pre-hearing brief. It is therefore waived. However, even if this argument was not waived, it is without merit. As Staff points out, Respondents' position is contrary to the very case on which they rely, *Halliburton Energy*. In *Halliburton Energy*, the Federal Circuit explained that a claim may recite a range with no upper boundary and nonetheless be definite:

[A] claim may contain a limitation that includes no explicit upper bound at all (*e.g.*, a claim limitation that requires “at least 5” of an element). Since such a limitation does not contemplate an upper bound beyond what is practically required (*e.g.*, the total percentage must be less than 100), the limitation may not present definiteness concerns.

Halliburton Energy, 514 F.3d at 1253 n. 5. Accordingly, the ALJ finds that Respondents have failed to meet the burden of showing that the claims are indefinite. See *Praxair, Inc. v. ATM, Inc.*, 543 F.3d 1306, 1319-21 (Fed. Cir. 2008).

F. Utility/operability

The utility requirement of 35 U.S.C. § 101 requires that any patentable invention be useful such that the subject matter of a claim is operable. *Process Control Corp. v. HydReclaim Corp.*, 190 F.3d 1350, 1358 (Fed. Cir. 1999). Accordingly, “when an impossible limitation, such as a nonsensical method of operation, is clearly embodied within the claim,” the claim is invalid. *Id.* at 1359. However, the fact that an invention may only have limited utility and may only be operable in certain applications is not grounds for finding lack of utility. *Envirotech Corp. v. Al George, Inc.*, 730 F.2d 753, 762 (Fed. Cir. 1984).

Respondents argue that the asserted Barth Patent claims are invalid for lack of utility. (RIB at 28-29.) Respondents argument consists of only a single paragraph:

Rambus has asserted claims that require a strobe signal to “initiate sampling.” However, if the term “initiate” in the asserted claims is given its plain and ordinary meaning of “to begin” or “to start,” the claims²⁵ are rendered inoperable. As discussed, the strobe disclosed in the specification is received by the DRAM before the data, and does not continue signaling during the transfer. Were sampling to commence upon receipt of the “strobe,” the system would register an error as there would be no valid data on the bus at that time. Further, sampling could not continue during the transfer because no strobe signal would exist to time the sampling of more than one beat of data. The “strobe” thus cannot “initiate sampling” of data by the DRAM from the bus during a write access. Accordingly, the asserted claims requiring the “initiation” of sampling are inoperable and therefore invalid for lack of utility.

*131 As an initial matter, the ALJ finds that Respondents cursory analysis and conclusory statements fail to rise to the level of clear and convincing evidence. Furthermore, even assuming that Respondents' analysis was sufficient, the ALJ further finds that Respondents have failed to show that the asserted claims of the Barth Patents are invalid for lack of utility. In particular, Respondents' arguments in support of this defense parallel those for their written description defense. As set forth *supra* in Section VI.F, the ALJ found that the asserted claims of the Barth Patent are not invalid for failure to meet the written description requirement and, for those same reasons, he finds that the asserted claims of the Barth Patents are not invalid for lack of utility.

VII. INEQUITABLE CONDUCT

A. Applicable Law

A patent is unenforceable on grounds of inequitable' conduct if the patentee withheld material information from the PTO with intent to mislead or deceive the PTO into allowing the claims. *LaBounty Mfr. Inc. v. U.S. Int'l Trade Comm'n*, 958 F.2d 1066, 1070 (Fed. Cir. 1992). “The accused infringer must prove by clear and convincing evidence that the applicant knew of the reference, knew that it was material, and made a deliberate decision to withhold it.” *Therasense v. Becton, Dickinson and Co.*, 649 F.3d 1276, 1290 (Fed. Cir. 2011). The Federal Circuit has emphasized that

[t]he need to strictly enforce the burden of proof and elevated standard of proof in the inequitable conduct context is paramount because the penalty to inequitable conduct is so severe . . . [j]ust as it is inequitable to permit a patentee who obtained his patent through deliberate misrepresentations or omissions of material information to enforce the patent against others, it is also inequitable to strike down an entire patent where the patentee only committed minor missteps or acted with minimal culpability or in good faith. As a result, courts must ensure that an accused infringer asserting inequitable conduct has met his burden on materiality and deceptive intent with clear and convincing evidence before exercising its discretion on whether to render a patent unenforceable.

Star Scientific, Inc. v. R.J. Reynolds Tobacco Co., 537 F.3d 1357, 1366 (Fed. Cir. 2008).

Intent and materiality are separate requirements for a finding of inequitable conduct and “a court must weigh the evidence of intent to deceive independent of its analysis of materiality.” *Therasense*, 649 F.3d at 1290. A strong showing for one requirement cannot compensate for deficiencies in the other requirement. *Id.* (“A district court should not use a ‘sliding scale,’ where a weak showing of intent may be found sufficient based on a strong showing of materiality, and vice versa.”).

Information that is withheld or misrepresented to the PTO is considered material if it satisfies a “but for” test:

***132** When an applicant fails to disclose prior art to the PTO, that prior art is but-for material if the PTO would not have allowed a claim had it been aware of the undisclosed prior art. Hence, in assessing the materiality of a withheld reference, the court must determine whether the PTO would have allowed the claim if it had been aware of the undisclosed reference. In making this patentability determination, the court should apply the preponderance of the evidence standard and give claims their broadest reasonable construction.

Id. at 1291-92. Previously the definition of materiality had been tied to PTO Rule 56, found at 37 C.F.R. 1.56, however, in *Therasense*, the Federal Circuit expressly disavowed that practice. *Id.* at 1293-94.

Although but-for materiality is required for a finding of inequitable conduct, there is an exception for cases of affirmative egregious misconduct. *Id.* at 1292. When a patentee has engaged in affirmative egregious misconduct-- including but not limited to filing false affidavits--such conduct is considered per se material. *Id.* “Because neither mere nondisclosure of prior art references to the PTO nor failure to mention prior art references in an affidavit constitutes affirmative egregious misconduct, claims of inequitable conduct that are based on such omissions require proof of but-for materiality.” *Id.* at 1292-93.

An inequitable conduct claim requires proof that the patentee acted with the specific intent to deceive the PTO. *Star Scientific*, 537 F.3d at 1366. A finding that a patentee was negligent or grossly negligent regarding an omission or misrepresentation to the PTO does not satisfy the intent requirement. *Therasense*, 649 F.3d at 1290. Specific intent to deceive can be inferred from indirect or circumstantial evidence; it cannot, however, be inferred from the materiality of the omitted or misrepresented reference. *Id.* at 1290; see also *Larson Mfg. Co. of S.D., Inc. v. Aluminart Prods. Ltd.*, 559 F.3d 1317, 1340 (Fed. Cir. 2009). Additionally, the absence of a good faith explanation for withholding a material reference does not, by itself, prove intent to deceive. *Star Scientific*, 537 F.3d at 1368. To satisfy the clear and convincing evidence standard the specific intent to deceive must be “the single most reasonable inference able to be drawn from the evidence.” *Therasense*, 649 F.3d at 1290 (citing *Star Scientific*, 537 F.3d at 1366). When there are multiple reasonable inferences that can be drawn as reasons for withholding a reference, deceptive intent cannot be found. *Id.* at 1290-91.

Respondents argue that the asserted claims of the Barth Patents are unenforceable due to inequitable conduct. (RIB at 210-217.) Respondents argue that Rambus, the named inventors and the prosecuting attorneys withheld material non-cumulative prior art,

namely RamLink and SyncLink. (RIB at 216.) Respondents argue that Rambus had knowledge of RamLink and SyncLink and that there was a clear intent to withhold these references from the Patent and Trademark Office. (RIB at 217.)

***133** Rambus and Staff argue that the Barth Patents are not unenforceable due to inequitable conduct because RamLink and SyncLink are not material prior art references and there was no specific intent to deceive the PTO. (CIB at 51-53; SIB at 110-112.)

The parties do not dispute that Rambus was aware and/or had knowledge of RamLink and SyncLink. (CRB at 51-53; RIB at 210-216; SIB at 110-112.)

B. Materiality

The evidence shows that RamLink and SyncLink were cumulative with art before the Patent Office, and thus not material for purposes of inequitable conduct. *See Leviton Mfg. Co. v. Universal Sec. Instruments, Inc.*, 606 F.3d 1353, 1359 (Fed. Cir. 2010) (“[A] withheld otherwise material reference is not material if it is merely cumulative to, or less relevant than, information already considered by the examiner.”) (citation omitted). RamLink and SyncLink disclose “flags” and a “clock signal” that are substantially similar to the AddrValid bit and clock signal, respectively, of the Farmwald prior art, which was submitted and considered during prosecution. (CX-10765C, Przybylski Rebuttal Q/A 403-451.) Thus, Respondents cannot show that the RamLink and SyncLink prior art is but-for material since the elements disclosed in those prior art references were already disclosed and considered by the examiner during prosecution and the claims were still allowed. Therefore, the ALJ finds that Respondents have failed to show that RamLink and SyncLink are material prior art.

C. Specific Intent to Deceive

The evidence also shows that the named inventors and the prosecution attorney did not have a *specific intent* to deceive the Patent Office by withholding certain RamLink and SyncLink art during prosecution. Respondents merely allege that four of the named inventors and the prosecuting attorney “were *aware* of RamLink and/or SyncLink during prosecution of the Barth patents” and that the lack of explanation as to why these references were not disclosed to the PTO necessarily leads to the inference of “intent to deceive . . . from the facts and circumstances surrounding a knowing failure to disclose material information.” (RIB at 217) (emphasis added). Under *Therasense*, however, the Federal Circuit held *en banc* that “a district court may not infer intent solely from materiality. Instead, a court must weigh the evidence of intent to deceive independent of its analysis of materiality.” *Therasense*, 649 F.3d at 1290 (emphasis added). The Federal Circuit further explained that while specific intent to deceive can be inferred from indirect or circumstantial evidence, it cannot be inferred from the materiality of the omitted or misrepresented reference. *Id.* at 1290; *see also Star Scientific*, 537 F.3d at 1368 (the absence of a good faith explanation for withholding a material reference does not, by itself, prove intent to deceive). As such, Respondents have failed to show the specific intent required by *Therasense*. Rather, the evidence shows that none of the witnesses questioned at trial were aware of material prior art that was withheld during prosecution. (Vincent, Tr. 2247:21 -2248:05, 2250:21 - 2251:01; Hampel, Tr. 369:04-08, 370:22-371:07; Barth, Tr. 474:09-14.) Thus, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the named inventors and the prosecuting attorney had the requisite and specific intent to deceive the PTO.

***134** Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that the Barth Patent are unenforceable due to inequitable conduct.

VIII. PROSECUTION LACHES

A. Applicable Law

According to the Federal Circuit, “[p]rosecution laches is an equitable defense to a charge of patent infringement.” *Cancer Research Tec. Ltd. v. Barr Labs, Inc.*, 625 F.3d 724, 728 (Fed. Cir. 2010) (“*Cancer Research*”) (citing *Symbol Techs., Inc. v.*

Lemelson Med., 277 F.3d 1361, 1366 (Fed. Cir. 2002) (“*Symbol Techs. I*”). “The doctrine ‘may render a patent unenforceable when it has issued only after an unreasonable and unexplained delay in prosecution’ that constitutes an egregious misuse of the statutory patent system under the totality of the circumstances.” *Id.* (quoting *Symbol Techs., Inc. v. Lemelson Med.*, 422 F.3d 1378, 1385-86 (Fed. Cir. 2005) (“*Symbol Techs. II*”).

To the extent that a prosecution laches defense is based on continuation filings, the Federal Circuit has explained that “[t]here are legitimate grounds for refiling a patent application which should not normally be grounds for a holding of laches” *Symbol Techs. II*, 477 F.3d at 1385. Examples include:

- “Filing a divisional application in response to a requirement for restriction....” *Id.*
- “[R]efil[ing] an application containing rejected claims in order to present evidence of unexpected advantages of an invention when that evidence may not have existed at the time of an original application.” *Id.*
- “[R]efil[ing] an application to add subject matter in order to attempt to support broader claims as the development of an invention progresses” *Id.*

Simply put, the mere passage of time and/or intent to cover after-arising technology is ‘insufficient to demonstrate prosecution laches:

[T]here is nothing improper, illegal or inequitable in filing a patent application for the purpose of obtaining a right to exclude a known competitor’s product from the market; nor is it in any manner improper to amend or insert claims intended to cover a competitor’s product the applicant’s attorney has learned about during the prosecution of a patent application.

Medtronic, Inc. v. Boston Scientific Corp., 777 F. Supp. 2d 750, 781 (D.Del. 2011) (quoting *Kingsdown Med. Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 874 (Fed. Cir. 1988)).

Respondents argue that the Barth and Dally Patents are unenforceable due to prosecution laches. (RIB at 219-228.) Specifically, Respondents base their prosecution laches defense on Rambus’s conduct in JEDEC. Respondents argue that Rambus intentionally delayed the filing of its continuation applications for many years until JEDEC was locked into a standard and it could not design around the features covered by the Barth Patents. (RIB at 219.) Respondents argue that it was not until that time that Rambus filed continuation applications, nearly five years after the filing of the original patent application. (RIB at 219.) Respondents argue that such a delay was unreasonable and unexplained and that, during that time period, Respondents invested substantial resources in research and development of its JEDEC compliant products. (RIB at 210-220.) Thus, because Respondents have suffered material prejudice, the Barth Patents should be found unenforceable due to prosecution laches. (RIB at 220.)

*135 For the reasons set forth below, the ALJ finds that Respondents have failed to prove by clear and convincing evidence that the Barth or the Dally Patents are unenforceable due to prosecution laches.

B. Barth Patents

The evidence shows that there were no unreasonable or unexplained delays in prosecution of the Barth Patents and thus no prosecution laches.

a) Prosecution History**(1) U.S. Patent Application No. 08/545,292**

The initial Barth Patent application was filed on October 19, 1995 as U.S. Patent Application No. 08/545,292 (the “292 application”). (CX-9696; CX-10773C, Killworth Rebuttal Q&A 82-86.) During prosecution, the application was subjected to a four-way restriction requirement which resulted in the applicants' electing one group of claims for initial prosecution. (CX-1077C, Killworth Rebuttal Q&A 88-90.) The application eventually issued as U.S. Patent No. 5,748,914 on May 5, 1998, less than three years after the initial application was filed. (*Id.* at Q&A 90.) As Mr. Killworth testified at trial, the evidence shows no indication of unreasonable and unexplained delays in prosecution during this brief three year period from initial filing to issuance. (*Id.* at Q&A 92-96.)

(2) U.S. Patent Application Nos. 08/979,253; 08/980,091; and 08/979,402

On November 26, 1997, the applicants filed three divisional applications off of the original '292 application, with each application corresponding to one group of unelected claims subjected to the restriction requirement noted above.²⁶ The '253 application eventually issued as U.S. Patent No. 5,966,731 on October 12, 1999, approximately two years after filing. (CX-10773C, Killworth Rebuttal Q&A 113-120.) The '091 application eventually issued as U.S. Patent No. 5,913,046 on June 15, 1999, less than two years after filing. (*Id.* at Q&A 105-112.) The '402 application eventually issued as U.S. Patent No. 6,122,688, less than three years after filing. (*Id.* at Q&A 97-104.) As Mr. Killworth testified at trial, the evidence shows no indication of unreasonable and unexplained delays in prosecution during this brief two to three year period from initial filing to issuance. (*Id.* at Q&A 97-120.)

Moreover, the filing and prosecution of divisional applications *cannot* constitute prosecution laches because the applicants were required by the Patent Office to pursue these claims in separate and distinct applications. *See Symbol Techs. II*, 422 F.3d at 1385 (“Given one's entitlement to claim an invention in various ways, and the PTO's practice of limiting its examination of an application to only one of what it considers to be several inventions, it cannot, without more, be an abuse of the system to file divisional applications on various aspects that the PTO has considered to be separate and distinct from each other.”). Indeed, the applicants' decision to pursue all three applications simultaneously when they could instead have pursued them serially indicates that the applicants did *not* delay in prosecuting these three applications.

(3) U.S. Patent Application Nos. 09/480,767 and 09/561,868

***136** The next application in the Barth I family, *i.e.*, U.S. Patent Application No. 09/480,767 (the “0767 application”), was filed on January 10, 2000 as a continuation of the '402 application. (CX-3069 (prosecution history of '0767 application”).) The '0767 application was followed shortly thereafter by the '868 application, which was filed on May 1, 2000. (CX-9698 (prosecution history of '868 application”).) The '0767 application eventually issued as U.S. Patent No. 6,810,449 on October 6, 2004, roughly four and a half years after filing. (CX-10773C, Killworth Rebuttal QAA 121-130.) The '868 application eventually issued as the asserted '353 Patent on July 8, 2003, roughly three years after filing. (*Id.* at Q&A 131-147.) As Mr. Killworth testified, the evidence shows no indication of unreasonable and unexplained delays in prosecution during this three to four year period from initial filing to issuance. (*Id.* at 121-147.) Nor can the mere filing and prosecution of continuation applications alone constitute prosecution laches. *See Symbol Techs. II*, 422 F.3d at 1385 (discussing examples of proper continuation filings); CX-10773C, Killworth Rebuttal Q/A 128.

(4) U.S. Patent Application No. 09/870,322

U.S. Patent Application No. 09/870,322 (the “322 application”) was thereafter filed on May 29, 2001 as a continuation of the '868 application. (CX-9699 (prosecution history of '322 application”).) The '322 application issued as the asserted '405 Patent

on October 22, 2002. (CX-10773C, Killworth Q&A 148.) As Mr. Killworth testified, the evidence shows no indication of unreasonable and unexplained delays in prosecution during this roughly one year period from initial filing to issuance. (*Id.* at 148-162). Nor can the mere filing and prosecution of continuation applications alone constitute prosecution laches. *See Symbol Techs. II*, 422 F.3d at 1385 (discussing examples of proper continuation filings).

(5) U.S. Patent Application Nos. 10/094,547 and 10/966,767

The '322 application was followed by U.S. Patent Application Nos. 10/094,547 (the "547 application") and 10/966,767 (the "767 application") on March 8, 2002 and October 15, 2004 respectively. (CX-3072 (prosecution history of '547 application); CX-9703 (prosecution history of '6767 application).) These two applications issued as U.S. Patent Nos. 6,931,467 (August 16, 2005) and the asserted '109 Patent (October 23, 2007) respectively. (CX-10773C, Killworth Rebuttal Q&A 163, 171.) As Mr. Killworth testified, the evidence shows no indication of unreasonable and unexplained delays in prosecution during this roughly three year period from initial filing to issuance. (*Id.* at Q&A 163-187.) Nor can the mere filing and prosecution of continuation applications alone constitute prosecution laches. *See Symbol Techs. II*, 422 F.3d at 1385 (discussing examples of proper continuation filings).

*137 As set forth above, the prosecution history of the Barth Patent family does not reveal any unreasonable and unexplained delays in prosecution of the relevant applications. "The relevant inquiry [in assessing prosecution laches] is not whether the patentee unreasonably delayed in filing specific claims in a patent application. Rather, it is whether the patentee unreasonably delayed in prosecuting those claims once filed." *Novo Nordisk Pharms. v. Bio-Tech. Gen. Corp.*, No. 02-cv-332, 2004 WL 1739720, at *33 (D. Del. Aug. 3, 2004) (internal citations omitted) (emphasis added). Nor do the Respondents identify even a single instance in which Rambus allegedly failed to prosecute its then-pending claims in good faith. Rather, the Respondents argue that Rambus failed to present the asserted "strobe signal" claims that eventually issued in the asserted Barth in order to draft claims that covered after-arising technology compliant with various JEDEC-standards. (RIB at 219-220.) However, the Respondents fail to cite any Federal Circuit or Commission precedent where this type of delay can serve as a basis for a finding of prosecution laches. Such actions do not result in prosecution laches. *SynQor, Inc. v. Artesyn Techs., Inc.*, No. 2:07-CV-497, 2011 WL 2729214, at *7 (E.D. Tex. July 13, 2011) ("[t]here is nothing unusual or improper about drafting claims to cover a competitor's product, as long as there is a basis in the pending application."); *Kingsdown Med. Consultants, Ltd. v. Hollister Inc.*, 863 F.2d 867, 874 (Fed. Cir. 1988). In this case, there is no evidence to suggest an unreasonable or unexplained delay in prosecution of the claims pending at that time. In fact, the Federal Circuit has twice confirmed that Rambus did nothing improper in pursuing claims that cover a JEDEC-standard or products intended to comply with various JEDEC standards *even while Rambus was itself participating in JEDEC as a member*. *See Hynix*, 645 F.3d at 1349; *Rambus Inc. v. Infineon Techs. Ag*, 318 F.3d 1081, 1096-1105 (Fed. Cir. 2003) ("*Infineon*"). For at least these reasons, the evidence fails to show any of the Barth Patents to be unenforceable for prosecution laches. (CX-10773, Killworth Rebuttal Q/A 32-38, 78-187.)

Respondents have also failed to show that they were prejudiced by any alleged delay. The evidence shows that Rambus prosecuted all applications in the Barth Patent family in a reasonable time frame. Respondents' arguments, namely that Rambus "intentionally delayed the filing of its continuation applications for many years ... until JEDEC was locked into a standard," and that Rambus allegedly copied proposed industry standards, are irrelevant to establish prosecution laches.

C. Dally Patents

With respect to the asserted Dally patents, the Respondents only appear to raise one unenforceability defense: *i.e.*, unenforceability due to prosecution laches. (*See* RPB at 324-327.) While several headings in Respondents' Initial Post-Hearing brief mention the Dally patents and prosecution laches, there is no evidence or arguments presented with respect to prosecution laches in either the Respondents' Initial Pre-Hearing Brief or Post-Hearing Reply Brief. Accordingly, the ALJ finds these arguments waived. Even if they were not waived, the ALJ finds that the evidence cited by Staff establishes that there was no unreasonable delay as required to prove prosecution laches. *See Medtronic, Inc. v. Boston Scientific Corp.*, 777 F. Supp. 2d 750, 781 (D. Del. 2011).

IX. UNCLEAN HANDS

A. Applicable Law

*138 “To succeed in an unclean hands claim, a plaintiff is required to show that the defendant has ‘engaged in particularly egregious conduct which would change the equities significantly in the plaintiff’s favor.’” *Serdarevic v. Adv. Med. Optics, Inc.*, 532 F.3d 1352, 1361 (Fed. Cir. 2008) (quoting *Aukerman Co. v. R.L. Chaides Constr. Co.*, 960 F.2d 1020, 1032 (Fed. Cir. 1992) (en banc)). “But it is not enough merely to show misconduct.” *Id.* Rather, the party asserting unclean hands must show prejudice resulting therefrom.

The Respondents’ unclean hands defense is rooted in Rambus’ alleged spoliation of evidence. “Spoliation refers to the destruction or material alteration of evidence or to the failure to preserve property for another’s use as evidence in pending or reasonably foreseeable litigation.” *Micron Tech., Inc. v. Rambus Inc.* 645 F.3d 1311, 1320 (Fed. Cir. 2011) (quoting *Silvestri v. General Motors Corp.*, 271 F.3d 583, 590 (4th Cir. 2011)). The instant that litigation becomes reasonably foreseeable, a duty to preserve evidence arises. *Id.* If a violation of that duty is found, the next inquiry is to determine whether there is evidence of bad faith and prejudice to the opposing party. *Id.* At 1328-29. If bad faith is found, the alleged spoliator has the burden of proving, by clear and convincing evidence, that the destruction did not prejudice the opposing party. *Micron*, 645 F.3d at 1328. (citing *Anderson v. Cryovac, Inc.*, 862 F.2d 910, 925 (1st Cir. 1988)).

The parties dispute certain aspects of the *Micron* spoliation inquiry as they relate to Respondents’ unclean hands defense and, more specifically, to Rambus’ alleged destruction of materials relevant to the Barth Patents. Much of the parties’ dispute focuses on who bears the burden of proving destruction (or lack thereof) of relevant materials, and, correspondingly, what materials were actually destroyed by Rambus and the extent to which Respondents were prejudiced by Rambus’ actions. The parties also dispute the extent to which Rambus should be sanctioned in the event that spoliation of relevant materials is found.

B. Rambus Violated its Duty to Preserve Evidence Because Litigation was Reasonably Foreseeable by July 1998

Rambus argues repeatedly that it could not have foreseen litigation on the Barth Patents because the patents had not issued and the litigation preparation Rambus undertook did not consider the Barth Patents. (CRB 64-69.) Rambus also contends that the findings in *Micron* and *Hynix* are irrelevant for purposes of the “reasonable foreseeability” inquiry in this investigation because it was based on different patents, products and parties. (See CIB at 235.)

As the Staff noted, the inquiry set forth in *Micron* and *Hynix* focuses on whether litigation against *some* party on *some* patents was reasonably foreseeable. (SIB 85.) The Staff concludes, however, that while the evidence shows that Rambus foresaw litigation related to the Farmwald-Horowitz patent family, Rambus did not foresee litigation related respect to the Barth Patents because the first Barth Patent was not issued until 2002. (SIB 92.)

*139 The ALJ declines to read *Micron* and *Hynix* as suggesting that Rambus could intentionally destroy (in bad faith) materials relevant to both its Farmwald-Horowitz litigations on DRAMs and this subsequent Barth litigation on DRAM controllers, but still proceed unhindered in this investigation on the grounds that it had reasonably foreseen only near-term litigation against a different party with different products on different patents when the materials were destroyed. Both Rambus’ and the Staff’s argument fail as the Federal Circuit did not set forth the narrow requirement reasonable foreseeability to litigation based on *issued* patents.

Rather, the spoliation inquiry here is broader: whether Rambus reasonably foresaw litigation prior to July 1998 and, thus, had a duty to preserve evidence. Reasonable foreseeability is an objective standard that asks not whether the party in fact reasonably foresaw litigation, but whether a party similarly situated would have reasonably foreseen litigation. *Micron*, 645 F.3d at 1320. The standard is flexible and fact-specific, allowing the district court “to exercise the discretion necessary to confront the myriad

factual situations inherent in the spoliation inquiry.” *Id.* (citing *Fujitsu Ltd. v. Fed. Express Corp.*, 247 F.3d 423, 436 (2d Cir. 2001).) In *Micron*, the Federal Circuit upheld the district court’s findings that litigation involving Rambus’ Farmwald-Horowitz patent family and various DRAM manufacturers was reasonably foreseeable. *Id.* at 1325-26.

The ALJ finds that Rambus not only could foresee, but was planning litigation involving the Barth Patents as early as July 1998 and, as such, had a duty to preserve the evidence. In *Micron*, the Federal Circuit found five circumstances weighed in favor of finding spoliation: (1) Rambus adopted its document retention policy to further litigation; (2) Rambus was on notice of potentially infringing activities by particular manufacturers; (3) Rambus took steps in furtherance of litigation; (4) Rambus was the plaintiff-patentee; and (5) the relationship between Rambus and manufacturers did not make litigation less likely. *Micron*, 645 F.3d at 1322-25. Following *Micron*, the ALJ concludes that because the same five circumstances are present here and Rambus reasonably foresaw litigation by July 1998.

First, it is evident that Rambus implemented its document retention policy to further Rambus’ litigation policy concerning multiple patent families. Their action in destroying documents was intended to frustrate the fact-finding efforts of parties adverse to Rambus. As stated by the Federal Circuit in *Micron*, “This is a natural reading of getting “[b]attle ready,” *Micron*, 645 F.3d at 1322, and Joel Karp acknowledged that “battle ready” meant preparing ““for the war of litigation.”” (Karp, Tr. 1917:11-15.) Rambus attributes the recommendation to become “battle ready” to outside counsel, Dan Johnson. (Karp, Tr. 1917:16-1918:1.) However, when asked if he recalled the phrase Dan Johnson stated that he did “recall the substance” but did not ““normally talk about making somebody battle ready.”” (JX-058C.0018-19, 1493:19-1494:1.) His intention was to *** (JX-058C.0019, 1494:1-5.)

*140 Rambus’ argues that, because the Barth Patents were not issued at the time of the alleged spoliation then they could not reasonably foresee litigation related to those patents. (CIB 64-65.) Rambus filed, Patent No. 5,748,914 (the original Barth Patent) in October 1995. (JX-09.0344; Barth, Tr. 445:17-19.) Nothing in the record indicates that Rambus implemented a document retention policy that treated information relating to the Barth Patents any differently from information relating to the Farmwald-Horowitz patents. In his 2007 testimony in Delaware, Mr. Karp stated that the battle readiness step was not patent specific and was not taken only in regards to the Farmwald Horowitz Family. (Karp, Tr. 1918: 15-19; RDX-4813.) Preparing a document retention policy was one of Rambus’s general “IP litigation Activity” goals in the second and third quarters of 1998. (RX-477C; RX-500C; RX-2990C.) These goals did not specifically reference the Farmwald-Horowitz Patents or the Barth Patents. (*Id.*) On July 22, 1998, Karp emailed a document retention policy to Rambus employees and made presentations to Rambus employees on what to discard. (JX-60C.0192 at 271:3-23; RX-506G; RX-507C.) At the bottom of at least seven slides in all capitals, Karp wrote “LOOK FOR THINGS TO KEEP.” (RX-507C; JX-60C.0195-196 at 274:23-275:7.) Mr. Karp instructed Rambus engineers to look for things to keep that would help establish conception and prove that Rambus had intellectual property, but did not limit his instruction to a specific patent or patent family. (JX-60C.0188 at 267:5-16; RX-506C; RX 507C.) Mr. Karp’s presentation’s first page stated that even, “[e]-mail is discoverable in litigation ... Elimination of e-mail is an integral part of document control ... e-mail message should be deleted as soon as they are read.” (Karp, Tr. 1949:24-1950:17; JX-507C.) The document retention policy Rambus implemented instructed employees to selectively retain evidence that would help Rambus and destroy other, discoverable evidence. (*See* Hampel, Tr. 328:15-22; JX-0049C.0194-195 at 168:18-169:7.) However, in instructing engineers and employees, Mr. Karp never limited the document retention policy to only the Farmwald Horowitz patents: when asked whether there was a distinction between information concerning Farmwald Horowitz patents or information concerning other patents or inventions within Rambus, Mr. Karp answered that it was neutral. (Karp, Tr. 1950:10-17.) Rambus’ implementation of a document retention policy as an important component of its general (i.e. not patent-specific) litigation strategy makes it more likely that litigation was reasonably foreseeable. *See Micron*, 645 F.3d at 1322.

Second, Rambus was on notice of potentially infringing activities by particular manufacturers. Rambus repetitively references the Federal Circuit’s analogy in *Micron* to loading a gun (“Once the patent issued, the gun was loaded; when the targets were acquired, it was cocked; all that was left was to pull the trigger” *Micron*, 645 F.3d at 1323.) and concludes that because the Barth Patents were not issued, litigation could not be foreseeable. (CIB 135, 160; CRB 66.) This argument also fails. The Federal Circuit used the analogy only to show that Rambus was on notice of potentially infringing activities by particular manufacturers,

which weighed in favor of finding that litigation was objectively foreseeable. See *Micron*, 645 F.3d at 1323. The Federal Circuit did not state that a patent must be issued for litigation to be reasonably foreseeable. *Id.* Thus, the proper question is not whether the Barth Patents had issued before the 1998 shred day as Rambus argues, but rather if Rambus knew that particular parties were engaging in activities that Rambus could ultimately use to show infringement.

***141** Although the activity may not have been infringing at the time, the evidence shows that Rambus intended to make additional claims that would encompass their activity. In 1995, Tate sent an email to the executive board stating that “it would be very helpful if at any time you have an e-mail talking about competitive technology developments/directions (example JEDEC meeting reports, et cetera) If you would add Adienpenb to your distribution list.” (Tate, Tr. 1342:3-8; RX-772C). “Adienpenb” is the e-mail address for Anthony Diepenbrock, Rambus’s in house patent counsel. (Tate, Tr. 1339:22-1340:1). Additionally, Mr. Crisp, who worked with Mr. Barth to enhance claim coverage of the Barth Patents and monitored JEDEC meetings, was continuously feeding Rambus executives information regarding the standards JEDEC intended to implement. (Tate, Tr. 1337:16-1338:15; RX-456C; Hampel, Tr. 312:3-10; Barth, Tr. 404:21-405:2, 407:2-8.) Tate would forward the information from Mr. Crisp to Mr. Barth. (Tate, Tr. 1338:24-1339:2.) Mr. Barth testified that he received an email from Mr. Crisp dated June 6th 1995, in which Mr. Crisp said that Rambus should do whatever is necessary to get a claim to “shoot SynchLink in the head.” (Barth, Tr. 406:1-13; RX-4288C.) SynchLink was a competing DRAM control company. (*Id.*) Mr. Crisp would also drop off copies of JEDEC meeting materials at Barth’s desk. (Barth, Tr. 407:17-24.) From Mr. Barth’s testimony alone, is clear that the information from JEDEC was used to draft the claims of the Barth Patents. (Barth, Tr. 407:17-408:15.)

Thus, Rambus was more than on notice because, by its own’ admission, it intentionally broadened the Barth Patents’ claims to cover JEDEC standard-compliant products. While the Barth Patents may not have been mature, they were a part of a long term strategic litigation plan. According to a “Strategy Update” dated October 1998, the top priority was strengthening Rambus’s patent portfolio, including claims covering SDRAM, DDR, SLDRAM, and controllers. (Karp, Tr. 1962:25-1963:13; RX-517C.) To the extent that Rambus must be on notice of potentially infringing activities, the ALJ finds that Rambus’s actions, namely intentionally broadening its claims to encompass the JEDEC standard, clearly satisfies this requirement. In other words, Rambus “created” the infringement by claiming JEDEC compliant products and, as such, was clearly “on notice.”

Third, early on Rambus took steps evidencing it was furthering a long term litigation plan. In a 1996 email, Mr. Tate told Anthony Diepenbrock, in house patent counsel for Rambus, to “prepare a patent minefield” (Tate, Tr. 1339:22-1340:10; RX-448C). In a 1997 email, Mr. Tate wrote “[D]ave believes we should meet with intel ... to get them aware that IF they were to consider a DDR chipset that there is a minefield of 60+ Rambus patents that would have to be avoided.” (RX-468C.) Like Rambus’ “battle ready” plan, the natural reading of “prepare a patent minefield” is that Rambus wanted to prepare multiple patents for offensive use. This patent minefield was clearly applicable to Barth controller patents as, shortly before filing the patent application for the Barth Patents, Rambus discussed expanding its patent portfolio to be more “controller centric” (RX-1094C; Tate, Tr. 1427:4-19.) Rambus’ patents focused on expanding its claim scope to cover “auto-precharge” that “would have high harassment value” against controller manufacturers. (RX-2115C; Tate, Tr. 1331:20-1333:5.)

***142** Furthermore, Rambus hired Joel Karp in October 1997 for the purpose of furthering its litigation campaign. (Karp, Tr. 1903:6-13, 1904:8-18.) At the time, it was Rambus’ belief, and Mr. Tate in particular, that companies using memory chips or working on controllers that were not direct RDRAM were using Rambus’ inventions. (Karp, Tr. 1905:4-1906:10; Tate, Tr. 1346:10-13; RX-475C.0006.) To avoid raising any red flags in the industry, Mr. Tate testified that his thought was to say “externally that Joel [Karp] is coming onboard to help us with contracts and IP licensing,” (Tate, Tr. 1346:3-5; see also Karp, Tr. 1904:13-1905:3.), and to have Rambus’s “spin control” ready to “downplay the whole infringement/IP issue.” (Tate, Tr. 1345:25-1346:3; RX-472C; RX-473C.) In January 1998, Mr. Tate instructed Mr. Karp to prepare a litigation strategy for the March 1998 Board of Directors meeting. (RX-475C.002; Karp, Tr. 1906:17-1907:17; Tate, Tr. 1349:17-25.) Mr. Karp testified at trial that his “sole focus” was the Farmwald Horowitz portfolio, but his interactions with Mr. Tate, who never directed Mr. Karp to focus on a particular portfolio, demonstrate that his focus was all Rambus IP. (Karp, Tr. 2015:25-2016:04.) Mr. Karp contacted the Cooley Godward firm, “looking for some litigation--somebody to provide him with litigation assistance.” (JX-112C.0046-47 at 9:16-22, 10:19-24.) In a February 1998 meeting with Cooley attorneys Dan Johnson, John Girvin and Peter Leal, Mr. Karp

noted ***. (Karp, Tr. 2010:7-11; RX-484.) Mr. Karp also noted that Rambus needed to make itself “battle ready” and further stated *** (Karp, Tr. 2010:15- 2011:1; 2011:22-2012:4; RX-484.) While Mr. Karp attributed these ideas to the three attorneys from Cooley (*Id.*), it is clear that litigation was foreseeable at this as Mr. Karp himself that *** (Karp, Tr. 1918:22-1919: 16; RDX-4840.) On March 2, 1998, Mr. Karp presented a “Licensing and Litigation Strategy” to Rambus’ Board of Directors that included a detailed litigation plan with a tiered litigation strategy, preferred venues, and a hierarchy of targets (RX-486C; RX 487C.) Thus, the evidence shows that Rambus was clearly preparing for litigation, including preparing a patent minefield, hiring Mr. Karp, and presenting the board with a proposal for a 5% royalty, and reasonably foresaw litigation prior to July 1998.

Furthermore, the ALJ notes that Rambus has failed to present any evidence that it was truly preparing for a licensing plan, as it claims. (CIB 137-38.) There is no evidence that Rambus’ efforts focused on preparing a licensing team, evaluating negotiating strategies, or considering “peaceful” action. Mr. Karp was aware that the 5% royalty request was about twice what companies were actually paying and he noted that it would push them to litigation. (Karp, Tr. 1918:22-1919: 16; RDX-4840.) In fact, Mr. Karp noted that Rambus “[n]eed[ed] to litigate against someone to establish [the] royalty rate” (Karp, Tr. 1920: 12-22; RX-484C.) It is evident that, at the very least, Rambus was planning a *litigation-based* licensing campaign making litigation reasonably foreseeable. In the absence of evidence supporting Rambus’ claim that it was only pursuing a licensing plan, the circumstances show that Rambus took steps, not to further its licensing plan, but rather its litigation plan.

***143** Fourth, just as in *Micron*, Rambus is again the plaintiff-patentee and the decision of whether to litigate is clearly within their control. *Micron*, 645 F.3d at 1325. Thus, it is more reasonable for Rambus, in the position of the patentee, to foresee litigation than it is for the manufacturers as the accused. *See Id.*

Fifth, the relationship between Rambus and the controller manufacturers did not make litigation significantly less likely. The Federal Circuit noted that “[i]n general, when parties have a business relationship that is mutually beneficial and that ultimately turns sour, sparking litigation, the litigation will generally be less foreseeable than would litigation resulting from a relationship that is not mutually beneficial or is naturally adversarial.” *Micron*, 645 F.3d at 1325. Rambus argues that because no such relationship was alleged, this factor weighs in favor of finding that litigation on the Barth Patents was not reasonably foreseeable by July 1998. (CRB 68.) Rambus misunderstands the Federal Circuit’s opinion. In *Micron*, the relationship between Rambus and RDRAM manufacturers did nothing to make litigation *less likely*; the relationship was a neutral circumstance and, as such, did not affect the Federal Circuit’s determination of reasonable foreseeability. *See Micron*, 645 F.3d at 1325. The Federal Circuit explained that when parties have a mutually beneficial business relationship and that relationship ultimately turns sour and litigation results, litigation is generally less foreseeable than litigation that occurs between parties whose relationship is not mutually beneficial or is naturally adversarial. *Id.* Because Rambus did not have a mutually beneficial and longstanding relationship with RDRAM manufacturers, Rambus could not use its delay tactics²⁷ to undermine the other considerations. *Id.* As in *Micron*, Rambus’s relationship with controller manufacturers in this investigation did nothing to make litigation less likely. There is no evidence that Rambus had a mutually beneficial and longstanding business relationship with controller manufacturers. Thus, Rambus’ argument, that “no such relationship is alleged here,” is inapposite. Similarly, Rambus’ delay in initiating litigation on the Barth Patents was a strategic part of its litigation plan as the Barth Patents were the long term component of the plan. Rambus has alleged no mutually beneficial relationship that would make litigation less likely or undermine the four other considerations discussed herein. Like in *Micron*, the ALJ finds that this factor is, at best, neutral.

In sum, Rambus repeatedly argues that litigation relating to the Barth Patents was not reasonably foreseeable. However, it is clear that Rambus’s wide-spread document destruction was not patent specific. Furthermore, given the wide breadth of the document retention policy, one can easily conclude that this certainly implicated the Barth Patents, especially since the parent patent US Pat. No. 5,748,614 was filed in 1995. It is safe to assume that any documentation relating to conception or reduction to practice was likely in existence during the relevant time period.

C. Rambus Destroyed Documents in Bad Faith

*144 Rambus argues that the evidence cannot show bad faith because “Rambus did not destroy documents with the intent to impair the ability of *these* Respondents to defend themselves.” CPB at 242 (emphasis added). Respondents argue that all of the facts that the Federal Circuit in *Micron* said “may lead to a determination of bad faith” are present in this case. The Staff argues that, while litigation was reasonably foreseeable on the Farmwald-Horowitz patent family, the degree of foreseeability and, thus, the corresponding degree of bad faith is significantly less in regards to the Barth Patent family.

Rambus' argument fails. For reasons similar to those discussed above with respect to “reasonable foreseeability,” the Federal Circuit did not limit the scope of its “bad faith” inquiry to solely the particular parties, products and patents at issue in the litigations that followed shortly after the document destruction activities. See *Micron*, 645 F.3d at 1326-27. Thus, bad faith can be found even if Rambus did not necessarily intend to prejudice *these* parties in *this* investigation.

The Staff's argument also fails. Although the Barth Patents were not mature during the relevant time period, it is evident that Rambus intended to use the Barth Patents as part of its long term litigation plan: the Barth Patents were part of Rambus' “patent minefield.” That Rambus prepared a long term litigation plan and, during the relevant time period, did not foresee *near term* litigation for the Barth Patents does not warrant a finding that Rambus did not have the requisite intent to litigate under the Barth Patents or to impair the ability of the Respondents (or any other similarly situated defendants) to defend themselves. The evidence presented here not only shows that Rambus reasonably foresaw litigation but that Rambus intentionally sought to disadvantage the respondents and, thus, acted in bad faith.

To make a determination of bad faith, the district court must find that the spoliating party “intended to impair the ability of the potential defendant to defend itself.” *Micron*, 645 F.3d at 1326 (citing *Schmid v. Milwaukee Elec. Toll Corp.*, 13 F.3d 76, 80 (3rd Cir. 1994).) The fundamental element in this determination of bad faith spoliation is “advantage seeking behavior” by the party with superior access to information relevant to the proceeding. *Id.* The Federal Circuit in *Micron* noted that a determination of bad faith might be found based on (1) facts showing the document destruction policy was adopted as part of a litigation plan; (2) facts showing selective execution of the policy; (3) facts showing Rambus acknowledged the impropriety of the policy; and (4) litigation misconduct. *Micron*, 645 F.3d at 1327.

The ALJ finds that the same factors present in *Micron* are present here and, therefore, support a finding of bad faith. The ALJ notes the presence of an additional, fifth factor that weighs in favor of a finding of bad faith: the lack of credibility and dishonesty shown by many of Rambus' witnesses.

Rambus Adopted its Document Retention Policy as Part of a Litigation Plan

*145 Rambus' document retention plan was always discussed in the context and as part of its litigation plan. In Mr. Karp's notes from the February 12, 1998 meeting with Cooley Godward attorneys, Mr. Karp stated that Rambus needed to “[m]ake ourselves battle ready ... Need company policy on document retention policy.” (RX-484C) Mr. Karp acknowledged that “battle ready” meant preparing for the war of litigation. (Karp, Tr. 1917:11-17.) When Mr. Karp presented Rambus' “Licensing and Litigation Strategy” to the Board in March 1998, he listed the document retention policy as a “near term action” and presented it to the Board in the context of Rambus “being prepared for this battle or war that was to take place.” (RX-486C; JX-60C.0163 at 243:1-12.) Rambus' quarterly goals repeatedly classified the document retention policy under the heading “IP Litigation Activity.” (RX-477C); See also RX-500C (Q3'98).) Further linking the policy to Rambus' litigation plan, employees were told to delete emails because emails were discoverable. (RX-488C; RX-612C.)

Although Rambus attributes the document retention policy to the “advice of counsel,” specifically Dan Johnson of Cooley, the evidence does not support a finding that Rambus blindly followed Mr. Johnson's instructions. Dan Johnson did *** Mr. Johnson's suggestion was based *** (JX-058C.0019, 1494:1-5.) Furthermore, Mr. Johnson did not have all the information requisite to provide Rambus with a tailored opinion on its document retention policy: Mr. Karp never informed Mr. Johnson that Mr. Tate directed Mr. Karp in 1998 to prepare a litigation strategy for the Board. (JX-058C.0049-50, 1555:18-1556:8.) Even by July of 1999, Mr. Johnson had no indication that Rambus was ready to file litigation. (JX.058C.0045 at 1546, 17-23.)

When Mr. Johnson gave his presentation in July 1998, he did not consider it a legal opinion or that he was telling them that they should dispose of relevant evidence that would relate to a patent claim. (JX-058C.0114, 172513-1726:2.) The ALJ finds Rambus' claim of reliance on Mr. Johnson misleading as Rambus did not disclose all relevant information to Mr. Johnson that would have allowed him to render an appropriate legal opinion. Mr. Johnson's suggestion to implement a document retention policy was a generalized one with the underlying purpose being to organize documents and save searching expenses *if* Rambus ever found itself faced with litigation. Rambus did not disclose its intention of actively and repeatedly pursuing litigation.

Rambus Selectively Executed its Document Retention Policy

Rambus' document retention policy was one that preserved helpful documents and destroyed potentially adverse documents. Mr. Karp wrote "LOOK FOR THINGS TO KEEP" on nearly every slide he presented to employees regarding the document retention policy. (RX-507C; JX-60C.0195-196 at 274:23-275:7.) Mr. Karp instructed Rambus' engineers to look for things to keep that would help establish conception and prove that Rambus had intellectual property. (JX-60C.0188 at 267:5-16; RX-506C; RX 507C.) Mr. Hampel previously testified that he understood the document retention policy as one in which "you don't keep things that you don't need except for proof of invention. That's probably the one exception." (Hampel, Tr. 328:15-22.) Mr. Hampel also testified that Mr. Karp told Rambus personnel not to keep evidence that would cast doubt on the patentability of an invention (JX-0049C.0194-195 at 168:18-169:7.)

*146 Mr. Karp, himself, showed the selectiveness of the policy when he frantically searched for a backup tape that evidenced conception. (Karp, Tr. 1945:3-1946:15.) Although Mr. Karp attempted to downplay the importance of the backup tape, he was "sweating bullets" trying to find the conception date on a backup tape. *Id.* It is unreasonable to conclude that searching for this tape "wasn't necessary" and that it was just "the way [Mr. Karp] approached the problem," when he was "sweating bullets" and, upon finding the tape, reported to Mr. Tate that he found the tape. (*Id.*; RX-475C.0088.) Mr. Karp clearly recognized the importance of saving some documents over others as the document retention policy implemented by Mr. Karp sought out helpful documents with no apparent concern for adverse documents. This "sweating bullets" incident evidences the selective execution of the document retention policy and further evidences Rambus' bad faith.

Rambus Acknowledged the Impropriety of its Destruction and Sought to Cover Up its Shredding

Mr. Karp, at the very least, acknowledged that Rambus' destruction may be improper as he attempted to keep concerns about the policy undocumented. In a May 14, 1998 email announcing that backup tapes would only be saved for three months, Mr. Karp stated that he would prefer to "discuss this issue [of the retention policy] face to face" and if an email is sent to "keep them brief, and keep the distribution narrow." (RX-493C). Additionally, Mr. Karp originally listed "I. organize 1999 shredding party at Rambus" under the "*****Licensing/Litigation Readiness" for Rambus' IP goals for Q3'99. (RX-539C.) In the final version, Mr. Karp moved the shredding party to the section titled "*****Database Maintenance" and changed the description to "[organized document retention compliance event." (Karp, Tr. 1983:10-1985:2; RX-539C; RX-541C.) Mr. Karp testified that he would not have made the changes but for the inputs of Mr. Steinberg. (Karp, Tr. 1985:3-1986:15.) However, Mr. Steinberg testified that he did not know of a 1999 shredding party and denied discussing it with Mr. Karp at any time. (Karp, Tr. 1986:16-1987:1; RDX-4830.) Regardless of whether Mr. Steinberg suggested the change, this attempt to re-style the 1999 Shred Day also shows Rambus' acknowledged that its destruction of documents as related to litigation was improper and evinces Rambus' bad faith.

Rambus' Witnesses Were Dishonest and Lack Credibility

The ALJ finds that any statement made by Mr. Karp, Steinberg, Tate or other Rambus former employee witness that is not supported by other evidence, such as a document, has little if any credibility. Time and again they proved they either could not remember details that might be unfavorable or anything when asked by respondent's counsel, but could remember bits that were not in their notes or elsewhere if it might be of service to their cause. The number of such incidents, along with the pecuniary and other interest the witnesses have in the company and the case renders them unreliable. From the observations of the ALJ, it renders them dishonest as well.

*147 The witnesses that were Rambus employees during the time frame in question were difficult to deal with. Not since the long ago era of the Watergate hearings have the words “I don't recall” been used so regularly in answering questions under oath. What stood out in the ALJ's mind however was not just the general “failure” of the memory of the witnesses, Joel Karp, Geoff Tate and others, but of the selective memories that were retained. When confronted with notes, slides and other evidence of their words or actions during the relevant timeframe, the witnesses offered little, except that those words were on the paper. They could recall nothing else. An examination of the Rambus witness's testimony reflects the lack of credibility and honesty of the Rambus witnesses:

a) Joel Karp

Mr. Karp's first line of defense was failure to recall. In reviewing his testimony, it becomes clear that he made efforts to recall as little as possible on cross-examination:

Q. But you also talked about what you had been doing more recently at Samsung?

A. I don't recall the actual conversations we had. I think he knew my background very well. (Tr. at 1900:15-19.)

Q. Okay. So because of that you got right on this and you, for one thing, had internal discussions within Rambus as to what kind of royalty rate you would be demanding on these non-compatible products, that is, products Rambus thought used its intellectual property but was not direct RDRAM?

A. I really don't recall those specific meetings. I mean, if you could show me a document or something to refresh my memory on it. (Tr. at 1908: 15-25.)

Q. And SDRAM was a potential competitive technology that had a data sheet? You obviously had a data sheet for it, right?

A. I just don't recall. And I know what SDRAM was, but I don't recall the data sheet.

Q. My question was different. No one on the board said don't go forward with this retention policy or this licensing litigation strategy, right?

A. I don't recall any of the comments the board made at that time. I don't recall if they made any comments. (Karp, Tr. at 1931:17-21, 1926:23-1927:4, 1931:17-21.)

There are many other instances of Mr. Karp's absence of memory or failure to recall, and it would serve no purpose to detail them all here. His inability to remember anything that might hurt Rambus, coupled with his selective memory regarding things he considers helpful, rendered him as unreliable a witness as could be presented.

In addition to his selective memory, the ALJ believes that Mr. Karp's testimony was often at odds with the written evidence and other witnesses. Rambus's contention that it was only anticipating litigation on the Farmwald Horwitz patents (or on that portion of their intellectual property) is demonstrably false based on the evidence presented through Mr. Karp. After filing the specification for the Barth Patents, Mr. Karp had Rambus take its time to craft Barth patent claims not based on its own intellectual property, but on the independent work of others. (*See infra* Section IX.C.4.e (Barth).) This appears to be so that Rambus could know that these patents would be useful against competitors at the time and in the court of Rambus's choosing. Rambus crafted its claims not based on its inventor's notebooks, or its own research, but by looking at the work of other companies through JEDEC, or through analysis of the competitive products. (*See infra* Section IX.C.4.e (Barth).) While there was nothing improper per se under the law with Rambus's attempts to draft the Barth claims to cover the JEDEC standard,²⁸ the ALJ finds that the *manner* in which Rambus went about this process was, in fact, improper. The Barth claims read on JEDEC

compliant products because Mr. Barth sat with the JEDEC standards, took notes and drafted claims. To use an analogy Rambus was fond of, to "get battle ready" Rambus "inventors" sent spies to the enemy (JEDEC), and developed from the result of spying, weapons specifically designed to defeat them. (*See infra* Section IX.C.4.e (Barth).) This battle readiness was stated by Mr. Karp many times - from 'why hurry' to letting others get to the point of no return. When Mr. Karp stated he only worked on preparing for the Farmwald patents, in the shredding and in the preparing for litigation, that testimony contradicts his own prior testimony, the documentation in the case, and other Rambus witnesses' recollection. Not only do Mr Karp's notes make no distinction between the patent families in preparing for battle, but his instruction to Mr. Vincent and his receipt of information from Mr. Vincent demonstrate that he wanted the Barth Patents, as well as the other files, ready for litigation. (Vincent, Tr. 2204 and 2212.) In his directions, there is never a distinction between any of the patents, proposed patents, or claims for use in the coming battles. (Karp, Tr. 1961-62.) Mr. Karp's notes and slides make clear that he was to manage Rambus' overall portfolio of patents and IP in order to do battle with Rambus' enemies, using whatever means were best for the given fight. (RX-486; Tr. 2015.) The distinction between using one family of patents over another is not one that was ever mentioned in the surviving documents of Rambus, but appears to be a doctrine that sprung fully from the imaginative minds of Rambus' litigation teams, post hoc.

*148 Mr. Karp testified at trial:

Q. Did your efforts in the non-compatible licensing program focus on any particular portfolio:

A. The Farmwald Horowitz [portfolio] was my sole focus during, during the subsequent time.

(Karp, Tr. 2015:25-2016:04.) This statement regarding his focus is contradicted by every piece of physical evidence presented in the case regarding Mr. Karp's duties and the scope of his employment. Each time the scope of his duties or the scope of the shredding is mentioned, it is not limited to the Farmwald Horowitz portfolio. In his notes for a board meeting before shred day in September 3 1998, no distinction between families of patents was made:

Q. And, again, there is no distinction here between types of intellectual information and intellectual or documents that are part of this document retention policy, whether it is Farmwald Horwitz or Barth or something else?

A. It is totally content neutral.

Q. And in this presentation there is no discussion about your doing this because of something Kroll told you or something Mr. Brill told you, correct?

A. I just see the bullets on this slide. I really don't recall the actual, the actual discussion.

Q. It is not in your presentation?

A. It is not -- well, I don't know if it was in the presentation. It is not on the slide.

(Karp, Tr. at 1961: 21-1962:12.) That Mr. Karp was involved in far more than the Farmwald Horowitz patents is also proven by the testimony of Mr. Vincent, the outside patent counsel that Rambus used, and his interaction with Mr. Karp. When Mr. Karp ***. (Vincent, Tr. 2204 and 2212.) He also did not tell Mr. Vincent about the litigation plans Rambus had -- plans that may have created a legal duty on the part of Mr. Vincent to preserve the evidence had Mr. Karp told him.

Throwing things out and shredding was not limited to a single family of patents:

A. We did a review of the files. We teed things up and looked at them all. And so, I mean, we didn't -- pending applications weren't, you know, cleaned.

Q. Well, you were prosecuting various families of patents such as the Farmwald Horwitz family, right?

A. Yes.

Q. And the Barth family?

A. Yes.

Q. And the cleaning you did was not different depending upon which family you were cleaning, correct?

A. Well, okay. The process of, you know, my secretary teeing up the files, going through the files, retaining, you know, prior art, various things in the right side with communications with the Patent Office and teeing up on the outside of the files some documents to be considered by me, whether or not we actually were going to purge them, you know, we did that systematically, you know, in terms of the teeing up through the files. But, you know, in terms of deciding whether to actually throw things out was kind of on a file by file basis, so, you know, in some instances, things might not have been thrown out.

*149 (Vincent, Tr. 2212: 5-2213:3.) It is clear from the Vincent passage above and other passages, that the “document retention” was geared toward not just the Farmwald patents, but the entire portfolio of Rambus, including the Barth patents. Mr. Barth also testified to his belief that Mr. Karp's duties included the Barth Patents.

Q. Besides yourself and Mr. Diepenbrock, was anyone else tasked with monitoring the patent prosecution activities around those and making sure that there was sufficient claim coverage on the features that you wanted?

A. Well, Joel certainly had a role in that, once he came onboard.

Q. Can you tell us his last name?

A. Karp. (Barth, Tr. at 411:13-22.)

Q. And Mr. Karp was another person that was involved in monitoring patent prosecution activities and making sure that there was sufficient claim coverage on features, correct?

A. He certainly had job responsibilities with respect to patents, but as far as making sure that they are broad enough, yeah, yes, he did do some of that. (Barth, Tr. at 410:20-411:2)

Finally, Mr. Karp's testimony regarding his duties undermines his efforts to convince the ALJ that he had limited responsibility to the Farmwald family. Mr. Karp testified regarding the possible loss of a document on date of conception.

Q. After you sent out this e-mail talking about the change in the policy, and before completely implementing it, you went and preserved a specific backup tape to establish a conception date for a Rambus invention, correct?

A. There was one point where I went to a backup tape to find the conception date because the document that was being saved on the engineer's workstation got corrupted. And my task was then to ask him to go find where -- to go find on that tape where we could reestablish that, that date.

Q. So if we can get the context, backup tapes that are more than three months old, that contain e-mails, you are going to get rid of those, erase those, and you didn't want this specific e-mail you were looking for or, I'm sorry, document you were looking for to be erased as part of that?

A. It wouldn't have been.

Q. Well, let me ask you this: You went to -- it was actually Rick Barth that you went to, correct?

A. Yes.

Q. And it was Mr. Barth you asked to call up something on his computer and that changed the date by just calling it up, right?

A. Yes.

Q. And you had to go to a backup tape which still existed at the time, right?

A. The backup tapes existed at that time, yes.

Q. And I think you testified that in doing that you put in hours of work, right?

A. Yes.

Q. And that you sweated bullets to try to find this conception date on a backup tape, right?

A. Right, the backup tapes are really used for system crashes, to recover from system crashes. And at that time my particular -- what I really wanted to see was let's find a tape where we can actually see maybe the very first instance of that, which really wasn't necessary, but that's what I wanted to do at that time.

*150 Q. It was necessary enough that you were sweating bullets?

A. I could have gone to the most recent backup tape and I would have seen it, seen the same data because that would be carried forward on all future backup tapes.

Q. But at the time you said you were sweating bullets trying to find this?

A. Yeah, it is hard. There is no index. There is trillions of bits.

Q. Then you went and informed Mr. Tate that that backup tape still was working, right?

A. Well, the file we were looking for was found on a fairly old backup tape, that's correct.

Q. And you reported that to Mr. Tate?

A. Well, I have sent this --

Q. If you look at, again, your notes, 475C, and look at page 88.

A. Okay, I said backup tape still working.

Q. That was in connection with this search that you did to make sure you had the conception date or a conception date, correct?

A. Yes. Again, it wasn't necessary to do that but that's the way I approached the problem.

Q. So after then you have the backup tape policy set out, eventually you did present an overall document retention policy to the employees at Rambus, correct?

A. Right, implementation of backup tapes was part of the policy.

(Karp, Tr. at 1943:17-1946:19.) There are two things about this quick account of the hunt for a back-up tape that are important in this matter. First, as the Farmwald patents were already filed with the PTO and Mr. Barth was not involved with them, Mr. Karp's frantic efforts ("sweating bullets" and such) were not on behalf the Farmwald patents, but were on the Barth patents or other patents Barth was working on. If his sole responsibility were truly limited to the Farmwald patents, then he would not be responsible for the date of conception on other later patents. Yet, Mr. Barth knew to call Mr. Karp. Second, the testimony also demonstrates (1) that the back-up tapes were used to preserve favorable things, and (2) that he spent "hours of work" to find the conception date for this "Rambus invention," which was not a part of the Farmwald family. Thus, in this brief passage of testimony, Mr. Karp once more confirms he was not just preparing the battlefield for the Farmwald patents, but he was doing so through a selective retention of materials from the great mass that he was preparing to destroy.

Mr. Karp's credibility is further undercut by his ready acquiescence to the testimony of other witnesses. Not only did Mr. Karp attempt to minimize the scope of his duties and conform his testimony to a fact pattern that would afford him the least amount of responsibility, he also seemed to defer to any other witness with a different story. In examining Mr. Karp's testimony regarding his conversation with Mr. Johnson, Mr. Karp tells the ALJ he (Karp) is not reliable. Here, Mr. Karp is confronted with Mr. Johnson's memory regarding the document retention plan. As shown below, when Mr. Karp believes there may be a witness that contradicts what he would say, he admits it is better to trust the other witness rather than to trust Karp:

*151 A. Well, let me back up on that. I don't know -- they sent people over to help with the prosecution files at one point. I don't remember the date of that. It could have been before July.

And the other thing -- I just lost my train of thought. I do that a lot these days. I'm sorry, if it pops up in my mind, I will, but there was one other issue --

Q. Okay.

A. -- that I know he helped us with.

Q. So if Mr. Johnson testified that he was not involved in implementation of the plan and that he offered his services and you refused to accept them, or pay for them, not gratis, he would be mistaken?

A. I don't really know what he testified, but I know that if he testified to that, then that would be, that would be the actual case. And I just don't, I just don't know what he testified. And I don't know that I actually, you know, would say the same thing.

(Tr.at 1974:11-22.) Rarely do you have a witness who will warn you not to trust him, but in Mr. Karp it may be the best advice he could give. Mr. Karp does not say he has a different memory, or does not know, but only that he does not know what Mr. Johnson testified to.

When Mr. Karp was confronted with a contradiction between his testimony and that of Neil Steinberg and documentation, he is unable to come up with a reasonable reconciliation, and skids into a series of implausible mis-statements:

Q. Then if we can go to what is page 1 in this exhibit, other activities in connection with this plan, you have document retention policy written and implemented. Training sessions were held. New system backup policy, correct, that's what you told the Board of Directors, right?

A. That's correct.

Q. You told the Board of Directors there was an all-day shredding party on September 3rd, right?

A. Okay.

Q. You told the Board of Directors that the plan was to monitor compliance through random spot checks, right?

A. Right, I told them that at that time, yes.

Q. And, again, there is no distinction here between types of intellectual information and intellectual or documents that are part of this document retention policy, whether it is Farmwald Horwitz or Barth or something else?

A. It is totally content neutral.

Q. And in this presentation there is no discussion about your doing this because of something Kroll told you or something Mr. Brill told you, correct?

A. I just see the bullets on this slide. I really don't recall the actual, the actual discussion.

Q. It is not in your presentation?

A. It is not -- well, I don't know if it was in the presentation. It is not on the slide.

(Trans. At 1961:4-1962:12.) As his testimony goes on, Mr. Karp not only contradicts Neil Steinberg, but in doing so manages to contradict the documentary evidence and himself, all in one passage:

Q. And then there is another example. Let's look at Exhibit 2990C. You have got third quarter of '98 under IP litigation activity, the first bullet point is implement the document retention action plan, right?

*152 A. Yes.

Q. Now, I want to go fast forward now to June '99. At the time that you have been directed by Mr. Tate to pick a company to litigate against and then commence it in the first quarter of 2000. At that time you were getting heavy input from Mr. Steinberg on how you should do your IP goals, correct?

A. I don't know if I would characterize it as heavy input. I certainly had input on it from him.

Q. Let me show you Exhibit 539C. And this is the one I think where the third page might be a better copy. Can you look at the third page of this and see? This is type for legibility. The top is third quarter goals, final, July 1, 1999. Do you see that?

A. Yes.

Q. Let's go down to the bottom of this where it says, now it says, licensing/litigation readiness. Do you see that?

A. Yes.

Q. And at the bottom of this, this goes I'm sorry, this goes A through H, right?

A. Yes.

Q. And we go to the next page, and there is an I, which is also under this IP licensing litigation readiness. And it says, "organize 1999 shredding party at Rambus."

A. Yes.

Q. And what happened is you have a clear memory of showing this to Mr. Steinberg and him saying, ***

A. Is this some -- I see what it says but these are the joint goals between Neil and I at this point.

Q. Well, let me show you Exhibit 541C. And you see this also says final, July 1, '99, right?

A. Yes.

Q. And if we go down to the licensing litigation readiness, we have A through H. Right?

A. Yes.

Q. And let's go to the next page. We no longer have "I" under licensing litigation readiness, right?

A. Okay.

Q. Instead under database maintenance, you have organize document retention compliance event.

A. Yes.

Q. So you took out the thing about the shredding party altogether, the language was changed?

A. There is a lawyer involved in this. And I'm sure that I created the original things. ***

Q. And by lawyer, you are referring to Mr. Steinberg?

A. Mr. Steinberg, yes.

Q. And so you have, I think you testified, it is a clear memory that *** right?

A. Well, I would recognize it as that even today without remembering exactly what happened then. This, this would have been ***

Q. Well, actually, if we can put up RDX-4801. This is your November '97 testimony. I want to go through it quickly. Do you remember when you were presented with this previously, you said I have a clear memory of this one, and then you talk about showing this to Neil. And the second one, the one where you moved it and changed the language *** Do you recall that?

A. Right. I think I just said that that would have ***

Q. ***

A. Yes.

Q. So given that, it would certainly be your memory -- if we can put up RDX-4830 -- this is testimony from Mr. Steinberg in his deposition where he had asked: "Question: Did you participate in the 1999 shredding party at Rambus, Mr. Steinberg?" "Answer: No, and I don't even know of a 1999 shredding party. "Question: Did you discuss that with Mr. Karp at any time?" "Answer: No, never." Your testimony is that would be inaccurate?

*153 A. I don't recall anything about the 1999 shredding party -- I don't know if that -- I don't know whether we ever discussed it or not. I just don't remember. I have no recall of anything like that. I don't even recall the shredding in 1999.

Q. Well, wait a minute. I am confused because you said in Exhibit 539C, *** that the goal you had under licensing/litigation readiness under "I" -- the next page, Jeff -- was "organize 1999 shredding party at Rambus." That's the thing that he told you to change the language of and to move to a different category?

A. Yes.

Q. Okay. And so, for example, if we can put up RDX-4845, this is what Mr. Steinberg testified.

"Question: Are you telling me that as you sit here today you never heard the word shred day used in the context of Rambus before? "Answer: I don't remember that phrase being used, correct." You recall you actually talked to him about that, about shred day, about a shredding party?

A. I saw that it was an initial goal and that he changed it to a different category. I don't remember any discussions related to it. I can see that that happened from the documents. They speak for themselves.

Q. He is the one who circled and changed it?

A. He made those changes.

Q. And the final on this, if we can go to 4845A testimony, Mr. Steinberg in Virginia: Did you participate in the organization of the 1999 shredding party at Rambus? "Answer: Gosh, I didn't even know they had a 1999 shredding party. "Question: That's news to you? "Answer: It absolutely is." Your testimony would be that's not news to him because he is the one that told you to change your goals so that that shredding party would not appear under litigation, correct?

A. Well, you are asking -- this is a different set of questions, I think. I don't know whether the shredding party ever took part. I totally agree with you that in the goals that we stated that we had that in there. Whether it ever happened or not is, I think, I think what we're talking about here. Not every goal we ever set was met. There were lots of goals that were not met.

Q. But there was a 1999 shredding party. And Mr. Tate sent an e-mail to the entire staff saying I hope you have a good time there.

A. And I don't remember it.

Q. So let's go forward then. After July '99 when you had your goals changed, I want to focus then on -- I want you to assume the shredding party is August 25th.

(Trans 1982:19-1989:18.) In this passage, not only do the two witnesses contradict each other under oath (Steinberg by deposition), but Mr. Karp accomplishes the impressive feat of contradicting himself on at least 4 separate occasions: from organizing a shred party to not knowing if one took place, from being certain he talked to Steinberg about it to not recalling if it even took place. He cannot recall the party, or Mr. Tate's message. Mr. Karp knew about how the message was changed early and then he only knew what the document said. The ALJ finds this unbelievable. As a result of this and other aspects of his testimony, the ALJ finds that nothing that Mr. Karp stated that was not supported by documentation should be relied upon.

b) Neil Steinberg

*154 Neil Steinberg was a similar witness and his testimony was entered through deposition. His statements in the above excerpts, and in his testimony regarding the shred days are not credible. Mr. Steinberg bears the additional burden of having been designated a 30 (b)(6) witness and charged with having knowledge of matters that included the destruction of materials:

Q. Do you understand that you are here today pursuant to a Rule 30(b)(6) notice of deposition in the Micron Technology, Inc., versus Rambus, Inc., litigation?

A. Yes.

Q. I would like to show you what has been marked as Exhibit 12-14. If you could take a moment to look at that document, Mr. Steinberg? "And do you understand that you are the corporate designee for Rambus, Inc., for the topics contained in Exhibit -- and do you understand that you are the corporate designee for Rambus, Inc., for the topics contained in Exhibit Number 1214, Numbers 1 through 5?"

A. Yes.

Q. Do you believe that you are under any obligation to conduct any investigation to familiarize yourself with the topics contained in 1 through 5?

A. I don't know if I was under any obligation.

Q. But did you do so?

A. Yes.

Q. Which is what you already have in front of you. Can you turn to page 2, please? Under subjects, the first subject is Rambus policies and procedures regarding the retention of documents, electronic mail, and electronically stored documents or other computer files. "Do you see that?"

A. Yes.

(Tr. at 1225:22-1226:13.) Mr. Steinberg makes a number of factual misstatements, from stating he believed that the burlap bags were only used once (Tr. p 1230) to stating that Rambus had never changed its document retention policy:

Q. Has Rambus, since July 22nd, 1998 to the present, suspended its document destruction efforts at any time?

A. I don't believe so. If I understand your question, I don't believe so.

Q. Were you aware that Rambus went into litigation with Hitachi in January 2000?

A. Rambus filed suit against Hitachi in January of 2000, yes.

Q. Was there any change in Rambus' destruction of documents due to being in litigation with Hitachi in January 2000?

A. There was no change in the document retention policy when we entered litigation with Hitachi.

(Tr. at 1231:1-16.) This statement contradicts the other Rambus witnesses on when they put documents on a litigation hold (Hampel, Tr. 360), and also demonstrates that Mr. Steinberg has no idea what Rambus was doing regarding document retention. To make him available as a 30 (b)(6) witness, without more effort to give him the knowledge needed to answer the questions, bolsters the evidence that Rambus has engaged in bad faith throughout this and other litigations., Rambus has hidden information

not just through shredding, but in providing witnesses who do not have the relevant information. While his attorney helped rehabilitate Mr. Steinberg regarding the use of litigation holds, it was clear that he was sent to deposition not to provide testimony, but to prevent disclosure. The ALJ further notes that Mr. Steinberg was not an employee of Rambus during the first shred day and proclaimed he had no knowledge of it. Nevertheless, he was then able to testify that he did not know that Rambus had destroyed any documents that opposing parties might seek and be entitled to. Rambus also used the same tactic with another witness, Mr. Moniz, who testified that the prosecution files from Mr. Vincent had no documents destroyed from them. (JX-88.0051-52, 219.) However, Mr. Moniz had only received the files after Mr. Vincent had already purged them and could not provide the ALJ with any information regarding the relevant time frame. In effect, Rambus provided two witnesses, who were not with Rambus at the relevant time and place, to testify on the lack of destruction of relevant evidence. Such an approach certainly damages its credibility and the ability of the Commission and ALJ to rely on anything that Rambus has presented.

*155 Turning back to Mr. Steinberg's 30(b)(6) testimony on document retention:
(Videotape played and transcribed as follows:)

Question: When you started at Rambus, was that before -- starting at Rambus, meaning started working for Rambus as outside counsel, was that before or after the September 5th, 1998 shred day?

Answer: Firstly, I don't know what shred day means. Secondly, I've made clear to you that I don't know the exact day in which I started to work for Rambus as outside counsel. It was in the August, September timeframe, but I don't know -- I don't know how to answer that

Question: Actually --

Answer: -- other than to say I have no idea what you mean by September 5th shred day.

Question: I think I made a mistake because, looking at the documents, I think it is September 3rd, so I don't want to trip you up, if it's the September 3rd shred day. Do you understand what that shred day was?

Answer: I'll say it again. I don't know what is meant by shred day or September 3rd shred day or words to that effect.

Question: Are you telling me that, as you sit here today, you never heard the word 'shred day' used in the context of Rambus before?

Answer: I don't remember that phrase being used, correct.

Question: Please mark this as the next exhibit. I've given you Exhibit 4135. Do you see that? That's an August 19th, 1998 e-mail from Ed Larsen to the staff at Rambus.

Answer: That's what it appears to be.

Question: And the subject line is Thursday, 9/30, which is September 3rd, shredder day. Do you see that?

Answer: I see that in the subject line.

Question: Have you ever seen this e-mail before, as you're sitting here right now?

Answer: I believe I was shown it yesterday, although I have no vivid memory of it, but I believe this was one of the documents that was shown to me yesterday. Prior to that, no, I'd never seen this before.

Question: But you do know that Rambus hired a shredding company to come to Rambus on Thursday, September 3rd, 1998; don't you?

Answer: I don't -- I don't -- to that detail, no, I can't say I do know that.

Question: You do know that, in August of 1998, Rambus had burlap sacks passed around to all the employees, so that they could put documents in them, right? You know that, don't you?

Answer: You know, as I sit here today, no, I can't say I know that. This is -- you're talking about almost six years ago -- events almost six years ago, at the time when I wasn't an employee and would not have been provided this e-mail, if we assume that staff@Rambus.com means the employees of Rambus, so I wouldn't have been provided this. And I can't say that this event, as I sit here today.

Question: But you have come to learn, during your time as counsel for Rambus, that, in fact, Rambus passed out burlap sacks to their employees, so that the employees could fill them with documents to be shred, right? You've learned that?

*156 Answer: As vaguely as you put it, no, I can't say I would agree with that misleading statement, but what I would say is that I did understand that, sometime in 1998, that in the -- with the implementation of the document retention policy, that employees were asked to retain certain documents in the performance of their responsibilities. That, I do remember in terms of finding that out during my tenure as employee of Rambus.

Question: And you know, don't you, that the documents that the employees were not asked to retain, they were supposed to put into burlap sacks to be shred, don't you know that?

Answer: No, I don't know that.

(Tr. 1243:7-1244:3.) If this were true, Mr. Steinberg was the only individual that did not possess this knowledge. Mr. Steinberg worked with Mr. Karp, Mr. Tate and many others at Rambus who did know about the shred days. He was their 30(b)(6) corporate witness. He could not have remained accidentally ignorant on such matters. In any event, regardless of whether he was lying, deliberately ignorant, or some combination of the two, Mr. Steinberg violated his duties as a corporate witness.

Mr. Steinberg was similarly ignorant of events involving the document destruction while he was at Rambus:

Question: Did you participate in the organization of the 1999 shredding party at Rambus?

Answer: Gosh, I didn't even know they had a 1999 shredding party.

Question: That's news to you?

Answer: It absolutely is.

(Transcript. 1246:11-16.) Mr. Steinberg began at Rambus on April 26, 1999, and remained through at least 2001. His alleged lack of knowledge of such an event is highly improbable. A competent properly prepared witness would have been able to answer the question, and Mr. Steinberg had a duty to answer it. The ALJ found Mr. Steinberg's testimony to be untrustworthy in every sense of the word. Mr. Steinberg's testimony appeared to be dishonest and, as Rambus's 30(b)(6) witness, his poor recall is inexcusable.

c) Mr. Jose Moniz

There was another witness associated with Mr. Steinberg, Mr. Jose Moniz, who came to Rambus in September of 1999, having worked previously with Mr. Steinberg at Jones Valentine Steinberg & Whitt. (Tr., at 2262). Mr. Moniz was Mr. Steinberg's assistant. However, with regard to Rambus and its shredding days, he did not share his boss's ignorance:

Q. You were not at Rambus when it rolled out its document retention policy, right?

A. To my knowledge, that's correct.

Q. You have heard, as part of your work for Rambus, that Rambus had a shred day in 1998, right?

A. Sure.

Q. And you weren't at Rambus for that shred day, correct?

A. Correct.

Q. And you have heard that Rambus had a shred day in 1999, correct?

A. Yes.

Q. And you were not at Rambus for that shred day?

A. That's correct.

Q. So you would not have any firsthand knowledge of whether documents related to the Barth patent files were destroyed during those shred days, right?

*157 A. Well, the knowledge I have is that the files were actually transferred to Rambus after I joined, so then, therefore, to the extent any shredding occurred, it would not have occurred in connection with the Barth files.

Q. What do you mean when you say the files were transferred to Rambus after you joined, what files?

A. The Barth files that preceded my joining Rambus.

Q. Those files were transferred by Mr. Vincent, right?

A. They were transferred from Mr. Vincent.

Q. When do you believe those were filed -- excuse me, transferred?

A. It was shortly after I joined, so it would be in the fall or winter of 1999.

Q. You would agree that Mr. Vincent would know best as to what date he transferred the Barth files to Rambus, correct?

(Trans 2265-22672265:10-2267:6.) It is beyond belief that Mr. Steinberg's assistant, who came to Rambus in 1999, would know about the shred days, while his boss, the designated corporate witness, would not. It is also typical of Rambus's approach to this case that in order to argue that files and parts of files were not destroyed, (or if some of the pages were, they were not relevant) to offer a witness who was not present in the relevant time or place in question. Mr. Moniz is at best another misdirection play for Rambus. In the 661 Investigation, Rambus called the ALJ's attention to the destruction of pizza boxes and phone books. In this investigation, they call the ALJ's and Commission's attention to the non-destruction of records, years later and at a

different location, in a different business than the original destruction involving those files. To state it conclusively: Mr. Moniz's testimony is that there is not a shred of evidence that any material was lost from the Barth prosecution files when Mr. Moniz possessed them. However, that fact is not relevant in this matter because there is conclusive evidence of a shred by Mr. Vincent of information in those same files, at a time and place that is relevant.

d) Geoff Tate

Mr. Geoff Tate had many of the same flaws of memory that afflicted Mr. Karp. While under cross examination, he also seemed unable to recall anything pertinent to the case, his employment or Rambus:

Q. And between May of 1990 and late 1999, you were the chief executive officer and president at Rambus?

A. I think I went by the title of president. I don't recall the exact titles, I was the number 1 executive person there. (Tr. at 1316:12-17.)

Q. Do you recall that there was a time in 1998 when Rambus basically erased, degaussed electronic media tapes?

A. I have been deposed or testified 25 or plus times, so I have a hard time remembering what I would have recalled without all those intermediate events. So I don't recall specifically sitting here today. I know that it happened. (Tr. at 1318:6-14.)

Q. And do you recall there being a third shred day in 2000?

A. I don't know that I recall that, but I believe that that's - that this is - I'm not disputing the factual nature of this. If the dates are wrong, I'm sure the other side will indicate.

*158 Q. Well, let me ask you, certainly toward in '98, '99, 2000, you were aware of the events that were taking place then concerning the destruction of documents at Rambus, correct?

A. I was aware that we had a document retention policy, and that involved destroying documents as well. (Tr. 1320:7-21.)

Q. As of -- yes or no, as of October 1, 1997, your belief is that some DRAM companies were infringing your patents and competing against you, yes or no?

A. I don't recall. (Tr. 1347:15-17.)

Q. You asked Mr. Karp in January 7 of '98 to develop a litigation strategy and present it to a board meeting in March, correct?

A. Sitting here today, I don't have a recollection of that. I don't have a recollection of this one on one on January 7th, whatever this year was.

Q. And you deny that you told Mr. Karp, directed him January 7th, 1998, to develop a litigation strategy and present it to the board in March?

A. I don't have a recollection of what words I used or -- of this one on one with Mr. Karp, sitting here today, 14 years ago, if this was 1997.

Q. My question is whether you deny that this happened?

A. He wrote the words here. He will be here tomorrow. You can ask him. I don't have a recollection of what happened. I don't recall -- I don't know why he wrote his notes. I didn't get a copy of his notes. I hadn't seen them before depositions.

(Trans 1350:1-23.) Not only does Mr. Tate not recall the events that went on to make him personally, and his company, a great deal of money, but he does not even attempt to cooperate as a witness. The ALJ had not, in a long career in trial work, heard a witness tell his examiner that another party will be there tomorrow, and to ask him. (Tr. 1350.) That he should state he cannot recall his title, does not know if he recalls a third shred day, and does not recall if he thought DRAM companies were infringing are all statements that that ALJ finds are unbelievable. Indeed, his failed memory continued throughout his time on the stand:

Q. So let me split this up. First of all, then, you thought that competitors were using your technology to compete against you. That's what you just said, correct?

A. Well, some competitors were using our technology to compete against us. And some of those companies were companies we were also working with to develop Rambus DRAMs and the source of their learnings was because we were teaching them through showing them how to make Rambus DRAMs or Rambus controllers.

Q. Okay.

A. They were starting to understand what we were doing and the value of what we were doing and they were incorporating it in some of their ideas, which --well, they weren't their ideas, because they were using our ideas.

Q. As of -- yes or no, as of October 1, 1997, your belief is that some DRAM companies were infringing your patents and competing against you, yes or no?

*159 A. I don't recall.

Q. Well, let's fast forward, if we can, to show -- if we can, go to the time line quickly, we will go fast forward, past January '98 and I want to focus your attention on March 4, 1998 and, particularly, Exhibit 486C concerning a strategy presented at a Board of Directors meeting, if we can show 486. You recall this is a presentation that was made at a Board of Directors meeting?

A. If I understand the meaning of "recall," no, I don't have a recollection of this. That doesn't mean it wasn't. We had a lot of meetings and there was a lot of slides and a lot of presentations. I don't know if this was presented at a board meeting or not, sitting here today.

Q. Your memory of what happened a long time ago wasn't that good, is it? Not to fault you.

A. It is not as good as it was five years ago and ten years ago.

(Tr. 1346:23-1347:19; 1350:24-1351:25.) The ALJ has never heard a live witness question his ability to understand the meaning of "recall," which is more disturbing in this case since it is a word Mr. Tate worked particularly hard. It calls to mind a phrase that condemned the legal profession: "It depends on what the meaning of 'is' is." The ALJ finds that this lack of cooperation and disregard for the trial and testimony has rendered Mr. Tate a completely unreliable witness. As a further example:

Q. Okay.

A. But you are asking, do I know that this slide was presented to the board? Sitting here today, I don't know that this slide was presented to the board. Maybe somebody else.

Q. Okay. Well --

A. I don't know, sitting here today.

Q. Okay. So let's look at the presentation here then. We will determine later with another witness whether this was presented to your board.

A. Okay.

Q. And you see it talks about licenses with 5 percent royalty rates. Do you see that? Now, did Mr. Karp tell you that his view was that a 5 percent royalty rate would mean that you would have to go into litigation with someone? Just yes or no, did he tell you that?

A. I don't have a recollection of that sitting here today. I believe that there is some sort of document or testimony that indicates something like that. (Trans. P 1352:1-23.)

Q. And then in January of 2000, in fact, Rambus sued Hitachi in the ITC?

A. Again, I don't have a recollection of that sitting here today. I believe at some point that we went to the ITC with some company.

Q. Let me call your attention to the last page of this licensing and litigation strategy where it says near-term actions. The first near-term action in connection with Rambus's licensing and litigation strategy was to create a document retention policy. Correct?

A. That's the words on this slide. (Trans. 1353:1-15.)

Q. Okay. Now, you have testified that your belief after looking at these documents is that certainly Mr. Karp in late '97, early '98 was anticipating litigation?

*160 A. If you are referring to a piece of deposition testimony, I recall that there is something to that effect which I imagine you will show me shortly.

Q. Sure. Let's look at RDX-4406. Question -- this is from your deposition testimony on July 31, 2001. "Question: No, my question is, was Rambus's business anticipating litigation in late 1997 and early 1998 when Mr. Karp was brought in? "Answer: Apparently Joel Karp was, yes." And these goals which have document retention as part of IP litigation activity, those were done several quarters? I mean, it is not just -- it wasn't just the second quarter of '98. There were goals in the third quarter and in '99, correct?

A. I don't recall sitting here today. (Trans. 1354:10 - 1355:8.)

Q. It is true, as you testified before, it wasn't usually your practice to notify employees of vacations you were talking, right?

A. I'm sorry, it was or was not?

Q. Was not.

A. I thought it was, but I don't recall sitting here today then. (Trans. 1362:1-1363:2.)

However, it is telling that Mr. Tate testified in a far different manner when Rambus's attorney asked him questions:

Q. Good morning, Your Honor. Mike Jakes for Complainant, Rambus. Good morning, Mr. Tate.

A. Good morning, Mr. Jakes.

Q. Why did Rambus decide to adopt a document retention policy?

A. Because we were advised by a lawyer to do so, and my recollection is we were told that companies that -- as they got larger, all adopted document retention policies and that we needed to do so as well.

Q. Did you follow that advice?

A. I kept more documents than the policy required, but we followed the advice to put in the document retention policy and advise our team.

Q. And so what did you understand that document retention policy to be?

A. I think that there was a category of documents where you were required to keep them for legal reasons, and it was important to make sure that all of your employees kept those documents, final drafts of contracts, you have to keep tax returns for certain periods of time. So there was lists of things that were required. And there was advice that other documents should not be kept.

(Tr. 1380:24-1382:1.) When Rambus's counsel questioned him, Mr. Tate's memory did not fail him once. His answers were coherent and he even volunteered material that he was not asked about. However, once he was again questioned by Respondents' attorney, Mr. Price, his earlier inability to recall any information, or to be helpful any anyway, returned. (*See* Trans. 1384-85, generally.)

Mr. Tate's credibility is further undermined by this interesting piece of testimony:

Q. So you didn't tell him that obviously?

A. I told you I didn't have a recollection of what I discussed with Mr. Johnson. You asked me if we were doing something. That's separate from your question about what I discussed with Mr. Johnson. I don't think with Mr. Johnson, that if he asked a question, I told him anything that wasn't truthful.

***161** (Transcript 1384:16-24.) It is remarkable that a witness, under oath, cannot say for certain if he was honest with outside counsel regarding an important issue, namely document retention. If Mr Tate cannot be certain of his truthfulness then, it follows that the ALJ cannot be certain of his truthfulness now. Rambus's case rests on unreliable and false testimony in many important aspects.

These events were not minor. Rather they were major events that Mr. Tate was planning with Mr. Karp and, based on the records, were aimed toward completing a major goal of the company. (Trans P 1317). It is unbelievable that they cannot recall the most basic matters.

While the memories of these men, and others at Rambus, were vague and unsure, even when refreshed with their own notes, the witnesses were very good at recalling things that had no notes or other evidence associated with them, if those things appeared helpful to the Rambus legal case. For example, there is no written evidence that Mr. Karp relied on advice from outside counsel to form the document retention policy nor do his notes or slides indicate the policy came from outside. But, while he can recall nothing of so much, he now, after serving as a witness for many years, "remembers" all the information came from outside counsel. It is far too convenient that the only memory the former Rambus employee witnesses claim to possess today are for things that are useful to the Rambus case and for which there was no written evidence. The ALJ finds that they have peculiar selective retention indeed and of such a nature that the ALJ discounts their testimony to the extent that it was not supported by other evidence.

e) Richard Barth

Mr. Barth was also an interesting witness for the events of this time period. While he is a named inventor on the patents, he did not refer to his notebooks, or the lab, or any other normal tools of the inventors' trade during his testimony. To the extent that he obtained his patent claims not from his own work, but from that of others, Mr. Barth appeared to be less an inventor, and more a copyist. Mr. Barth was in contact with those that were getting information on the competition in order to deter them. Mr. Barth was not focused on what Rambus had invented:

Q. So let's put up RDX-2221 and, Mr. Barth, what we did was took an excerpt from one of the documents, RX-4288C, and this is an e-mail. This is from Mr. Crisp, correct?

A. That's what it says, yes.

Q. It was an e-mail dated June 6th, 1995, right?

A. Yes.

Q. And it specifically was sent to you, Mr. Barth, along with Allen Roberts?

A. That's what it says.

Q. And this is what Mr. Crisp told you at the time, "well, if it is possible to salvage and get anything that helps us get a claim to shoot SynchLmk in the head, we should do it file whatever divisional is necessary. I am willing to take ownership of this if you guys cannot support it. I will simply make the time."

*162 Do you see that?

A. I see what it says, yes.

Q. And SynchLink was a competing technology for DRAM control, correct?

A. Yes.

Q. And when it talks about divisional, that's talking about patent prosecution, isn't it?

A. That's over -- part of that process, yes.

(Tr. 405:6-406:18.) This testimony is illuminating on two points. First, there is no discussion of the Barth patents actually covering the technology of SynchLink, but only of using a claim against the competition. It clearly indicates that Rambus is anticipating using a not yet filed divisional application against the competition. This is contrary to the contention that the only patents Rambus was considering for litigation were the Farmwald patents. The date of the e-mail is June 6th 1995 so it is clear that Rambus was planning its patent war that included the Barth Patents well before the time of the shred days. Second, Mr. Crisp indicates that if Mr. Barth and the others on the e-mail cannot do it he will: "I am willing to take ownership of this if you guys cannot support it. I will simply make the time." The ALJ notes that Mr. Crisp is not an inventor on any of the asserted Barth patents. If Mr. Barth and the others listed on the Barth I patents are the "inventors," how can Mr. Crisp "take ownership" and "make the time"? Clearly this is not a process of invention, but of entrapment of competitors.

Mr. Barth gave further testimony about the claims writing process at Rambus:

Q. For now let's get this point across. From time to time, Mr. Crisp would drop off copies of JEDEC meeting materials at your desk; isn't that right?

A. That's correct.

Q. And he was doing that so you can take a look at them, right?

A. Yes.

Q. And he was dropping off copies of JEDEC meeting summaries with other people at Rambus as well, correct?

A. I think that he did. I don't know who he gave them to in specific.

Q. From time to time, Mr. Crisp himself would come to you and ask to see your files so that he can look at the Rambus patents and patent applications himself, correct?

A. Yeah, I think I remember Richard wanting to look at some patent files, yes.

Q. And he offered that in this e-mail, he said, look, if you guys don't have the time to do it, I will take care of it. That's what he was saying in that e-mail, right?

A. That's what he was offering, yes.

(Tr. 407:17 -- 408:15.) If the inventors are writing claims to cover their inventions, there is no mention of any one of them referring to their own work. Instead, a non-inventor is handing them the work of others and making sure that the claims cover the work of its competitors, rather than its own "inventions." Again, this is not something that was done in 1997, or 1998, but back in 1995. Rambus was readying the Barth Patents and creating their claims to use against others in the field from at least that time.

*163 Mr. Barth also worked with Joel Karp, and in working with him understood the scope of Mr. Karp's duties:

Q. Another person that you worked with, Joel Karp. Do you recall Mr. Karp?

A. I do.

Q. And Mr. Karp was another person that was involved in monitoring patent prosecution activities and making sure that there was sufficient claim coverage on features, correct?

A. He certainly had job responsibilities with respect to patents, but as far as making sure that they are broad enough, yeah, yes, he did do some of that.

Q. Are you certain about that? Because we can play some more clip if you need to refresh.

A. It would probably be best to play the clip.

Q. Okay. Let's do that. June 28th, 2011, you were deposed, page 152, line 8 through

(Videotape played and transcribed as follows:)

"Question: Besides yourself and Mr. Diepenbrock, was anyone else tasked with monitoring the patent prosecution activities around those and making sure that there was sufficient claim coverage on the features that you wanted?

"Answer: Well, Joel certainly had a role in that, once he came onboard.

"Question: Can you tell us his last name?

"Answer: Karp."

(Tr. 410:17 -- 411:23.) In contrast to Mr. Karp's own testimony, Mr. Karp did not represent to his coworkers that he only had responsibility for the Farmwald patents, or for licensing them. He had a role in prosecution activities and in ensuring the claims coverage was broad enough. Just as his notes and presentations made to Rambus suggested, he was establishing the patent minefield set, for all Rambus IP, including the Barth Patents.

Mr. Barth is forthcoming on the use of competitive products as the basis for forming claims in the Barth patents, even on ideas that were not in the specification at the time:

Q. And here for the '109 patent on the references cited and considered by the Patent Office in connection with your '109 patent prosecution, SynchLink is not listed anywhere, correct?

A. Well, I don't know what Konishi et al. is or Chesley. So if those don't reference SynchLink, then no.

Q. I will represent to you that they don't. Based on that representation, you would agree with me the '109 patent does not list SynchLink as one of the references considered by the Patent Office, correct?

A. According to your representations, apparently not.

Q. Isn't it true none of the SynchLink proposals and documents we saw were submitted by you or anyone at Rambus to the United States Patent Office while the '109 patent was being prosecuted there?

A. I certainly didn't do so. I have no way of knowing if anybody else did.

Q. Let me get this straight. You filed (sic) to submit SynchLink documents to the Patent Office that you had in your possession, despite the fact that you and others at Rambus were analyzing SynchLink as a competing technology at the time; is that correct?

*164 A. Well, one amongst several others, I'm sure.

Q. But it is one of the things that you looked at for competitive analysis, correct?

A. The competitive analysis was not necessarily intimately associated with what we thought was appropriate to send to the Patent Office as prior art for any particular patent.

Q. So you are asking us to -- okay. Let me step back and ask you the next question. Mr. Barth, you failed to submit SynchLink to the United States Patent Office, despite the fact that SynchLink disclosed a strobe signal before you filed your original application for the Barth patents. Isn't that true?

A. It is clear that I knew about SynchLink before this patent application was submitted. Is that what you are asking?

Q. And you didn't submit SynchLink to the Patent Office, correct?

A. Apparently not.

Q. And you knew as we saw before that SynchLink had a strobe. That's what Mr. Crisp said in that summary, correct?

A. At some point in time, I knew that. Whether I knew that when I was trying to make up the list of prior art is speculative.

Q. Sitting here today in 2011, you really can't explain to us why you decided not to submit SynchLink to the --

A. Definitively, no.

(Tr. 447-450448:2-450:11.) Again, the ALJ notes that the issue is not that Mr. Barth drafted his claims to cover his competitor's products, which he is certainly allowed to do under the law to the extent that those claims are supported by the specification. The ALJ highlights this whole process to re-emphasize the fact that the Barth Patents were part of Rambus's ongoing litigation strategy and that the shred days and destruction of documents are relevant to this family of patents and not just the Farmwald family.

Mr. Barth's testimony also made it very clear that Rambus had destroyed some evidence that he had used in drafting the Barth Patents -- evidence that Rambus knew it had a clear duty to preserve as evidenced by Mr. Tate and Mr. Karp. Here the questions and answers are referring to patent charts created by Mr. Barth:

Q. I will represent to you that this application number here corresponds to the original filing of the Barth patents. Do you see that?

A. I do.

Q. Do you see the ID P048?

A. I do.

Q. P048, that's a code that Rambus was using to keep track of different types of patent filings, correct?

A. It wasn't so much a type of patent filing as it was just a serial number for -- as each one came along.

Q. So P048 was for the Barth family, correct?

A. I don't remember that. From this diagram, I assume that it is, given what you just told me.

Q. Let's zoom back out and see if we can give you some more clarity. So off of P048, do you see these lines going down here (indicating)?

A. Yes.

Q. And at the top?

A. Yes.

Q. And if you look at this box (indicating), that's the 6,591,353 patent. That's one of your Barth patents, correct?

*165 A. Correct.

Q. Let's zoom back out. Go to the next box and zoom in. that's the 6,470,405, that's another Barth patent, correct?

A. I assume so. I don't remember all these numbers.

Q. Zoom back out. The last box here, this one here at the end, 7,287,109. That's another Barth patent, correct?

A. Okay.

Q. So based on this information, it is accurate to say that the P048 corresponded to the Barth patent family?

A. Yes.

Q. What I would like to do now is give you the opportunity to look -- at Rambus has identified five versions that it believes correspond to the conceptual tree.

A. Okay.

Q. In this investigation. So I want to walk you through each one. The basic question I am going to ask you is when you look at the conceptual tree is there any reference to the P048 code that corresponds to the Barth patents? That's my question. Do you follow me?

A. Yes.

Q. Okay. Let's go to the first one, RX-2468C. And these are also here in your witness binder so why don't we give him a copy.

A. Let me switch glasses. That will probably help.

Q. Robin, if you could hand him that document.

A. I have got it here.

Q. So we look at the first page, P048 is not there?

A. I don't see it.

Q. And the next page there are a bunch of P numbers. Do you see P048?

A. No.

Q. Next page. The last page of this one, do you see P048?

A. I don't see it.

Q. Let's go to the next conceptual tree document that Rambus alleges, which is RX-2469C. And actually, let's go -- there is a number of pages here. There is the same kind of list that shows up on page 12 and I want to focus your questioning on that, page 12. Again, we see a similar list of Rambus categorization, lots of P numbers. Do you see P048?

A. No, I don't.

Q. Next page? Do you see P048 on this page?

A. I do not.

Q. Let's go to the next document, RX-2470C. Mr. Barth, do you see P048 on this page?

A. I don't see any P numbers on this page.

Q. Let's go to the next one. Second page of 2470C, do you see any P048 references?

A. No, I don't.

Q. Next page. Any there with respect to P048?

A. No.

Q. Bear with me, two more 2471C, RX. Do you see any P048 references on this page?

A. No.

Q. In fact, you have testified before that you have kept handwritten notes from time to time on your conceptual tree, correct?

A. Correct.

Q. Can you tell whether these are your handwriting or not?

A. Not from what I can see right here. There is not enough resolution.

Q. Maybe let's zoom in to this section. Does that look like your handwriting?

A. No.

Q. Let's go to the last document or actually the second page of this document. Do you see any P048 there?

A. No.

Q. Next page.

A. Can you zoom it?

Q. Okay. Is this the last page? Okay. So the last document, RX-2472C, this is then last document that Rambus has identified as being one of the conceptual tree documents. Do you see any --

*166 A. There are no P numbers on this page.

Q. Second page? Do you see any P048, sir?

A. Nope.

Q. Next page. Any P048?

A. I don't see any.

Q. Okay. So we have looked at the evidence. You would agree with me, Mr. Barth, that none of these versions of the conceptual tree documents produced by Rambus in this investigation contains a reference to the P048 number for the Barth patents, correct?

A. I didn't see any.

Q. Okay. And, in fact, you can't verify for me that these are the complete copies of the conceptual tree documents that you left behind in the filing cabinet when you walked away, correct?

A. No, I couldn't possibly remember all the versions of it.

Q. And just looking at the documents, there is no way to tell whether these documents came from your filing cabinet or whether they came from some other source, correct?

A. No.

Q. That's because you didn't keep a record of what was in your filing cabinet, correct?

A. I don't see why one logically follows from the other.

Q. You would agree with me you didn't keep a record of what was in the filing cabinet?

A. Other than what was in my head, no.

(Tr. 462:7-468:11.) In this testimony, Mr. Barth helps establish that the shred days and destruction of documents and e-mails by Rambus did destroy relevant evidence that Rambus had a duty to preserve. The evidence has clearly demonstrated Rambus did this in bad faith.²⁹ Mr. Barth testified that he had written on some of the conceptual trees while he was with Rambus and that none of the conceptual trees submitted into evidence contained his handwriting, and he further testified that certain patents were missing from the conceptual trees. Rambus has not presented any evidence that would meet its heavy burden that the vanished documents were of minimal import.

Mr. Barth testified further about how the Barth claims came into existence, upon the questioning by the ALJ:

JUDGE ESSEX: Thank you. Just one moment before you get up there. Let me ask you a couple questions, because I am -- I have gotten the impression from a lot of the documents just flashed up here briefly that you were able to look at some competitor product, maybe SynchLink, other things, and generally the JEDEC technology and are able to consider or write claims to make sure they encompass those things. Is that an accurate statement?

THE WITNESS: Yeah, by and large.

JUDGE ESSEX: All right. And do you know, do you recall if that included SynchLink?

THE WITNESS: Well, given the evidence that I saw today, I must have had the SynchLink documents prior to actually filing that application.

JUDGE ESSEX: All right. Now I am not an inventor and I am kind of new to patents, so follow me if you would, please. If you thought SynchLink was in the area, and you were working on your claims, so it is encompassed, how could it not be relevant to the PTO?

*167 THE WITNESS: Oh, I don't know that I did that.

JUDGE ESSEX: So you don't know if you did, but for others that may have happened?

THE WITNESS: Well, I can't -- I can only tell you my assumption is how surprised I would be if somebody did it or didn't do it. Obviously I didn't monitor everybody and see what they did.

(Tr. 475:25-477:7.) Also absent from the evidence are the documents that Mr. Crisp shared with Mr. Barth, documents used to create the Barth Patent claims. It is clear from Mr. Barth's testimony that these documents were relevant and should have been saved. Not only was Rambus preparing the Barth Patents for litigation, the material given to Mr. Barth was actually used to draft the claims is now gone. This is in addition to the e-mails that are admittedly destroyed, e-mails clearly relevant to the anticipated litigation.

So in the end, Mr. Barth is uncertain how it happened that the prior art from which Rambus directly obtained the information to write its claims failed to reach the PTO.

f) Dr. Steven Przybylski

Finally, before leaving the witnesses for Rambus, the ALJ would offer a few observations on Dr. Przybylski. While a written record can never capture the full dynamic of a witness on the stand, there are instances where the cold word on paper cannot even convey the smallest sense of what goes on live. In the testimony of Dr. Steven Przybylski, we had such an experience. The doctor's testimony was inconsistent with that which he gave in the 661 Investigation, and his demeanor on the stand, as he was confronted with prior art, previous statements he and others had made, and diagrams of the evidence was remarkable: he would have long periods of silence, punctuated with heavy sighs, conveyed the impression that he had run out of answers and was making statements that he himself did not believe. He often merely disputed the words on the paper, rather than offering an explanation or argument for the court to consider. Where an expert no longer can explain apparent inconsistencies or contradictions, but merely asserts that his answer is what a person of ordinary skill in the art would give, the witness ceases to act as an expert. -. He provides no useful testimony to the ALJ or the Commission. One example of Dr. Przybylski's contradictory testimony came as he attempted to distinguish the prior art Yano device:

Q. Dr. Przybylski, this is from your deposition taken in August of this year. 267, page 267, lines 18 through 24. "Question: The memory controller disclosed in Yano, you would agree with me is synchronous, correct?"

"Answer: It is. The memory controller is a part of or within microprocessor 3. It -- that is presumed to be a synchronous device."

Do you remember that testimony?

A. Yeah, and I think the critical word here is presumption, that there is no concrete disclosure of the nature of the memory controller but one of ordinary skill would see that there is an alignment between the activities of the memory controller and that system clock.

*168 Q. Is this accurate testimony, sir?

A. Yes, it is. (Tr. 2613:19-2614:13.)

Another example:

Q. Okay. Now, with respect to the memory device, which you have been wanting to talk about here, let's talk about that for a second, okay?

A. All right.

Q. You say the memory device is asynchronous in Yano, right?

A. Yes, there is no disclosure of any clocks.

Q. And for that reason, you are offering the opinion to His Honor that Yano does not disclose sampling by the DS signal, correct?

A. The fact that the memory device of Yano is not synchronous is one aspect of the total body of evidence that would lead one of ordinary skill looking at Yano to recognize that it does not sample the data as we have defined it as being capturing at a discrete point in time.

(Tr. 2614:14-2615:7.) For the ALJ and the Commission to consider the testimony of an expert and weigh his statement versus, for example, a piece of prior art, the expert must offer more than the statement that the prior art does not mean what it says. In other instances, he is able to see things in claims that are not in the claims and to argue with the attorney without grounding his testimony in science:

Q. Now let's go to the claim language, one of the claims to get our bearing here. This is RDX-3363, claim 11, just as an illustration. This is from the '353 patent, RX-4 --or JX-4. Now, claim 11 has no limitation to synchronous memory devices, does it, sir?

A. Although the claims don't specifically recite a clock in the context of the Barth I patents, and reciting a write command, they are essentially limited to synchronous memories.

Q. Where in here is there a limitation that requires that the memory devices be synchronous? Show me the words.

A. The words write command in the context of the Barth I spec to one of ordinary skill in 1995 implies that there is going to be a synchronous capturing of one or more bits to indicate that the memory device is to perform a write operation.

(Trans 2637:2-21.) He also shapes his testimony in ways that were not consistent with his claims construction:

Q. So it is your testimony the word write command would be interpreted by a person of ordinary skill in the art to mean this entire claim requires a clock signal and it is synchronous? That's your testimony to His Honor?

A. Let me say it again. To one of ordinary skill in light of the specification and the general state of the art in 1995, would interpret write command to be the one or more bits captured synchronously to perform a write operation.

Q. Did you propose a claim construction in your claim construction witness statement that write commands should be so construed, sir?

A. I'm sorry, which witness statement are you referring to?

Q. Your first witness statement in this investigation, in which you gave your opinions with respect to claim construction. Did you, sir, provide a formal proposed claim construction that write command should be construed in the manner that you just testified to?

*169 A. Is there a particular passage you want to refer me to or are you asking in general, do I remember doing so?

Q. Let me rephrase it. You did not do that, did you?

A. I don't recall doing that one way or the other right now. I could look for it if you want me to spend that time.

Q. You didn't do it, did you, sir?

A. I don't recall. If you want me to look and be absolutely certain, I will be happy to spend that time.

(Trans 2638:11-2639:22.) It is one thing for Rambus's fact witnesses to be unable to recall anything that occurred back when they were with the company, another entirely for their expert to not be able to recall his claim construction and what he put into it. When an expert, who is opining on whether prior art discloses the elements of the claims of the patent, cannot recall his own claim construction, his opinion regarding whether the elements of the claims are met can have no value. In effect, Dr. Przybylski does not remember the claim construction and, as such, cannot tell if the prior art meets it or not. In the end, Dr. Przybylski discredited his own testimony to the point that it could not be relied upon. He was evasive, forgetful, contradictory and offered set statements with no explanation. The ALJ found Dr. Przybylski so unreliable overall that his testimony in this matter could not assist him.

g) Rambus's misrepresentations

In the 661 Investigation, the ALJ spent a section of the ID, and a good deal of time, highlighting that Rambus and its counsel had made a number of both misleading and irrelevant claims, such that the ALJ felt compelled to comment on them. One would hope that they would have learned their lesson, however such is not the case.

In the 661 Investigation, Rambus indicated that on its "Shred Days" it shredded numerous things, from phone books to pizza boxes:

There were stacks of computer printouts 4-5 feet high in some places. CFFVII.C.457. The "bulk" of materials discarded consisted of computer printouts of circuitry analyses from engineers but also included pizza boxes, phone books, old marketing material, and other "junk." (CFF.VII.C.467-471.)

(661 Investigation, Rambus's Initial Post Hearing Brief at 103.) Rather than revisit irrelevant pizza boxes and phone books in this case, Rambus, through its counsel, moved on to irrelevant employment records. (RIB at 340.) While the document Rambus cited (RX-506C) does appear on its face content neutral, it also is dealing with state and federal law on document retention on some matters (employment records and discrimination) and has no relationship to the documents and plan designed and carried out by Joel Karp, which had as its purpose: "make ourselves battle ready. *** (Tr. 1916:5-7.) Mr. Karp explains further what battle ready means: "You knew that when it said make ourselves battle ready, you have characterized that as sort of like getting prepared for a war, which could include litigation, right? A. Yes." (Tr. 1917:11-14.) While the Rambus's counsel accurately represents what is stated in the document, it is irrelevant to the document retention policy that Mr. Karp and Mr. Tate put together. In offering it as evidence to demonstrate the reasoning behind the document retention policy, it is misleading. Counsel again expended in this case an extraordinary amount of energy and time to try to distract the ALJ from the relevant evidence.

*170 Once more, while it may be true that some of the materials shredded by Rambus in its preparation for litigation may have been irrelevant, and some of the materials may have triggered no duty to preserve them, this is not an issue that concerns

this trial or the Commission. That Rambus shredded things that were not relevant to this case does not lead or assist in coming to the conclusion that they did not shred things that were, in fact, relevant to the case, and that they had a duty to preserve. This is a classic misdirection presented to the ALJ. By claiming they used their shredder to shred a “bulk” of irrelevant material, Rambus seems to wish others in the case to forget that if the shred resulted in the loss of relevant evidence, then the amount of other shredding would not matter. Page after page of the notes of Karp and others discuss destroying items such as emails because they are subject to discovery. All of the witnesses relevant to this topic admit destruction of material relevant to the case was done, including backup tapes and other sources. Whether the material was the phone books of the 661 Investigation, or the employment records of the instant case ((RX-506C) does not actually say to shred employment records, but suggests they must be kept for a longer period than some other records), Rambus's counsel's decision to mention the irrelevant shredding is itself irrelevant and presents no legitimate point.

This was not the only example of counsel for Rambus attempting to mislead in this case. In this case, Mr. Vincent appeared and testified regarding his purging of the Barth I prosecution files at the request of Mr. Karp. Yet in spite of this, Rambus called Mr. Moniz, who began work at Rambus in September of 1999, to testify that the files had not been purged at Rambus while he had them. But he also testified they came to Rambus from Mr. Vincent after he got to Rambus. (Tr. 2266.) The issue in this case is the destruction of relevant material on certain dates that may have prevented the Respondents from preparing their defense. Rambus and their counsel knew the dates and events we were concerned about, and, yet, here is what Mr. Moniz testified to:

Q. You don't have any firsthand knowledge of whether Rambus cleaned its own patent files before your arrival, correct?

A. That's correct.

Q. And you don't know if Mr. Diepenbroch cleaned patent files at Rambus, correct?

A. That's correct.

Q. You don't know if Mr. Karp cleaned patent files at Rambus, correct?

A. That's correct.

Q. You don't know if Mr. Karp told Mr. Vincent that Rambus had cleaned all of its patent files in one big event, right?

A. Those are not things that I have knowledge of.

Q. And you were never the party to any conversations between Joel Karp and Lester Vincent in April of 1999 when Mr. Karp asked that Blakely apply a document retention policy to Blakely's patent files, correct?

*171 A. To the extent any conversations occurred, it is correct that I was not a party.

(Trans. 2268:4-25.) Mr. Moniz provided no relevant or pertinent testimony.

D. Rambus Failed to Show Lack of Prejudice by Clear and Convincing Evidence

The Staff argues that the evidence of record in this investigation supports finding a lack of prejudice arising out of Rambus' document destruction activities irrespective of who bears the burden of proof. (SRB 54.) Rambus also argues that the Respondents were not prejudiced regardless of who bears the burden of proof. (CRB 80-81.) Respondents argue that Rambus has the burden of showing a lack of prejudice and, because Rambus failed to catalog its document destruction, it cannot show a lack of prejudice. (RIB 116.)

A finding of prejudice requires a showing that “spoliation materially affects the substantial rights of the adverse party and is prejudicial to the presentation of his case.” *Micron*, 645 F.3d at 1328 (quoting *Wilson v. Volkswagon of Am., Inc.*, 561 F.2d 494, 504 (4th Cir. 1977)). The party alleging spoliation of evidence has the burden of coming forward with plausible, concrete suggestions as to what the destroyed evidence might have been. *Id.* (citing *Schmid*, 13 F.3d at 80.) However, if it is shown that the spoliator acted in bad faith, the spoliator bears the “heavy burden” of showing by clear and convincing evidence that the destroyed material was in fact inconsequential. *Id.* (citing *Anderson*, 862 F.2d at 925 (“A party who is guilty of, say, intentionally shredding documents in order to stymie the opposition, should not easily be able to excuse the misconduct by claiming that the vanished documents were of minimal import. Without the imposition of a heavy burden such as the “clear and convincing” standard, spoliators would almost certainly benefit from having destroyed documents, since the opposing party could probably muster little evidence concerning the value of papers it never saw.”))

Both Rambus' and the Staff's arguments fail as neither argument presents the requisite clear and convincing evidence necessary to demonstrate that the destroyed documents were in fact inconsequential. *See Anderson*, 862 F.2d at 915. Respondents over-emphasize Rambus' failure to catalog destroyed documents. The failure to catalog destroyed documents does not necessarily mean that a party cannot show lack of prejudice, but does weigh heavily in favor of finding that a bad faith spoliator did not meet its burden of showing clear and convincing evidence of lack of prejudice. *Micron*, 645 F.3d at 1328; *Leon v. IDYSys. Corp.*, 464 F.3d 951, 960 (9th Cir. 2006).

The ALJ finds that Rambus failed to meet its “heavy burden” of showing a lack of prejudice. Respondents put forth several suggestions of what the destroyed evidence might have been. However, Rambus has been unable to show, by clear and convincing evidence, that there was a lack of prejudice. Rambus presents no evidence that the documents destroyed were ever cataloged. A bad faith spoliator cannot expect to benefit from destroying documents in bad faith and then claim lack of prejudice when it has no list or catalog of what was destroyed. In this situation, the presumption that the bad faith spoliator's document destruction prejudiced the Respondents is particularly strong.

*172 Specifically, Rambus destroyed numerous emails and backup tapes. For example, Mr. Barth left behind tens of thousands of emails when he abruptly left Rambus, all of which would have been destroyed under the retention policy. (Barth, Tr. 441:11-24, 452:17-23.) Email correspondence, from Mr. Barth alone, could have provided support for Respondents' invalidity contentions. Although Rambus argues that Respondents have not shown that many of these documents ever existed or were destroyed, Rambus confuses whose burden it is to prove the existence or nonexistence of such documents. (CIB 81.) Rambus continually states that Respondents failed to make a concrete and plausible suggestion. However, due to Rambus' bad faith spoliation, Respondents' are not required to meet such a high standard, in fact, it is because of Rambus' bad faith spoliation that they cannot. (CIB 82-94.) Although witnesses testified that they were unaware of documents questioning the patentability of the Barth Patents that were destroyed during one or more of the shred days, this does not amount to clear and convincing evidence. (*See* Hampel, Tr. 369:09-13, 372:21-373:09; CX-10767, Hampel Rebuttal Q/A 12-17; Barth, Tr. 475:09-13; Vincent, Tr. 2248:06-17.) Therefore, Rambus failed to show, by clear and convincing evidence, that its bad faith spoliation did not prejudice the Respondents.

E. Finding the Barth Patents Unenforceable is an Appropriate Sanction

Rambus argues that declaring the Barth Patents unenforceable and refusing to grant any relief on them is not warranted. (CIB 175.) According to Rambus, this case does not evidence the requisite degree of fault by Rambus or prejudice suffered by respondents. (CIB 175-177.) Rambus also argues that there is a lesser, more appropriate sanction that will avoid substantial unfairness to the Respondents. (CIB 175-79.) As to degree of fault, Rambus suggests that clear and convincing evidence of bad faith spoliation can only exist when the spoliating party failed to preserve documents while litigation is *pending*. (CIB 176) (emphasis added) As to the degree prejudice, Rambus cites several cases for its proposition that, for clear and convincing evidence of prejudice resulting from spoliation, there must be “deliberate destruction of unique, identifiable evidence bearing critical importance to the opposing party's case.” (CIB 177.) Finally, Rambus argues that lesser sanctions, such as monetary damages or adverse inferences are more appropriate. (CIB 177-179.)

The Staff argues that there is a lesser degree of culpability and thus a lesser degree of prejudice than in the *Micron* and *Hynix* decisions based on the fact that the particular patent in issue was not issued until after the relevant timeframe. (SIB 104). The Staff concludes that an adverse inference would be an appropriate sanction. (SIB 105.)

Dismissal may be imposed in “particularly egregious situations” where “a party has engaged deliberately in deceptive practices that undermine the integrity of judicial proceedings” *Micron*, 645 F.3d at 1328 (quoting *Leon*, 464 F.3d at 958). In evaluating the appropriate sanction to impose for bad faith destruction of evidence relevant to a reasonably foreseeable litigation, the Federal Circuit explained:

*173 [T]he district court must take into account “(1) the *degree* of fault of the party who altered or destroyed the evidence; (2) the *degree* of prejudice suffered by the opposing party; and (3) *whether there is a lesser sanction* that will avoid substantial unfairness to the opposing party and, where the offending party is seriously at fault, will serve to deter such conduct by others in the future.

Micron 645 F.3d at 1329 (quoting *Schmid*, 13 F. 3d at 79) (emphasis in original).

Rambus' argument is flawed for several reasons. Contrary to Rambus' assertion, a finding of clear and convincing evidence of bad faith spoliation does not require that litigation is actually *pending*. The Federal Circuit in *Micron* required no such limitation. The Federal Circuit also does not require that the spoliation concern a single “identifiable” and “unique” piece of evidence to find prejudice as suggested by Rambus. The appropriate question in this case is whether Rambus' wholesale destruction of evidence significantly prejudiced Respondents' defenses. As Rambus never cataloged its document destruction it is unclear how Respondents could ever identify any unique piece of evidence. Furthermore, monetary sanctions in this forum are rare, and when they are imposed are usually used in discovery disputes. An adverse inference would be ineffective at this stage of the investigation and would not absolve the substantial unfairness Respondents suffer.

The Staff fails to acknowledge that the Barth Patents were always a part of Rambus' litigation plan and that Rambus drafted claims to cover competitors' products so that they could assert their patents against those same competitors. Again, the fact that the patents had not issued at this time is not the cardinal question in this case. It is clear that Rambus intentionally destroyed documents related to the Barth Patents and that destruction prejudiced Respondents' ability to defend themselves. The fact that the Barth Patents were still in the development phase is not as critical as the Staff and Rambus assert in light of Rambus litigation plan.

The ALJ finds that holding the Barth Patents unenforceable is the most appropriate sanction in light of Rambus' destruction of documents with the intent to prejudice Respondents. In deciding the appropriate sanction, the ALJ has considered the three factors the Federal Circuit described in *Micron*.

First, Rambus' litigation campaign clearly contemplated the wholesale destruction of documents and Rambus executed this destruction in bad faith. Numerous Rambus witnesses contradicted each other and out-right lied about Rambus' document retention policy. Here, the evidence clearly shows that the Barth Patents were always a part of Rambus' long term litigation campaign and, in preparation for that campaign, Rambus destroyed documents that it knew were relevant to Respondents' defenses. The fault, in this case, clearly lies with Rambus.

*174 Second, the degree of prejudice resulting from Rambus' spoliation is severe because the Respondents are forced to rely on “incomplete and spotty evidence.” See *Anheuser-Busch, Inc. v. Natural Beverage Distribs.*, 69 F.3d 337, 348 (9th Cir.1995). The types of documents destroyed by Rambus relating to the Barth Patents, such as Mr. Barth's emails, documents Mr. Barth received regarding JEDEC, etc., would likely be “at the heart” of Respondents' invalidity defenses. See *Leon*, 464 F.3d at 960.

Finally, in light of the egregious nature of Rambus' conduct, unenforceability is the most appropriate sanction. The sanction will serve to deter such conduct by others as it will show that one cannot enforce a patent where one's intentional document destruction prejudiced respondents.

A less drastic sanction is not useful because an adverse inference (on invalidity, for example) would leave the Respondents in the same substantially unfair position that Rambus put them in at the outset (i.e. having to prove their defenses using evidence sculpted by Rambus). An adverse inference would not help Respondents as they would be equally helpless to rebut any material that Rambus may use to overcome the adverse inference. See *Leon*, 464 F.3d at 960. Such an inference is particularly useless where the Respondents cannot obtain candid or forthright testimony from Rambus' witnesses. Respondents would be left to prove their defenses through intransigent witnesses, such as Geoff Tate, who would not even concede that his own prior sworn testimony was accurate:

Q: Do you have any reason to think that that testimony is inaccurate?

A: I don't have a reason to think it is inaccurate. I don't have reason to know that it is inaccurate.

Because Rambus' bad faith spoliation effectively prohibits Respondents' from challenging a rebuttal Rambus would make to an adverse inference, an adverse inference is a useless sanction in the circumstances of this case.

X. EQUITABLE ESTOPPEL

In *A.C. Aukerman*, the Federal Circuit set forth the legal standard for equitable estoppel:

The following statement of the underlying factual elements of equitable estoppel which generally are deemed significant reflects a reasonable and fairly complete distillation from the case law:

[equitable] estoppel case ... has three important elements. [1] The actor, who usually must have knowledge of the true facts, communicates something in a misleading way, either by words, conduct or silence. [2] The other relies upon that communication. [3] And the other would be harmed materially if the actor is later permitted to assert any claim inconsistent with his earlier conduct.

Remedies § 2.3, at 42. In other authorities, elements [2] and [3] are frequently combined into a single "detrimental reliance" requirement. See, e.g., 5 Chisum § 19.05[3], at 19-189. However, the statement of reliance and detriment as separate factors adds some clarity in this confusing area of the law.

*175 The first element of equitable estoppel concerns the statements or conduct of the patentee which must "communicate something in a misleading way." The "something" with which this case, as well as the vast majority of equitable estoppel cases in the patent field is concerned, is that the accused infringer will not be disturbed by the plaintiff patentee in the activities in which the former is currently engaged. The patentee's conduct must have supported an inference that the patentee did not intend to press an infringement claim against the alleged infringer. It is clear, thus, that for equitable estoppel the alleged infringer cannot be unaware--as is possible under laches--of the patentee and/or its patent. The alleged infringer also must know or reasonably be able to infer that the patentee has known of the former's activities for some time. In the most common situation, the patentee specifically objects to the activities currently asserted as infringement in the suit and then does not follow up for years. In *Dwight & Lloyd Sintering*, Judge Learned Hand noted that estoppel was regularly based on "no further assurance [that a known competitor would not be sued than] the patentee's long inaction." 27 F.2d at 827. There is ample subsequent precedent that equitable estoppel may arise where, coupled with other factors, a patentee's "misleading conduct" is essentially misleading inaction. See *Hottel Corp.*, 833 F.2d at 1573-74, 4 USPQ2d at 1941, and cases cited therein. However, plaintiff's inaction must be combined with other facts respecting the relationship or contacts between the parties to give rise to the necessary inference

that the claim against the defendant is abandoned. *Id.*; *A.C. Aukerman Co. v. Miller Formless Co.*, 693 F.2d at 701, 216 USPQ at 866; *Jensen*, 650 F.2d at 169, 207 USPQ at 819; *Continental Coatings Corp. v. Metco, Inc.*, 464 F.2d 1375, 1379-80, 174 USPQ 423, 426-427 (7th Cir. 1972).

The second element, reliance, is not a requirement of laches but is essential to equitable estoppel. *Heckler v. Community Health Svcs.*, 467 U.S. 51, 59, 81 L. Ed. 2d 42, 104 S. Ct. 2218 (1984). The accused infringer must show that, in fact, it substantially relied on the misleading conduct of the patentee in connection with taking some action. Reliance is not the same as prejudice or harm, although frequently confused. An infringer can build a plant being entirely unaware of the patent. As a result of infringement, the infringer may be unable to use the facility. Although harmed, the infringer could not show reliance on the patentee's conduct. To show reliance, the infringer must have had a relationship or communication with the plaintiff which lulls the infringer into a sense of security in going ahead with building the plant.

Finally, the accused infringer must establish that it would be materially prejudiced if the patentee is now permitted to proceed. As with laches, the prejudice may be a change of economic position or loss of evidence. See, e.g., *Advanced Hydraulics*, 525 F.2d at 481-82, 186 USPQ at 4-5.

***176** Finally, the trial court must, even where the three elements of equitable estoppel are established, take into consideration any other evidence and facts respecting the equities of the parties in exercising its discretion and deciding whether to allow the defense of equitable estoppel to bar the suit.

A.C. Aukerman Co. v. R.L. Chaides Constr. Co., 960 F.2d 1020, 1039 (Fed. Cir. 1992).

Respondents argue that Rambus should be precluded from enforcing its patents under the doctrine of equitable estoppel and waiver based on their prior association with JEDEC. (RIB at 217-218.) Respondents argue that Rambus had a duty to disclose patents and patent applications while a member of JEDEC and/or while monitoring JEDEC activities after ceasing participation as a member. (RIB at 217-219.)

The ALJ finds Respondents' arguments unpersuasive. First, this defense has already been considered and rejected by the Federal Circuit. See *Hynix*, 645 F.3d 1336 (finding that Rambus was not equitably estopped from bringing infringement claims and did not waive right to bring infringement claims based on its duty to disclose patents and patent applications as a JEDEC member); *Infineon*, 318 F.3d 1081 (finding that substantial evidence did not exist to support Infineon's fraud claim based on Rambus's duty to disclose patents and patent applications as a JEDEC member); see also *Rambus v. Fed. Trade Comm'n*, 522 F.3d 456 (D.C. Cir. 2008) (finding the evidence of record failed to show exclusory conduct based on Rambus's duty to disclose patents and patent applications as a JEDEC member). Respondents have failed to present any new evidence that would change the analysis set forth in those appellate opinions. As such, the ALJ finds that Respondents have failed to show by clear and convincing evidence that Rambus should be equitably estopped from enforcing its patents and waived its right to bring infringement claims.

The evidence fails to show that Rambus violated JEDEC's patent disclosure policies. The Federal Circuit explained in *Infineon*:

Rambus's duty to disclose extended only to claims in patents or applications that reasonably might be necessary to practice the standard. In other words, this duty encompassed any patent or application with claims that a competitor or other JEDEC member reasonably would construe to cover the standardized technology. This does not require a formal infringement analysis. Members are not required to perform a limitation-by-limitation comparison or conduct an equivalents analysis. Rather, the disclosure duty operates when a reasonable competitor would not expect to practice the standard without a license under the undisclosed claims. Stated another way, there must be some reasonable expectation that a license is needed to implement the standard. By the same token, the disclosure duty does not arise for a claim that recites individual limitations directed to a feature of the JEDEC standard as long as that claim also includes

limitations not needed to practice the standard. This is so because the claim could not reasonably be read to cover the standard or require a license to practice the standard.

*177 *Infinion*, 318 F.3d at 1100-01.

Respondents failed to show that a license to the Barth Patents was needed to implement a standard that had issued or was under formal consideration by JEDEC in the relevant timeframe. Respondents argue that the “overlapping subject matter [in the '292 Application] and Rambus' membership [in JEDEC]” and Rambus's failure to disclose the application are a sufficient basis for finding equitable estoppel and waiver.³⁰ (RIB at 217-219.) This argument fails under the Federal Circuit's analysis in *Infinion* for the following reasons.

First, since JEDEC's policies at the time did not require disclosure of “a member's intentions to file or amend patent applications” (*Infinion*, 318 F.3d at 1102), the relevant inquiry focuses on Complainant's then pending *claims*, e.g., *claims* from the '292 Application.

Second, Respondents failed to address whether the claims from the '292 Application *also include limitations not needed to practice the standard*. Respondents must demonstrate a reasonable expectation that a then pending claim, *in its entirety*, was necessary to practice the JEDEC standard. *Infinion*, 318 F.3d at 1101 (“[T]he disclosure duty does not arise for a claim that recites individual limitations directed to a feature of the JEDEC standard as long as that claim also includes limitations not needed to practice the standard.”). Respondents only allege that the '292 Application covers overlapping subject matter. However, the mere existence of some overlap between pending claims and features in a JEDEC standard was not enough to trigger JEDEC's disclosure duty under the Federal Circuit's analysis. “To hold otherwise would ... render the JEDEC disclosure duty unbounded.” *Id.*

In addition to its failure on substantive grounds, the ALJ finds that Respondents have failed to meet their burden of showing this defense by clear and convincing evidence. The entire defense consists of a little over a single page of argument. While the specific number of pages is not dispositive, it is certainly indicative as to how Respondents have clearly not met their burden of clear and convincing evidence.

Therefore, the ALJ finds that Respondents have failed to show by clear and convincing evidence that Rambus is equitably estopped from bringing infringement claims and waived its right to bring infringement claims based on its duty to disclose patents and patent applications as a JEDEC member.

XI. PRECLUSION FROM SEEKING INJUNCTIVE RELIEF

According to the Respondents, a Rambus predecessor-in-interest to the Dally patents participated in a standard setting organization (“SSO”) called Peripheral Component Interconnect Special Interest Group (“PCI-SIG”) and thereby subjected these patents to certain licensing obligations under the PCI-SIG bylaws. (See RIB at 260-270; RX-2407C.004.)

*178 More specifically, the Respondents' defense is premised on their view that the SSO that promulgated the PCI Express standard, *i.e.*, one of the interface technologies allegedly covered by the asserted Dally patent claims, required members to license on FRAND (Fair Reasonable And Non-Discriminatory) terms “Necessary Claims” covering various aspects of the PCI Express standard. The Respondents argue that a Rambus predecessor-in-interest to the Dally patents was a member of the SSO that adopted PCI Express, and that the Dally patents are therefore subject to the SSO's FRAND obligations. (See RIB at 261-264.) According to the Respondents, these FRAND obligations prevent Rambus from seeking injunctive relief in any forum, including at the Commission, which can only provide relief in the form of exclusion orders and cease and desist orders. (See RIB at 264-270.)

The ALJ finds that this defense is without merit because the Dally patents do not come within the scope of the FRAND obligation of PCI-SIG. The ALJ does not reach the question of whether such an obligation would bar relief before the Commission.

Two sections of the PCI-SIG bylaws are dispositive as to this defense. Section 15.3 on its face requires PCI-SIG members to grant other members and their affiliates a license to “Necessary Claims” on FRAND terms. (See RX-4653C, Bylaws of PCI-SIG at § 15.3.) Section 15.1 defines the “Necessary Claims” as follows:

“**Necessary Claims**” means those claims of all patents and patent applications ... throughout the world which a Member or its Affiliates has the right, any time during the term of this Agreement, to grant licenses of the nature agreed to be granted herein without such grant resulting in payment of royalties or other consideration to third parties (except for payments to Affiliates or employees).

See id. at § 15.1 (bold in original, underlining added for emphasis). Thus, patent claims where the grant of FRAND license would “result[] in payment of royalties or other consideration to third parties” are outside the scope of the FRAND obligation. The key dispute between the parties is whether Rambus’s payment of royalties or other consideration to third party MIT exempts the asserted Dally patent claims from the “Necessary Claims” definition in Section 15.1 above.

Respondents are of the view that Section 15.1 distinguishes between two types of thirdparty payment approaches, only one of which is exempted from the FRAND obligations in Section 15.3. (RRB at 130-132.) In the first approach, which the Respondents call a “grantbased fee” arrangement, a prospective licensee member pays an exclusive licensee, who in turn pays a sublicensing fee to the patent holder. (See RRB at 130-132.) According to the Respondents, this first approach is exempt from the FRAND obligations in Section 15.3. In the second approach, which the Respondents call a revenue sharing arrangement, a prospective licensee member pays royalties to *both* an exclusive licensee *and* the patent holder. *See id.* According to the Respondents, this second scheme is *not* exempt from the FRAND obligations in Section 15.3. *See id.* The ALJ agrees with Staff that the only apparent distinctions between the two schemes appear to be *who* is ultimately paying the patent holder and *whether* the payment is called a “royalty” or a “sublicensing fee.” (SIB at 199.)

*179 The Dally patents are assigned to MIT. (CIB at 273.) In November 1999, MIT licensed the Dally patents to Chip2Chip, Inc. (CX-4012C.) Chip2Chip, Inc. became Velio Communications. (CIB at 274.) Velio subsequently assigned the MIT/Chip2Chip agreement to Rambus in 2003. (CX-4013C; *see also*, CX-4014C, CX-4015C.) Rambus and MIT also entered into an Amended and Restated Exclusive Patent License Agreement on November 29, 2010. (CX-4016C.)

The Dally patent licenses require payment to MIT for any further licensing or sublicensing. (CX-4012C; CX-4016C.) Under the Exclusive Patent License Agreement between Chip2Chip and MIT, Chip2Chip/Velio (the “COMPANY”) was required to pay royalties to MIT:

(CX-4012C at 7.) Chip2Chip/Velio had to pay a “Running Royalty” on the income associated with the sale or license of the design cores. (*Id.*) Chip2Chip/Velio further had to share sublicense income for licensing of the patent rights:

(*Id.* at 8.) Rambus has been under the same restriction regarding payment of royalties to MIT. (CX-4014C; CX-4015C.) The Amended and Restated Exclusive Patent License Agreement that MIT and Rambus entered into on November 29, 2010, also

requires Rambus to pay MIT a portion of any Daily-related sublicense income. (CX-4016C.) Rambus has paid royalties to MIT based on such sublicensing income that it has received. (CX-7586C.0009-11.)

The ALJ finds that Rambus unquestionably has an obligation to pay royalties or other consideration to MIT and thus the Dally patents cannot be “Necessary Claims.” MIT is not Rambus's Affiliate as it has never controlled, or been controlled by, Rambus. (CX-6418C.0001.) Nor is MIT Rambus's employee. (CIB at 276.) And MIT was not an Affiliate or employee of Velio. (CIB at 276.) Thus, MIT is a third-party to both Rambus and Velio. (CIB at 276.) And both Velio's and Rambus's agreement with MIT have required royalty payments to MIT. (CIB at 276.) Neither Velio nor Rambus could license the Dally patents “without such grant resulting in payment of royalties or other consideration to” MIT. Thus, any license under the Dally patents has always required a payment of royalties to MIT. The Dally patent claims were not, and are not, “Necessary Claims.”

Respondents nevertheless argue that the Rambus-MIT arrangement is of the second, nonexempt type, because Rambus's predecessor-in-interest (which had the right to sublicense the Dally patents) and MIT (the patent holder of record with the USPTO), were to share in any subsequent amounts collected from prospective licensees. (See RRB at 130-131.) The ALJ finds that this argument is inconsistent with the plain language of the PCI-SIG bylaws -- which do *not* distinguish between “grant-based fee” arrangements and “revenue sharing” arrangements.

Respondents rely heavily on the fact that *** The ALJ finds that such extrinsic evidence is irrelevant because the language in Section 15.1 is clear and unambiguous on its face. See *Certain Coamoxiclav Products, Potassium Clavulanate Products, and other Products Derived From Clavulanic Acid*, Inv. No. 337-TA-479, Order No. 7 (March 6, 2003) (“[T]he administrative law judge finds that the Settlement Agreement, insofar as it relates to whether or not complainants have relinquished their trade secret allegation and whether or not complainants can state a claim for conversion is unambiguous on its face, and therefore the use of extrinsic evidence in interpreting the document is unnecessary and inappropriate.”); *Certain Personal Computers With Memory Management Information Stored in External Memory and Related Materials*, Inv. No. 337-TA-352, Order No. 25 (June 6, 1994) (“As a matter of law, the Intel-ST agreement is unambiguous; therefore, no extrinsic evidence regarding the intent of the parties is admissible.”).

*180 Respondents also argue that Rambus should be precluded from seeking injunctive relief for the Barth Patents for the same reasons, namely Rambus's agreement that it would accept specified royalties for memory controllers covered by its patents to resolve a European Commission investigation. (RIB at 270.) As set forth *supra*, the ALJ finds that Rambus is not precluded from seeking injunctive relief.

XII. STANDING

A. Applicable Law

To assert a patent at the Commission, the complainant must own the patent or hold certain exclusive rights thereto. See *Certain Point of Sale Terminals*, Inv. No. 337-TA-524, Order No. 31 (February 7, 2005). The Commission Rules require complainants to demonstrate standing upon filing of the complaint by “showing that at least one complainant is the owner or exclusive licensee of the subject intellectual property.” See 19 C.F.R. § 210.12(a)(7). In addition, complainants must provide a certified copy of the assignments of each patent as well as a copy of any license agreement relied upon to establish standing to bring the complaint. See 19 C.F.R. § 210.12(a)(9)(ii)-(iv). While respondents may raise standing as a defense in their answer to the complaint, the question of whether a party lacks standing can be raised sua sponte and cannot be waived. *Pandrol USA, LP v. Airboss Ry. Prods., Inc.*, 320 F.3d 1354, 1368 (Fed. Cir. 2003) (internal citation omitted) (“It is well-established that any party, and even the court sua sponte, can raise the issue of standing for the first time at any stage of the litigation, including on appeal.”).

B. Factual Background

The parties agree that the named inventor, Dr. William Dally assigned the parent patent application of the Dally patents and all subsequent applications and related patents to the Massachusetts Institute of Technology (MIT), where he was a Professor at the time, and that assignment was recorded at the U.S.P.T.O. on October 27, 1997 at reel 8759, frames 202-04. (CX-4008.) On November 1, 1999, MIT exclusively licensed the Dally Patents to Chip2Chip Inc., later renamed Velio Communications, Inc. (Velio). (CX-4012C.) Velio assigned the agreement to Rambus in December 2003. (CX-4013C.) Effective November 29, 2010, Rambus obtained all substantial rights in the Dally patents. (CX-4016C.0003.)

DARPA awarded Dr. Dally and MIT a contract in August 1996 pursuant to a research proposal submitted by Dr. Dally. (CX-6288C.) Based on a purchase order covering the period starting September 31, 1996, MIT entered into a subcontract with University of North Carolina Chapel Hill (UNC), naming Dr. John Poulton as Key Personnel. (RX-2023C.) Article 1 of the UNC subcontract identifies the “Statement of Work.” (RX-2023C.0001.) Specifically it states that UNC “shall provide research relating to the subject entitled ‘Equalized 4Gb/s CMOs Signaling’ under DARPA contract No. DABT63-96-C0039.” (RX-2023C.0001.)

*181 Article 10 of the UNC subcontract states:

All rights, title and interests to all inventions, copyrightable materials, computer software, semiconductor maskworks, tangible research property and trademarks (“Intellectual Property”) conceived, invented, authorized or reduced to practice, either solely or jointly with others which are developed under this subcontract in the course of or pursuant to sponsored research shall vest in [UNC].

(RX-2023C.0007-08.)

The ALJ finds that Article 10 is clear in addressing Intellectual Property “developed under this subcontract.” (RX-2023C.0007-08.) The ALJ finds that although work on reducing the Dally inventions to practice occurred at UNC, that the Dally patents were not developed under the UNC subcontract but was developed solely by Dr. Dally. Consistent with the MIT/DARPA contract and the UNC subcontract, the Dally inventions were assigned to MIT while the separate inventions of UNC, developed under the subcontract, were assigned to UNC.

Respondents argue to the contrary that Article 10’s “developed under” requirement subsumes intellectual property “conceived, invented, authorized or reduced to practiced” (See RIB at 105; Tr. 2099:20-2100:9.) However, the ALJ finds that the plain language of Article 10 includes a separate requirement that the intellectual property covered by this clause must be developed under the subcontract distinct from other activities. (RX-2023.0008.) As discussed below, the evidence demonstrates that the Dally inventions were developed before the UNC subcontract, and thus, they were not developed under it. Therefore, Article 10 of the subcontract does not apply.

The ALJ notes that John Poulton, identified as UNC’s “key personnel” in the subcontract, confirmed that Dally had already developed the inventions disclosed in the Dally patents before the UNC subcontract was entered into. Specifically, he testified that Dally approached him about the ideas embodied in the Dally patents in the Fall of 1995, a year before the UNC subcontract was executed. (Tr. 1716:17-22; see also JX-99C at 30:20-31:6.) Poulton further testified that, at that time, the idea was “pretty much fully formed by Bill [Dally],” and he believed Dally had simulations showing that the idea would work. (JX-99C.0012 at 32:13-18, 33:9-13.) Poulton “had no doubt that it was a great idea” that it “was going to solve a very serious problem.” (Tr. 1716:21-1720:9.) Dally memorialized these ideas in June 1996 notes and later provided these notes to Poulton. Dally also described the inventions in the August 1996 Hot Interconnects paper. (CX-6324; RX-2015.) Poulton confirmed that the subject matter of the Dally patent application, as described in the Hot Interconnects paper, was solely Dally’s invention. (Tr. 1732:15-1733:5 (referring to RX-2015.0002).) Dally likewise testified that the transmitter in the Hot Interconnects paper was

his. (JX-0032C at 102:18-22.) Thus, it is irrelevant that the Fast Links chip was the actual reduction to practice because the invention was not developed under the sub-contract.

*182 Respondents also argue that because the Final Technical Report identifies the Dally inventions and the separate Poulton inventions, this means that the Dally inventions were developed under the UNC subcontract. (RIB 106-107.) But the Final Technical Report addresses the DARPA contract, not just the UNC subcontract. (RX-2018C.0001.) Discussing the Dally inventions, the report says that “a pending U.S. Patent (assigned to MIT) that covers this technology.” (RX-2018C.0002.) The ALJ finds that, contrary to Respondents’ argument, this Final Technical Report does not give any indication that the Dally inventions were developed under the subcontract. Instead, it confirms MIT’s rightful ownership.

The language of the subcontract supports that conclusion. Article 10, the only provision Respondents rely on, states that “inventions . . . conceived, invented, authorized or reduced to practice, either solely or jointly with others which are developed under this Subcontract in the course of or pursuant to sponsored research shall vest in Subcontractor.” RX-2891.007-08 (emphasis added). According to the plain language, this provision only applies to inventions developed under the subcontract. Since the Dally inventions were developed earlier, the inventions are not subject to Article 10.

Finally, the conduct of UNC and MIT made clear that UNC thought it owned Dr. Poulton’s inventions developed under the subcontract, while MIT owned Dr. Dally’s inventions. For example, when UNC submitted “Reports of Invention,” it provided data on the “Multi-wire Signaling” invention. UNC provided no information on the Dally inventions. (See CX-7650C; CX-7660C.) UNC and MIT separately patented the inventions they developed and UNC never sought to patent the Dally inventions based on any reduction to practice work done at UNC.

Tim Quigg, an employee of UNC who testified at the hearing, refused to say that UNC owns the Dally patents. (Tr. 2116.) Moreover, under the subcontract, UNC was required to submit to MIT a “final patent report indicating whether any inventions or discoveries were conceived in the course of effort under this contract.” (RX-2023C.0008-9.) UNC never did. (Tr. 2114.) This behavior is completely consistent with what the ALJ believes to be the correct reading of Article X.

Accordingly, the ALJ finds that Respondents have failed to establish that UNC has any rights in the Dally patents. Respondents offer no other challenge to MIT and Rambus’s chain of title. Thus, the ALJ finds that Rambus has standing to assert the Dally patents.

XIII. PATENT EXHAUSTION

A. Applicable Law

The doctrine of patent exhaustion provides that the initial authorized sale of a patented item in the United States terminates all patent rights to that item. See *Quanta Computer, Inc. v. LG Electronics, Inc.*, 128 S. Ct. 2109, 2115 (2008) (“*Quanta*”). More specifically, patent exhaustion may apply to the authorized sale of a component comprising part of a patented system or product when the following elements are present: (1) the component “substantially embodies” the patented invention; and (2) the sale of such component was authorized. *Id.* at 2113. With respect to the first part of the test, the Court explained in *Quanta* that a component “substantially embodies” the patented invention where (1) the component’s only reasonable and intended use is to practice the patented invention; and (2) the component embodies essential features of the patented invention. *Id.* at 2119. With respect to the second part of the test, the Court explained in *Quanta* that an agreement broadly permitting a manufacturer to “make, use, or sell” products free of the patent-holder’s claims constitutes authorization to sell its products to downstream customers. *Id.* at 2122. However, the sale must take place within the United States to trigger patent exhaustion. See *Jazz Photo Corp. v. U.S. Int’l Trade Comm’n*, 264 F.3d 1094, 1105 (Fed. Cir. 2001) (“*Jazz*”); see also *Minebea Co. Ltd. v. GeorgPapst*, 44 F.Supp. 2d 68, 137, 139 (D.D.C. 2006) (“*Minebea*”) (citing *Jazz*, 264 F.3d at 1105).

*183 Numerous district court and appellate opinions have addressed whether a sale is an “authorized” sale “within the United States” for purposes of a patent exhaustion analysis. In one such case, a district court held that the sale of a product delivered abroad *cannot* constitute an authorized first sale for patent exhaustion purposes even when price negotiations were conducted in the United States and payments were made in the United States. *Minebea*, 44 F. Supp. 2d at 141-44. According to the Court, an authorized foreign sale can never occur under a U.S. patent because the U.S. patent's territorial reach is only as far as the U.S. borders. *See id.* at 141.

More recently, the Federal Circuit addressed exhaustion in the context of toll-collection systems purchased by the Illinois State Toll Highway Authority (ISTHA) from a company called Mark IV. *See TransCore, L.P. v. Electronic Transaction Consultants Corp.*, 563 F.3d 1271, 1273 (Fed. Cir. 2009) (“*TransCore*”). In that case, the parties disputed the extent to which a prior covenant not to sue between TransCore and Mark IV exhausted TransCore's rights in the patents-at-issue.³¹ Analogizing covenants not to sue with license agreements, the Court found that Mark IV was in fact authorized to sell its products under the relevant agreement.³² Because the parties also disputed whether the “sale” took place in the United States or abroad, the Court then turned to an examination of territoriality:

Although the parties do not agree about which Mark IV entity actually sold the toll collection products--the irrevocable offer was made by Mark IV US, but the purchase order was placed with (and the order was ultimately filled by) Mark IV Canada--there is no dispute that a Mark IV entity was responsible for the sale.

Moreover, there is no dispute that the toll collection products were sold and shipped to ISTHA. Even if we accept TransCore's assertions that the products were shipped from Canada, this does not alter the essential fact that the transaction as a whole ultimately occurred “to” the United States. *See Litecubes, LLC v. N. Light Prods.*, 523 F.3d 1353, 1369-71 (Fed. Cir. 2008) (finding that a sale “to” the United States is sufficient to support infringement liability).

Id. at 1278. The Court thus considered the “transaction as a whole” in determining a sale took place in the United States.

In *Fujifilm*, the Federal Circuit addressed exhaustion in the context of single-use cameras that were being refurbished and resold as new. *See Fujifilm Corp. v. Benum*, 605 F.3d 1366, 1368 (Fed. Cir. 2010) (“*%7FFujifilm*”). More specifically, the parties disputed “whether *Quanta*. ... eliminated the territoriality requirement for patent exhaustion announced in *Jazz Photo Corp. v. United States International Trade Commission*, 264 F.3d 1094 (Fed. Cir. 2001)” *Id.* at 1370. The Court held that it did not.³³ Because the parties also disputed whether the “sale” took place in the United States or abroad, the Court then turned to the evidence of sales in the United States and abroad:

*184 Defendants' remaining arguments are unconvincing. The district court correctly relied on three fact witness reports and a statistical expert to show that *imported LFFPs included shells that were not first sold in the United States*, and not redesigned. Therefore, the court did not abuse its discretion in finding contempt of the preliminary injunction.

Id. at 1373 (emphasis added).

In another case, the Federal Circuit addressed exhaustion in the context of semiconductor packages purchased from multiple suppliers that had taken a license to the patents-at-issue. *See Tessera, Inc. v. Int'l Trade Comm'n*, 646 F.3d 1357, 1362 (Fed. Cir. May 23, 2011) (“*Tessera*”). In that case, the parties disputed the extent to which a licensee's dilatory royalty payments should impact the Commission's finding that the licensee's sales were nonetheless ““authorized” by Tessera.”³⁴ The Court agreed with the Commission:

The proper focus is on whether the sales were authorized. Tessera overlooks important aspects of the structure of its TCC Licenses. These agreements expressly authorize licensees to sell the licensed products and to pay up at the end of the reporting period. Thus, in these agreements, Tessera authorizes its licensees to sell the licensed products on credit and pay later. That some licensees subsequently renege or fall behind on their royalty payments does not convert a once authorized sale into a non-authorized sale. Any subsequent non-payment of royalty obligations arising under the TCC Licenses would give rise to a dispute with Tessera's licensees, not with its licensees' customers.

Id. at 1370. In this regard, it bears noting that the Court did not address *where* the relevant sales took place because the parties did not seek appellate review on that issue. Thus, *Tessera* does not provide guidance on application of the territoriality requirement for patent exhaustion.

Finally, the Commission addressed a patent exhaustion defense raised by nVidia in the 661 Investigation with respect to its alleged use of licensed Samsung memory devices based on the same Samsung license agreement relied upon by the Exhaustion Respondents in this investigation. Due to the timing of Rambus's license with Samsung (entered into just days before issuance of the 661 ID), the effects of that license were presented to the Commission after the close of proceedings before the Judge.³⁵ The Commission nonetheless determined to address the issue of the Samsung license, and invited briefing from each party on the effect, if any, of the Samsung license. nVidia relied on *Quanta*, and argued that Samsung's memory products "substantially embody the asserted claims of the Barth I Patents."³⁶ However, nVidia's briefs failed to address whether the alleged exhausting sales occurred in the United States or abroad. After the Federal Circuit issued its *Fujifilm* decision, the Commission sought additional briefing from the parties on the effect of *Fujifilm*. Rambus provided evidence that Samsung memory was sold overseas to nVidia, while nVidia failed to provide any evidence to suggest the sales occurred in the United States.³⁷ On that basis, the Commission found that nVidia had not established exhaustion with respect to any of its accused products.³⁸

*185 Respondents argue that Rambus has exhausted its rights in the Barth Patents based on the authorized sale of Samsung and Elpida DRAM memory devices in certain of Respondents' accused products. (RIB at 270-271.) Those respondents are Cisco and *** -- no other Respondents have claimed to have purchased memory devices from Samsung and/or Elpida.³⁹

B. Accused Product "Substantially Embody" The Patented Invention

Respondents and Staff argue that the Samsung/Elpida memory devices "substantially embody" the patented invention. (RIB at 274-275; SIB at 127-128.) Rambus argues that the Samsung/Elpida memory devices do not "substantially embody" the asserted claims of the Barth Patents because the Barth Patents are not directed at memory devices. (CIB at 126-127.) However, as set forth *supra* in Section VLB, the ALJ found that the asserted claims of the Barth Patents did not exclude memory devices. Thus, for those same reasons, Rambus's argument fails here.

Furthermore, a significant portion of the infringement evidence identified by Rambus in its brief consists of evidence from the perspective of a memory device -- *e.g.*, datasheets and JEDEC standards that show JEDEC-complaint memory devices must be controlled in an infringing manner as to the asserted '353 and '109 Patents. Therefore, the ALJ finds that the Samsung/Elpida memory devices substantially embody the Barth Patents.

C. Authorized Sale in the United States

Respondents argue that the Samsung/Elpida memory devices were authorized sales that meet the territoriality requirements of patent exhaustion and, further, that Rambus's *** licenses meet the territoriality requirement. (RIB at 275-278.) Staff agrees that the sales to respondent *** satisfy the territoriality requirement but that the sales to respondent Cisco fail to meet the requirement. (SIB at 128-131.)

Rambus argues that Cisco and *** have failed to show that the allegedly exhausting sale occurred in the United States. (CRB at 60-61.) Specifically, with regard to ***, Rambus argues that *** has failed to show that the *** (CRB at 61.) Rambus further argues that the sales are not “authorized” because the Samsung/Elpida license is limited to DRAM patent claims and do not include the memory controller claims of the Barth Patents. (CIB at 128.)

The ALJ finds the evidence shows that Samsung and Elpida *are authorized to sell* JEDEC-complaint memory devices under the '353 and '109 Patents. However, the evidence shows that only sales to *** take place in the United States.

The evidence shows that the agreements at issue here appear to broadly grant Samsung/Elpida the right to ***. (RX-4079C, Samsung Agreement at § 2.1(a).) The agreements define “Rambus Applicable Patent Claims” as ***

1.45 ***

*186 1.47 “***

(CX-4339C.0008; *see also* RX-4075C.0013 (substantially similar definitions). EDEC requires that such devices be “used” in an infringing manner by dictating the control methodology that must be used to properly interface with a JEDEC-compliant memory device. For at least these reasons, the Samsung/Elpida agreements grant those companies a license to *** Per the express definition of “Rambus Applicable Patent Claims.” Therefore, the ALJ finds that Samsung and Elpida were authorized to ***.

Nevertheless, despite being authorized to sell the license memory devices, only *** was able to show that its sales satisfied the territoriality requirement. Cisco was unable to satisfy this requirement and, therefore, failed to show that patent exhaustion applied to its products. *See TransCore*, 563 F.3d at 1278.

The evidence shows that the relevant sales of JEDEC-complaint memory devices from Samsung to *** take place in the United States. *** at Q/A 128-132; *** Specifically, the evidence shows that the relevant memory devices *** *See TransCore, L.P. v. Electronic Transaction Consultants Corp.*, 563 F.3d 1271, 1278 (Fed. Cir. 2009) (finding evidence as to shipment of the licensed component relevant to determining whether the sale took place in the United States for purposes of an exhaustion defense). Rambus argues that because they were ***, The ALJ finds Rambus's argument unpersuasive. The evidence shows that the authorized sale was in the United States. *** does not alter the fact that the authorized sale occurred in the United States. Furthermore, the ALJ finds that the fact that *** also does not alter the fact that the authorized sale occurred in the United States. Therefore, the evidence shows some authorized sales in the United States to ***.

However, the ALJ finds that Cisco has failed to show that its authorized sale took place in the United States. None of the evidence cited by Cisco provides any information as to where the authorized sale took place. The cited testimony simply addresses the relative value of memory controllers in Cisco's products. (*See* RX-6290C, Vander Veen Rebuttal Q&A 66-67.) Further, the interrogatory responses Cisco seeks to rely on are to a large extent irrelevant as they discuss whether Cisco products include Samsung memory, not *where* the relevant sales to Cisco take place. Thus, the evidence does not show authorized sales in the United States to Cisco.

As for Respondents' remaining arguments, the ALJ finds them unpersuasive. Respondents argue that Rambus' *** license grants to Samsung and Elpida provide an independent basis to find the territorial requirement is met. (RIB at 276.) As Staff and Rambus correctly noted, these arguments are contrary to the precedent discussed above in the legal standards section, and should therefore be rejected. Specifically, Respondents' argument, however, is contrary to *Fujifilm*. See 605 F.3d at 1371. In *Fujifilm*, the Federal Circuit rejected the defendants' argument that *Quanta* "created a rule of 'strict exhaustion,'" stating that *Quanta* "did not eliminate the first sale rule's territoriality requirement." *Id.* Moreover, because the *Fujifilm* court made no distinction between sales by Fujifilm with worldwide rights and sales by a licensee, Respondents have no basis for asserting that sales by a third-party licensee satisfy the exhaustion doctrine without regard to the territoriality requirement.

*187 Therefore, the ALJ finds that Garmin has shown that certain of *** products that contain the licensed Samsung/Elpida memory devices are subject to patent exhaustion. The ALJ finds that the doctrine fails to apply to the other remaining Respondents and to *** other products that do not incorporate the Samsung/Elpida memory devices.

XIV. PATENT MISUSE

Patent misuse is an equitable defense to patent infringement. See *U.S. Philips Corp. v. Int'l Trade Comm'n*, 424 F.3d 1179, 1184 (Fed. Cir. 2005). It "arose to restrain practices that did not in themselves violate any law, but that drew anticompetitive strength from the patent right, and thus were deemed contrary to public policy." *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 704 (Fed. Cir. 1992). The doctrine has a "narrow scope," and "[g]iven that the patent grant entitles the patentee to impose a broad range of conditions in licensing the right to practice the patent, the doctrine of patent misuse 'has largely been confined to a handful of specific practices by which the patentee seemed to be trying to extend his patent grant beyond its statutory limits.'" *Princo Corp. v. Int'l Trade Comm'n*, 616 F.3d 1318, 1329 (Fed. Cir. 2010) (en banc) (quoting *USM Corp. v. SMS Tech., Inc.*, 694 F.2d 505, 510 (7th Cir. 1982)). "[T]he key inquiry under the patent misuse doctrine is whether by imposing the condition in question, the patentee has impermissibly broadened the physical or temporal scope of the patent grant and has done so in a manner that has anticompetitive effects." *Princo*, 616 F.3d at 1328. If the licensing restrictions in question are "reasonably within the patent grant, the patent misuse defense can never succeed." *Monsanto Co. v. McFarling*, 363 F.3d 1336, 1341 (Fed. Cir. 2004) (quotation marks omitted). "[T]he essence of a patent grant is the right to exclude others from profiting by the patented invention." *Dawson Chem. Co. v. Rohm & Haas Co.*, 448 U.S. 176, 215 (1980); see also *Zenith Radio Corp. v. Hazeltine Research, Inc.*, 395 U.S. 100, 135 (1969) ("The heart of (the patentee's) legal monopoly is the right to invoke the State's power to prevent others from utilizing the State's power to prevent others from utilizing his discovery without his consent.").

Respondents argue that Rambus is committing patent misuse by naming downstream customers of memory controllers as Respondents. (RIB at 278-279.) Specifically, Respondents allege that Rambus's actions are in direct violation of its resolution of antitrust claims before the European Commission. (See RX-6272 at ¶ 64 (European Commission Decision dated September 12, 2009), ("Rambus clarified that it intends to collect royalties on the individual device, such as a DRAM or a Memory Controller from the manufacturer and commits not to seek royalties for the same device from the manufacturer's customer."); RX-4855-4857.) Respondents contend that despite this commitment, Rambus has named twenty customers in this investigation on the sole basis that they allegedly import or sell of downstream products containing accused memory controllers and that this action is a violation of Rambus's commitment to the European Commission.

*188 There is no merit to this argument. Respondents cite no cases that hold that commitments to foreign governmental institutions can give rise to patent misuse in the United States. Setting that aside for a moment, Respondents have failed to demonstrate how Rambus has violated its commitment to the European Commission. There is absolutely no evidence that Rambus is seeking royalties from the customer respondents. The ALJ notes that the law requires Rambus to name the various downstream customers as respondents if it wishes to obtain relief against downstream products incorporating the allegedly infringing components. See *Kyocera Wireless Corp. v. Int'l Trade Comm'n*, 545 F.3d 1340 (Fed. Cir. 2008). Given this legal requirement, Rambus's naming of downstream respondents in this investigation does not establish that they have violated their commitment to the European Commission to not seek royalties from customers. Thus, Respondents have failed to present any evidence that would establish patent misuse in this instance.

XV. DOMESTIC INDUSTRY

A. Applicable Law

As stated in the notice of investigation, a determination must be made as to whether an industry in the United States exists as required by subsection (a)(2) of section 337. Section 337 declares unlawful the importation, the sale for importation or the sale in the United States after importation of articles that infringe a valid and enforceable U.S. patent only if an industry in the United States, relating to articles protected by the patent . . . concerned, exists or is in the process of being established. There is no requirement that the domestic industry be based on the same claim or claims alleged to be infringed. 19 U.S.C. § 1337(a)(2).

The domestic industry requirement consists of both an economic prong (*i.e.*, there must be an industry in the United States) and a technical prong (*i.e.*, that industry must relate to articles protected by the patent at issue). *See Certain Ammonium Octamolybdate Isomers*, Inv. No. 337-TA-477, Comm'n Op. at 55, USITC Pub. 3668 (January 2004). The complainant bears the burden of proving the existence of a domestic industry. *Certain Methods of Making Carbonated Candy Products*, Inv. No. 337-TA-292, Comm'n Op. at 34-35, USITC Pub. 2390 (June 1991).

Thus, in this investigation Rambus must show that it satisfies the domestic industry requirement with respect to the Barth and the Dally Patents. As noted, and as explained below, it is found that these domestic industry requirements have been satisfied for both the Barth and the Dally Patents.

A complainant in a patent-based Section 337 investigation must demonstrate that it is practicing or exploiting the patents at issue. *See* 19 U.S.C. § 1337(a)(2) and (3); *also see Certain Microsphere Adhesives, Process for Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. at 8 (U.S.I.T.C., January 16, 1996) ("*Certain Microsphere Adhesives*"), *aff'd sub nom. Minn. Mining & Mfg. Co. v. U.S. Int'l Trade Comm'n*, 91 F.3d 171 (Fed. Cir. 1996) (Table); *Certain Encapsulated Circuits*, Comm'n Op. at 16. The complainant, however, is not required to show that it practices any of the claims asserted to be infringed, as long as it can establish that it practices at least one claim of the asserted patent. *Certain Point of Sale Terminals and Components Thereof*, Inv. No. 337-TA-524, Order No. 40 (April 11, 2005). Fulfillment of this so-called "technical prong" of the domestic industry requirement is not determined by a rigid formula, but rather by the articles of commerce and the realities of the marketplace. *Certain Diltiazem Hydrochloride and Diltiazem Preparations*, Inv. No. 337-TA-349, U.S.I.T.C. Pub. No. 2902, Initial Determination at 138, (U.S.I.T.C., February 1, 1995) (unreviewed in relevant part) ("*%7FCertain Diltiazem*"); *Certain Double-Sided Floppy Disk Drives and Components Thereof*, Inv. No. 337-TA-215, 227 U.S.P.Q. 982, 989 (Comm'n Op. 1985) ("*%7FCertain Floppy Disk Drives*").

*189 The test for claim coverage for the purposes of the technical prong of the domestic industry requirement is the same as that for infringement. *Certain Doxorubicin and Preparations Containing Same*, Inv. No. 337-TA-300, Initial Determination at 109 (U.S.I.T.C., May 21, 1990) ("*Certain Doxorubicin*"), *aff'd*, Views of the Commission at 22 (October 31, 1990). "First, the claims of the patent are construed. Second, the complainant's article or process is examined to determine whether it falls within the scope of the claims." (*Id.*) As with infringement, the first step of claim construction is a question of law, whereas the second step of comparing the article to the claims is a factual determination. *Markman*, 52 F.3d at 976. The technical prong of the domestic industry can be satisfied either literally or under the doctrine of equivalents. *Certain Excimer Laser Systems for Vision Correction Surgery and Components Thereof and Methods for Performing Such Surgery*, Inv. No. 337-TA-419, Order No. 43 (July 30, 1999). The patentee must establish by a preponderance of the evidence that the domestic product practices one or more claims of the patent. *See Bayer*, 212 F.3d at 1247.

The economic prong of the domestic industry requirement is defined in subsection 337(a)(3) as follows:

- (3) For purposes of paragraph (2), an industry in the United States shall be considered to exist if there is in the United States, with respect to the articles protected by the patent, copyright, trademark or mask work concerned-
- (A) Significant investment in plant and equipment;

(B) Significant employment of labor or capital; or

(C) Substantial investment in its exploitation, including engineering, research and development, or licensing.

19 U.S.C. § 1337(a)(3).

The economic prong of the domestic industry requirement is satisfied by meeting the criteria of any one of the three factors listed above.

Section 337(a)(3)(C) provides for domestic industry based on “substantial investment” in the enumerated activities, including licensing of a patent. *See Certain Digital Processors and Digital Processing Systems, Components Thereof, and Products Containing Same*, Inv. No. 337-TA-559, Initial Determination at 88 (May 11, 2007) (“*Certain Digital Processors*”). Mere ownership of the patent is insufficient to satisfy the domestic industry requirement. *Certain Digital Processors* at 93. (citing the Senate and House Reports on the Omnibus Trade and Competitiveness Act of 1988, S.Rep. No. 71). However, entities that are actively engaged in licensing their patents in the United States can meet the domestic industry requirement. *Certain Digital Processors* at 93. In establishing a domestic industry under Section 337(a)(3)(C), the complainant does not need to show that it or one of its licensees is practicing a patent-in-suit. *See Certain Semiconductor Chips with Minimized Chip Package Size and Products Containing Same*, Inv. No. 337-TA-432, Order No. 13, at 11, (January 24, 2001) (“*Certain Semiconductor Chips*”). The complainant must, however, receive revenue, e.g. royalty payments, from its licensing activities. *Certain Digital Processors*, at 93-95 (“Commission decisions also reflect the fact that a complainant's receipt of royalties is an important factor in determining whether the domestic industry requirement is satisfied . . . [t]here is no Commission precedent for the establishment of a domestic industry based on licensing in which a complainant did not receive any revenue from alleged licensing activities. In fact, in previous investigations in which a complainant successfully relied solely on licensing activities to satisfy section 337(a)(3), the complainant had licenses yielding royalty payments.”) (citations omitted). *See also Certain Video Graphics Display Controllers and Products Containing Same*, Inv. No. 337-TA-412, Initial Determination at 13 (May 14, 1999) (“*Certain Video Graphics Display Controllers*”); *Certain Integrated Circuit Telecommunication Chips and Products Containing Same Including Dialing Apparatus*, Inv. No. 337-TA-337, U.S.I.T.C. Pub. No. 2670, Initial Determination at 98 (March 3, 1993) (“*Certain Integrated Circuit Telecommunication Chips*”); *Certain Zero-Mercury-Added Alkaline Batteries, Parts Thereof and Products Containing Same*, Inv. No. 337-TA-493, Initial Determination at 142 (June 2, 2004) (“*Certain Zero-Mercury-Added Alkaline Batteries*”); *Certain Semiconductor Chips*, Order No. 13 at 6 (January 24, 2001); *Certain Digital Satellite System DSS Receivers and Components Thereof*, Inv. No. 337-TA-392, Initial and Recommended Determinations at 11 (December 4, 1997) (“*Certain Digital Satellite System DSS Receivers*”).

^{*190} In *Certain Multimedia Display & Navigation Devices & Systems, Components Thereof, & Products Containing Same*, Inv. No. 337-TA-694, Comm'n Op. (Aug. 8, 2011) (“*Navigation Devices*”), the Commission stated that a complainant seeking to rely on licensing activities must satisfy three requirements: (1) the investment must be “an investment in the exploitation of the asserted patent;” (2) the investment must relate to licensing; and (3) the investment “must be domestic, i.e., it must occur in the United States.” *Id.* at 7-8. The Commission stated that “[o]nly after determining the extent to which the complainant's investments fall within these statutory parameters can we evaluate whether complainant's qualifying investments are ‘substantial,’ as required by the statute.” *Id.* at 8.

Under the first of the three requirements, the complainant must show a nexus between the licensing activity and the asserted patent. *Id.* at 9. When the asserted patent is part of a patent portfolio, and the licensing activities relate to the portfolio as a whole, the Commission requires that the facts be examined to determine the strength of the nexus between the asserted patent and the licensing activities. *Id.* The Commission provided a non-exhaustive list of factors to consider, such as (1) whether the

licensee's efforts relate to “an article protected by” the asserted patent under Section 337 (a)(2)-(3); (2) the number of patents in the portfolio; (3) the relative value contributed by the asserted patent to the portfolio; (4) the prominence of the asserted patent in licensing discussions, negotiations, and any resulting licensing agreement; and (5) the scope of technology covered by the portfolio compared to the scope of the asserted patent. *Id.* at 9-10. The Commission explained that the asserted patent may be shown to be particularly important or valuable within the portfolio where there is evidence that: (1) it was discussed during licensing negotiations; (2) it has been successfully litigated before by the complainant; (3) it is related to a technology industry standard; (4) it is a base patent or pioneering patent; (5) it is infringed or practiced in the United States; or (6) the market recognizes the patent's value in some other way. *Id.* at 10-11.

Once a complainant's investment in licensing the asserted patent in the United States has been assessed in the manner described above, the next inquiry is whether the investment is “substantial.” 19 U.S.C. § 1337(a)(3)(C). The Commission takes “a flexible approach whereby a complainant whose showing on one or more of the three section 337(a)(3)(C) requirements is relatively weak may nevertheless establish that its investment is ‘substantial’ by demonstrating that its activities and/or expenses are of a large magnitude.” *Multimedia Display and Navigation Devices*, Comm'n Op. at 15. The Commission has indicated that whether an investment is “substantial” may depend on:

- *191 (1) the nature of the industry and the resources of the complainant;
- (2) the existence of other types of “exploitation” activities;
- (3) the existence of license-related “ancillary” activities;
- (4) whether complainant's licensing activities are continuing; and
- (5) whether complainant's licensing activities are the type of activities that are referenced favorably in the legislative history of section 337(a)(3)(C).

Id. at 15-16. The complainant's return on its licensing investment (or lack thereof) may also be circumstantial evidence of substantiality. *Id.* at 16. In addition, litigation expenses may be evidence of the complainant's investment, but “should not automatically be considered a ‘substantial investment in . . . licensing,’ even if the lawsuit happens to culminate in a license.” *JMA*, 2011 U.S. App. LEXIS 20128 at *13.

B. Barth Patents

Rambus argues that it satisfies the domestic industry requirement for the Barth Patents based on its licensing activities. (CIB at 281.)

Investment in the exploitation of the asserted patent

As set forth above, Rambus must show a nexus between its licensing activities and the Barth Patents. The evidence shows that Technology License Agreements license all patents necessary to practice Rambus's proprietary Concurrent Interface Technology, which include the Barth Patents. (CX-9547C, Smith Direct Q&A 67-84; CX-51C through CX-59C; CX-579C.) In this regard, testimony from Rambus employees and documentation on its Concurrent Interface Technology show that the asserted Barth Patent claims cover that technology. (CX-9544C, Hampel Direct Q&A 32-116; CX-9547C.0009-13; CX-51C through CX-59C; CX-579C.) As such, the asserted Barth Patents are licensed under the Technology License Agreements.⁴⁰

The evidence shows that the Patent License Agreements license all patents necessary to practice various technologies, such as JEDEC-type DDR memory systems. Those agreements license, *inter alia*, DDR memory controllers, and, as set forth *supra*, Rambus has shown that DDR memory controllers practice the asserted Barth Patents. (CX-9547C Q&A 85-119; CX-38C

thorough CX-42C; CX-44C through CX-48C; CX-50C; CX-661C; CX-662C; CX-7627C; CX-7628C; CX-7629C; CX-7642C; CX-7643C; CX-9543C.0219-236.) In this regard, the analysis set forth in the infringement section above shows that the asserted Barth Patent claims indeed cover those systems.⁴¹ As such, the asserted Barth Patents are also licensed under the Patent License Agreements.

The evidence further shows a strong nexus between the Barth Patents and the Technology License Agreements and the Patent License Agreements. According to the Commission, such evidence includes:

In our assessment of the strength of the nexus between a complainant's licensing activities and an asserted patent included in a large patent portfolio . . . [t]he Commission may also consider other factors including, but not limited to, (1) the number of patents in the portfolio, (2) the relative value contributed by the asserted patent to the portfolio, (3) the prominence of the asserted patent in licensing discussions, negotiations and any resulting license agreement, and (4) the scope of technology covered by the portfolio compared to the scope of the asserted patent.

**192 Multimedia Display and Navigation Devices at 9-10.*

According to the Respondents, “Rambus has no evidence that any of its licensees actually practice the asserted patents.” (RIB at 282.) The evidence shows that former respondent nVidia took a license under those patents so that it may continue to import what would otherwise be excluded products. (RX-7267C (nVidia License Agreement); Kaplan, Tr. 1878:08-1879:06.) Furthermore, the evidence shows that third party Samsung is a current licensee under the Barth I patents and is selling licensed JEDEC-complaint memory devices to Respondent Garmin. *See supra* Section XIII.) Thus, the evidence shows that at least Samsung, nVidia, and certain of their customers actually practice the asserted Barth Patents.

a) Size of the Licensed Portfolios

The evidence shows that the portfolio licensed by the Technology License Agreements is fairly small, with the Barth Patent family making up more than half of patents in that particular portfolio. (SX-0007C at 6 (First Supplemental Response to Interrogatory No. 78). Specifically, there are *** applicable patents included in the Concurrent Interface Technology, over half of which are in the Barth family, including the asserted Barth Patents. Thus, this factor strongly weighs in favor of a domestic industry finding based at least on the Technology License Agreements.

Focusing on Rambus's overall patent portfolio, the Respondents argue that the fact that the *licensed* groups of patents (*e.g.*, the Concurrent RDRAM group which includes the Barth I patents) on which Rambus relies are of much smaller size than the portfolio as a whole is irrelevant because Rambus is relying on the amount of the entire licensed portfolio. (RIB at 283.) While Rambus has not allocated its expenditures to particular sub-portfolios or sub-groups *per se*, the evidence provides at least some circumstantial evidence of correspondingly significant investments in those portfolios. For example, in 2008, *** was attributable to royalties from patent license agreements that grant rights to the Barth Patents. (CX-7617C.0004; *see also* CX-9547C, Smith Direct Q/A 154-156 (testifying as to CX-7617C).) In addition, approximately *** in revenue was attributable to Concurrent RDRAM royalties, which also relate to the Barth Patents. (CX-7616C.0003; *see also* CX-9547C, Smith Direct Q/A 151-153 (testifying as to CX-7616C).⁴² This revenue information is at least strong circumstantial evidence that Rambus's investments in the asserted sub-portfolios/sub-groups are substantial as well.⁴³

b) Relative Value Contributed By The Barth I Patents

With respect to the relative value contributed by an asserted patent, the Commission has explained:

[T]he asserted patent may be shown to be particularly important or valuable within the portfolio where there is evidence that (1) it was discussed during the licensing negotiation process, (2) it has been successfully litigated before by complainant, (3) it relates to a technology industry standard, (4) it is a base patent or a pioneering patent, (5) it is infringed or practiced in the United States, or (6) the market recognizes its value in some other way.

*193 *Multimedia Display And Navigation Devices* at 10-11. Several of these points are applicable here. For example, the evidence shows that the Barth I patents were discussed during licensing negotiations with prospective licensees. (CX-9547C, Smith Direct Q&A 162-192; CX-69C through 80C; CX-5659C; CX-5665C; CX-5666C; CX-5694C; CX-5703C; CX-7613C; CX-7615C.) The May 4, 2010 licensing-presentation to former Respondent Freescale is illustrative and includes full page slides on the asserted '353 and '405 Patents:

(CX-7608C.0005; *see also* CX-7608C.0006 ('405 patent); Kaplan, Tr. 1869:07-1870:11.) This licensing-presentation also correctly notes that the Barth Patents were successfully litigated in ***

Finally, the evidence shows that the Barth Patents relate to JEDEC's DDR memory standards as previously discussed in the infringement section of this brief and in the 661 ID. (Kaplan, Tr. 1865:08-20; 661 ED at 22-30.) Thus, this factor weighs in favor of finding a licensing-based domestic industry as to the Barth Patents.

Respondents argue that "Rambus should be precluded from arguing that any of its patents are especially valuable" because a corporate witness, Mr. Smith, testified that Rambus "has no core patents" and because the "structure" and "timing" of the license agreements downplays the significance of the asserted patents in particular. (RIB 283.) However, Respondents fail to provide any further explanation and further fail to address the factors that the Commission considers in making the determination as to whether or not the patents are relatively valuable to the portfolio." (RIB at 284.) As set forth above, the evidence shows, however, that in determining the relative value of an asserted patent, the Barth and Dally Patents are of high relative value. Thus, this factor supports finding a licensing-based domestic industry in this investigation.

c) Prominence of the Barth Patents

For at least the reasons discussed above with respect to the relative value factor, the evidence shows that the Barth I patents were prominent in licensing discussions and negotiations, and have been successfully licensed by Rambus.

The Respondents argue that neither the Barth I patents nor the Dally patents are "prominent" under *Multimedia Display and Navigation Devices* because "[n]one of the license agreements Rambus relies upon as proof of its domestic industry actually mention any of the Asserted Patents" and because, while "[e]ighteen presentations over five years" do explicitly identify the asserted patents, "Rambus exaggerates the role of the asserted patents in those presentations . . ." (RIB at 285.) The ALJ finds Respondents arguments unpersuasive.

With respect to the license agreements, Respondents fail to point to any Commission precedence that requires the explicit identification of the asserted patents in the license agreement. Indeed, the Concurrent RDRAM technology agreements were found in the 661 investigation to *support* a domestic industry finding despite the fact that none of the agreements list specific patents.⁴⁴

*194 As for the licensing presentations, Respondents argue that the asserted patents are buried in "long lists of patents" that "Rambus had to add circles around . . . to ensure that they could be located" by witnesses that testified as to these presentations

at trial. (RIB at 285.) Respondents fail to address the presentations in which full slides were devoted entirely to the asserted patents, often including a summary of relevant reexamination and litigation proceedings, claim charts comparing asserted claims to potential infringing products, etc. (CX-7608.0005 to 0006 (licensing presentation to former Respondent Freescale); CX-5694C.0033 to 0038 and 0048 to 0055 (licensing presentation to Respondent Broadcom); CX-5703C.0006, 0009, 0010 and 0016-0018 (licensing presentation to Respondent Broadcom); CX-7615C.0002 to 0008 (licensing presentation to Respondent STM); Kaplan, Tr. 1869:07-1870:11.) Consistent with the page long slides highlighting the asserted patents in detail, the fact that some of Rambus's licensing presentations were made *after* institution of the 661 Investigation and explicitly discuss patents asserted in that investigation shows that the Barth Patents were indeed the subject of considerable focus during the corresponding licensing negotiations. (CX-5659C (May 2010 presentation to Respondent Freescale); CX-5694C (December 2009 presentation to Respondent Broadcom); CX-5703C (March 2010 presentation to Respondent Broadcom); CX-7613C (March 2010 presentation to non-party Panasonic); CX-7615C (July 2009 presentation to Respondent STM).) Thus, the evidence shows that the Barth Patents were frequently and repeatedly highlighted to prospective licensees.

d) The Scope of Technology Covered by the Portfolios Compared to the Scope of the Barth I Patents

For at least the reasons discussed above with respect to the size of the licensed portfolio factor, the evidence shows that the scope of the Barth Patents is similar to the scope of technology covered by the relevant portfolios. Namely, the evidence shows that the Technology License Agreements include only a small number of patents, of which the Barth Patents make up more than half. With respect to the Patent License Agreements, the evidence shows that the licensed technology has essentially the same scope as the asserted Barth Patents, which collectively cover the use of memory controllers in conjunction with JEDEC-compliant memory devices. Thus, this factor weighs in favor of finding a licensing-based domestic industry as to the Barth I patents.

Respondents argue that the Asserted Patents at most cover a narrow slice of Rambus' portfolio and that Rambus' technology licenses include many things other than the asserted Patents: cell designs, trade secrets, other (unspecified patents, know-how, etc.)" and that Rambus's patent licenses "include *all* Rambus patents that read on any integrated circuit." (RIB at 286 (emphasis in original).) The ALJ finds Respondents' argument unpersuasive.

***195** Respondents erroneously fail to address the particular groupings of patents (and associated licenses) within Rambus's overall portfolio that are at issue in this investigation. As set forth *supra*, the Barth Patents make up a significant portion of these smaller groupings of patents. Respondents fail to truly take into consideration how the Barth Patents fit within their respective groupings of patents as to the technologies covered by those groupings. *See Multimedia Display and Navigation Devices* at 12 ("Evidence showing how the asserted patents fit together congruently with other patents in the portfolio covering a specific technology may demonstrate a stronger nexus to the licensing activity than evidence indicating that the patents cover a wide variety of technologies bearing only a limited relationship to one another."). The evidence shows that the Barth Patents are the breadth and critical to the technology covered by its respective groupings (*i.e.*, the Concurrent RDRAM, patent license, and SerDes groups) and its relationship to other patents within those groups.

Investment relates to licensing

Rambus's investments are for Rambus's licensing efforts, and Rambus is not relying on litigation expenses. (CX-9547C.0003-09.)

Respondents also argue that the evidence of record as to Rambus's investments in its licensing-based domestic industry should be discounted because the company has a "litigation-driven business model" rather than a licensing-driven business model. (RIB at 287.) However, this position is contrary to the Respondents' prior statements in which they characterized Rambus as a licensing entity -- *not* a litigation entity:

Rambus' principal business consists of licensing. Indeed, it is this licensing activity that provides the sole basis for Rambus' claim that it has a domestic industry in the technology covered by the patents it is asserting. As such, Rambus' day-to-day

business activities include identifying potential licensees, assessing the relationship between Rambus' intellectual property and the potential licensees' products, and negotiating licenses.

* * *

As a licensing entity, Rambus' assessment of potential licensees and their products is purely a business function—not a legal one.

Respondents' Memorandum in Support of Motion to Compel Production of Licensing Documents, Mm. Dkt. No. 753-056, EDIS Doc. ID 454832 at 1 (July 19, 2011) (emphasis added); *see also id.* at 2 (“A central feature of Rambus' business model is the monetization of its intellectual property *through licensing . . . activities.*”) (emphasis added); *id.* at 3 (“Rambus' organization reflects the fact that it engages in *licensing-related business activities—activities* that do not involve lawyers or traditional legal work, such as litigation or even contract drafting.”) (emphasis added). Respondents' cannot change positions and arguments to fit the argument of the day.

*196 Moreover, even assuming that Rambus relies in part on litigation related expenses to support its domestic industry contentions, recent Federal Circuit precedent confirms that such expenses can properly be considered as part of a licensing-based domestic industry analysis. *See John Mezzalingua Associates, Inc. v. U.S. Int'l Trade Comm'n*, — F.3d —, 2011 U.S. App. LEXIS 20128 at *13-20 (Fed. Cir. Oct. 4, 2011) (“*JMA*”) (affirming a finding of no licensing-based domestic industry in an investigation in which the Administrative Law Judge used a “flexible framework” to analyze the extent to which complainant's litigation investments related to a domestic industry showing). Thus, the evidence of record as to Rambus's investments in its licensing-based domestic industry is relevant and must be considered.

Investment in the United States.

There is no dispute that Rambus's licensing activities are directed from its California headquarters. (CX-9547C.0005.)

Investments are substantial

The evidence further shows that Rambus's domestic investments in licensing its Barth Patents by way of the Technology License Agreements and the Patent License Agreements were substantial. (CX-9547C, Smith Direct Q/A 15-29, 149-156.) The evidence shows that Rambus has over 30 employees involved in its U.S. based licensing practice at an expense of over *** for the time period from 2006 through the first half of 2010. (*id.* at Q&A 17, 18, 27, 29.) Rambus's technology license agreements that encompass the Barth Patents have generated over *** in royalties since 2002. (*id.* at Q&A 153.) Rambus's patent license agreements that encompass the Barth Patents have generated over *** in royalties in this same timeframe. (*id.* at Q/A 156.)⁴⁵

Since 2006, Rambus has had over 30 U.S. employees directly involved in one or more of the following functions related to Rambus's overall licensing operations: promoting Rambus's patented technology to potential licensees and the public, negotiating license agreements, drafting license agreements, ensuring compliance with those agreements, conducting market analysis for licensing opportunities, conducting patent and licensing strategy, and providing technical licensing support. (CX-9547C.0003-04.)

While the Respondents may dispute the extent to which Rambus has invested in the asserted patents *in particular*, the Respondents do not appear to dispute the magnitude of Rambus's overall domestic investments or the revenue resulting from those investments. Instead, the Respondents fault Rambus for relying on “firm-wide licensing efforts” that are not specific to a given portfolio (*e.g.*, Rambus's Concurrent RDRAM and SerDes portfolios) or to particular patents (*e.g.*, the asserted patents) within such a portfolio. (RIB at 281 (“Rambus has provided no evidence that would permit even a rough estimation of the

proportion of its firm-wide activities related to the Asserted Patents or the alleged portfolios containing them.”.) Respondents’ arguments fail.

*197 The Commission does not require, as the Respondents concede, “strict mathematical proof of the investment in licensing certain patents among others in a portfolio may not be possible.” See *Multimedia Display and Navigation Devices*, at 9-13. In this regard, the Commission has explained:

Depending on the facts in each investigation, a complainant may be able to establish the strength of the nexus between the asserted patent and its licensing activities by means of evidence showing that its licensing activities are particularly focused on the asserted patent among the group of patents in the portfolio or through other evidence that demonstrates the relative importance or value of the asserted patent within the portfolio. For example, in *Coaxial Cable Connectors Remand*, at 24-25, the evidence of record showed that one of the patents was clearly more important and more valuable than the other. In our assessment of the strength of the nexus between a complainant’s licensing activities and an asserted patent included in a large patent portfolio, a potentially important consideration is whether the licensee’s efforts relate to “an article protected by” the asserted patent under section 337(a)(2)-(3). For example, if a licensee’s product is an “article protected by” the patent, then the license is by definition connected to that patent. The Commission may also consider other factors including, but not limited to, (1) the number of patents in the portfolio, (2) the relative value contributed by the asserted patent to the portfolio, (3) the prominence of the asserted patent in licensing discussions, negotiations and any resulting license agreement, and (4) the scope of technology covered by the portfolio compared to the scope of the asserted patent.

Multimedia Display and Navigation Devices, at 9-10. Therefore, in light of the foregoing evidence, the ALJ finds that Rambus’s investments are substantial.

C. Dally Patents

As for the Dally Patents, the evidence shows that a licensing-based domestic industry also exists as to the asserted Dally Patents.

Investment in the exploitation of the patent

The evidence shows that Rambus has entered into several agreements that license all patents necessary to practice various Serializer-Deserializer (SerDes) technologies. (CX-9547C, Smith Direct Q/A 59-61, 120-148; CX-4326C; CX-4329C; CX-4330C; CX-4334C; CX-4338C; CX-7134C.) The evidence further shows that the asserted Dally Patent claims cover technologies that are licensed in those agreements. (CX-9548C, Sobelman Direct Q&A 14-15, 18, 28-114; CX-9524C, Singer Direct Q/A 544-550.) In addition, certain of the agreements on which Rambus relies expressly identify the Dally patent family as being licensed. (CX-9547C, Smith Direct Q/A 130, 132; CX-4329C; CX-4338C.) Rambus’s September 2004 agreement with Alliance is representative in this regard, and reads in part:

*198 ***

(CX-4338C.0003 (underlining in original, italics added for emphasis).) This section explicitly mentions ***.⁴⁶ *** The evidence further shows that Rambus is currently paying royalties to MIT for licensees’ use of those patents. (Smith, Tr. 560:05-561:10.) The breadth of the asserted Dally Patent coupled with the analysis of licensed SerDes cores shows that the asserted Dally Patents are among the Dally Patents being practiced by Rambus licensees. (CX-9548C, Smith Direct (comparing claims from the ’857 and ’494 patents to licensed SerDes designs).)

The evidence further shows a strong nexus between the Dally Patents and the SerDes portfolio.

a) Size of the Licensed Portfolio

The evidence show that Rambus's SerDes portfolio has *** in total, ten of which are from the Dally patent family. (SX-0007C at 3-5 (First Supplemental Response To Interrogatory No. 78).) The Dally patents are also licensed by Rambus's patent license agreement with Samsung. (CX-9547C.0024 (citing CX-4339C).) Rambus has paid MIT *** in royalties for this license to the Dally patents alone (including *** in ongoing royalty payments), demonstrating the value of the Dally patents. (HTr. 560-61; CX-4342C.0009-10.)

Respondents argue that fact that the *licensed* groups of patents (*e.g.*, the SerDes group which includes the Dally patents) on which Rambus relies are of much smaller size than the portfolio as a whole is irrelevant because "Rambus is not relying upon the dollars invested only in licensing its 'SerDes' portfolio or its 'concurrent interface' portfolio." As with the Barth Patents, the evidence shows significant investments in this portfolio. Specifically, the evidence shows that *** was attributable to royalties from technology license agreements which license technology related to the Dally Patents. (CX-4342C.0003; *see also* CX-9547C, Smith Direct Q/A 157-159 (testifying as to CX-4342C).)

b) Relative Value Contributed By The Dally Patents

The evidence shows that the Dally patents were discussed during the licensing negotiation process with prospective licensees. (CX-9547C, Smith Direct Q/A 160-163, 168-169, 181-185, 193-198; CX-7612C.0007; CX-7613C.0009.) The September 29, 2010 presentation (CX-7612C) to Respondent Broadcom is representative:

(CX-7612C.0007.) In addition, the evidence shows that the asserted Dally Patents relate to at least the PCI Express and DisplayPort standards as previously discussed in the infringement section of this brief. In fact, the Respondents effectively concede this point in arguing that Rambus has an obligation to license the asserted Dally patents due FRAND obligations arising out of a Rambus predecessor's participation in the standard-setting organization that promulgated the PCI Express standards. (*See supra* Section XI; Kaplan, Tr. 1832:05-1833:16.)

c) Prominence of the Dally Patents

***199** As set forth above, the evidence also shows that the Dally Patents were prominent in licensing discussions and negotiations, and resulted in consummated license agreements. In addition, the evidence shows that nVidia sought out a license as to the asserted Dally patents before becoming aware that Rambus had obtained exclusive license rights as to those patents. (CX-10764C, Singer Rebuttal Q/A 428-429; Kaplan, Tr. 1853:06-1855:03.) Furthermore, the evidence shows that half of the technology license agreements relied upon by Rambus explicitly reference the Dally Patent family, defining that family to include the asserted Dally Patents. (CX-9547C.0019-22 (citing CX-4013C, CX-4329C, CX-4338C).)

As for the licensing presentations, Respondents argue that the asserted patents are buried in "long lists of patents" that "Rambus had to add circles around ... to ensure that they could be located" by witnesses that testified as to these presentations at trial. (RIB at 285.) However, as set forth above, certain of the agreements relied upon by Rambus in this investigation explicitly list at least the Dally Patent family. While the asserted Dally Patents may not be listed *by number*, they clearly fall within the umbrella of the Dally Patent family, which is explicitly listed. This further demonstrates the prominence of the Dally patents in Rambus's licensed portfolio.

d) The Scope of Technology Covered by the Portfolios Compared to the Scope of the Dally Patents

The evidence shows that the Dally Patents have scope similar to the scope of technology covered by the portfolios. (CX-9548C.0002-50; *see also* CX-9542C.0506; CX-9547C.0018-23.) For example, the evidence shows that the SerDes portfolio includes only a small number of patents, of which the Dally patent family makes up a significant portion. (SX-0007C at 3-5 (First Supplemental Response to Interrogatory No. 77).)

Investment relates to licensing

As with the Barth Patents, the evidence shows that Rambus's investments are for Rambus's licensing efforts, and Rambus is not relying on litigation expenses. (CX-9547C.0003-09.)

Respondents' argument that there is no nexus because certain licenses were signed before issuance of the Dally patents is contrary to the law. (RIB at 283.) See *Certain Video Game Sys. and Controllers*, Inv. No. 337-TA-743, Comm'n Op. at 6 (Apr. 14, 2011) (stating that section 337(a)(3)(C) "is broad enough to cover 'investments' made before issuance of the patent"). Respondents' own expert agreed that it would make sense that technology license agreements might be signed before a patent covering that technology had finally issued from the PTO. (HTr. 1820-21.) That Rambus has not received royalties for one agreement is of no import, as a domestic industry does not even require consummated licenses, let alone licenses that result in royalties. See *Stringed Musical Instruments and Components Thereof*, Inv. No. 337-TA-586, Comm'n Op., 2009 ITC Lexis 2250, at *43 (Dec. 2009).

Investment in the United States

*200 As with the Barth Patents, there is no dispute that Rambus's licensing activities are directed from its California headquarters. (CX-9547C.0005.)

Investments are substantial

The evidence also shows that Rambus's investments in licensing the asserted Dally Patents were and continue to be substantial. As with the Barth Patents, the evidence shows that Rambus has made substantial investments in licensing. (CX-9547C, Smith Direct Q/A 15-29, 149, 150, 157-159.) Rambus has over 30 employees involved in its U.S. based licensing practice at an expense of over *** for the time period from 2006 through the first half of 2010. (*Id.* at Q&A 17, 18, 27, 29.) As for the Dally Patents specifically, Rambus's technology license agreements that encompass the Dally Patents have generated over *** in royalties. (*Id.* at Q/A 159.) Rambus has also paid MIT, the owner of record for the Dally patents, over *** in royalties attributed to the Dally patent family. (*Id.* at Q/A 49-54.)

For at least these reasons, the evidence fails to support the Respondents' arguments against finding a licensing-based domestic industry as to the Dally patents.

Having made the foregoing findings on numerous issues covering infringement, validity, unenforceability, standing, and other affirmative defenses, the ALJ finds that the disposition of these material issues satisfies Commission Rule 210.42(d).⁴⁷ The ALJ's failure to discuss any other matter raised by the parties, or any portion of the record, does not indicate that it has not been considered. Rather, any such matter(s) or portion(s) of the record has/have been deemed immaterial.

CONCLUSIONS OF LAW

1. The Commission has personal jurisdiction over the parties, and subject-matter jurisdiction over the accused products.
2. The importation or sale requirement of section 337 is satisfied.
3. The accused products literally infringe the asserted claims of the '353, '405 and '109 Patent.
4. The accused products literally infringe the asserted claims of the '857 and '494 Patent.
5. Respondents induce infringement of the asserted claims of the Barth and the Dally Patents.
6. Respondents contribute to the infringement of the asserted claims of the Barth and the Dally Patents.

7. Claims 11-13 of the '353 Patent and claims 1, 20 and 24 of the '109 Patent are invalid under 35 U.S.C. § 102 for anticipation.
8. Claims 1, 4-6, 9-10, 24-28, 35-36, 38-44, 47 and 53 of the '857 Patent and claims 1, 2, 6 and 8 of the '494 Patent are invalid under 35 U.S.C. § 102 for anticipation.
9. Claims 11-13 of the '353 Patent, claims 11-13, 15 and 18 of the '405 Patent and claims 1, 2, 4, 5, 12, 13, 20, 21 and 24 of the '109 Patent are invalid under 35 U.S.C. § 103 for obviousness.
- *201 10. Claims 2, 11-13, 31-34, and 39-52 of the '857 Patent and claims 3, 25, 26, 30, 39, 40 and 42 of the '494 Patent are invalid under 35 U.S.C. § 103 for obviousness.
11. The Barth Patents and the Dally Patents are not invalid for failure to satisfy the written description requirement under 35 U.S.C. § 112.
12. The Barth Patents and the Dally Patents are not invalid for failure to satisfy the definiteness requirement under 35 U.S.C. § 112.
13. The Barth Patents are not invalid for failure to satisfy the utility requirement under 35 U.S.C. § 101.
14. The Barth Patents are not unenforceable due to inequitable conduct.
15. The Barth Patents and the Dally Patents are not unenforceable due to prosecution laches.
16. The Barth Patents are unenforceable due to unclean hands.
17. Rambus is not equitably estopped from asserting the asserted the Barth Patents against Respondents.
18. Rambus is not precluded from seeking injunctive relief for the Barth and the Dally Patents.
19. Rambus has standing to assert the Dally Patents.
20. The doctrine of patent exhaustion applies to those *** products that incorporate the licensed Samsung/Elpida memory devices.
21. The Barth and the Dally Patents are not unenforceable due to patent misuse.
22. It has been established that a domestic industry exists for the Barth and the Dally Patents.
23. It has not been established that a violation exists of section 337 with respect to the '353 Patent, the '405 Patent and the '109 Patent.
24. It has not been established that a violation exists of section 337 with respect to the '857 Patent and the '494 Patent.

XVI. INITIAL DETERMINATION AND ORDER

Based on the foregoing, it is the Initial Determination of this ALJ that no violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, has occurred in the importation into the United States, the sale for importation, or the sale within

the United States after importation of certain semiconductor chips and products containing same by reason of infringement of one or more of claims 11-13, 15, and 18 of U.S. Patent No. 6,470,405, claims 11-13 of U.S. Patent No. 6,591,353, claims 1-6, 11-13, 20-22, and 24 of U.S. Patent No. 7,287,109, claims 1, 2, 4-6, 9-13, 24-28, 31-36, 39-44, 47 and 49-53 of U.S. Patent No. 7,602,857 and claims 1-3, 6, 8, 25, 26, 30, 39, 40 and 42 of U.S. Patent No. 7,715,494. Further, this Initial Determination, together with the record of the hearing in this investigation consisting of:

(1) the transcript of the hearing, with appropriate corrections as may hereafter be ordered, and

*202 (2) the exhibits received into evidence in this investigation, as listed in the attached exhibit lists in Appendix A,

are CERTIFIED to the Commission. In accordance with 19 C.F.R. § 210.39(c), all material found to be confidential by the undersigned under 19 C.F.R. § 210.5 is to be given *in camera* treatment.

The Secretary shall serve a public version of this ID upon all parties of record and the confidential version upon counsel who are signatories to the Protective Order (Order No. 1.) issued in this investigation, and upon the Commission investigative attorney.

RECOMMENDED DETERMINATION ON REMEDY AND BOND

I. Remedy and Bonding

The Commission's Rules provide that subsequent to an initial determination on the question of violation of section 337 of the Tariff Act of 1930, as amended, 19 U.S.C. § 1337, the administrative law judge shall issue a recommended determination containing findings of fact and recommendations concerning: (1) the appropriate remedy in the event that the Commission finds a violation of section 337, and (2) the amount of bond to be posted by respondents during Presidential review of Commission action under section 337(j). See 19 C.F.R. § 210.42(a)(1)(ii).

A. General Exclusion Order

Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order instructs the U.S. Customs and Border Protection ("CBP") to exclude from entry all articles that are covered by the patent at issue and that originate from a named respondent in the investigation. A general exclusion order instructs the CBP to exclude from entry all articles that are covered by the patent at issue, without regard to source.

A general exclusion order may issue in cases where (a) a general exclusion from entry of articles is necessary to prevent circumvention of an exclusion order limited to products of named respondents; or (b) there is a widespread pattern of violation of Section 337 and it is difficult to identify the source of infringing products. 19 U.S.C. § 1337(d)(2). The statute essentially codifies Commission practice under *Certain Airless Paint Spray Pumps and Components Thereof*, Inv. No. 337-TA-90, Commission Opinion at 18-19, USITC Pub. 119 (Nov. 1981) ("Spray Pumps 2027345558;01021;1981274998;CT;;0001032;"). See *Certain Neodymium-Iron-Boron Magnets, Magnet Alloys, and Articles Containing the Same*, Inv. No. 337-TA-3722027345558;01022;;CA;USITCINVNO337-TA-372;0001032; ("Magnets"), Commission Opinion on Remedy, the Public Interest and Bonding at 5 (USITC Pub. 2964 (1996)2027345558;01023;1996718140;CA;;0007886;) (statutory standards "do not differ significantly" from the standards set forth in *Spray Pumps 2027345558;01024;1981274998;CT;;0001032;*). In *Magnets*, the Commission confirmed that there are two requirements for a general exclusion order: a "widespread pattern of unauthorized use;" and "certain business conditions from which one might reasonably infer that foreign manufacturers other than the respondents to the investigation may attempt to enter the U.S. market with infringing articles." The focus now is primarily on the statutory language itself and not an analysis of the *Spray Pump* factors. *Ground Fault Circuit Interrupters and Products Containing Same*, Inv. No. 337-TA-6152027345558;01025;;CA;USITCINVNO337-TA-615;0001032;; Comm'n Op. at 25 (March 9, 2009); *Hydraulic Excavators and Components Thereof*, Inv. No. 337-TA-5822027345558;01026;;CA;USITCINVNO337-TA-582;0001032;; Comm'n Op. at 16-17 (January 21, 2009).

***203** Rambus argues that a tailored general exclusion order directed at all products containing Respondents' Accused Products is necessary because a limited exclusion order will be easily circumvented and there is a widespread pattern of violation and it is difficult to identify the source of the infringing product. (CIB at 291-292.) Specifically, Rambus argues that Respondents will easily be able to evade a limited exclusion order because the products and downstream products are sold to foreign customers and are imported into the U.S. through unknown entities. (CIB at 292.)

Rambus further argues that there is widespread pattern of unauthorized use of Rambus's technology as evidenced by the importation of infringing products by the many named Respondents in this Investigation, as well as the seventeen Respondents found in violation in the 661 Investigation. (CIB at 293.) Rambus argues that Respondents have many additional customers that distribute the Accused Products throughout the world, and those products eventually end up in the United States, but that many Respondents refused to provide information regarding the identity of customers during discovery, which is further evidence of the difficulty in identifying sources of infringing products.

Respondents argue that Rambus has failed to show that a general exclusion order is warranted. (RIB at 290.) Respondents argue that (1) Rambus has failed to show that Respondents have or ever would seek to circumvent a limited exclusion order; (2) Rambus has failed to offer any evidence that a pattern of violation exists or that there is any difficulty in finding the source of the allegedly infringing goods; and (3) Rambus has failed to present any evidence that the Customer Respondents purchase or otherwise have available to them equivalent generic semiconductor chips that would not be subject to a limited exclusion order. (RIB at 290-293.)

Staff argues that a general exclusion order is not warranted. (SIB at 225-226.) Specifically, Staff argues that the evidence fails to show that it is difficult to identify the source of the infringing products or that circumvention of a limited exclusion order is likely or that there is a widespread pattern of unauthorized use. (SIB at 225-226.)

The ALJ finds that Rambus has failed to show that a general exclusion order is warranted in this investigation. The evidence fails to show that it is sufficiently difficult for Rambus to identify the source of infringing products to justify imposing a general exclusion order under this subsection. This is particularly true in light of the large number of Respondents identified by Rambus in its Complaint. The evidence also fails to show that a general exclusion order is necessary to prevent circumvention of an exclusion order limited to products of the named Respondents. 19 U.S.C. § 1337(d)(2)(A). That certain memory controller and interface chips implicated by this investigation may be manufactured overseas and incorporated into downstream products prior to being imported into the United States is irrelevant because this was a pre-existing practice known to Complainant. *Semiconductor Chips* at 66-67 (holding a pre-existing practice of manufacturing accused chips overseas and incorporating them into downstream products prior to being imported into the United States cannot be the basis for a conclusion that a general exclusion order is needed to preclude circumvention). Therefore, the ALJ recommends that the Commission not issue a general exclusion order should a violation be found.

B. Limited Exclusion Order

***204** Under Section 337(d), the Commission may issue either a limited or a general exclusion order. A limited exclusion order directed to respondents' infringing products is among the remedies that the Commission may impose, as is a general exclusion order that would apply to all infringing products, regardless of their manufacturer. *See* 19 U.S.C. § 1337(d).

Rambus argues that to the extent that the EPROMs factors apply to Respondents' own infringing products that are "downstream," those factors support excluding all of Respondents' Accused Products. (CIB at 294.) Rambus argues that all of the EPROMs factors support an exclusion order. (CIB at 294-296.)

Respondents argue that the scope of the LEO should not extend beyond the Respondents' accused chips to any downstream products and to the extent that any downstream product does not contain a semiconductor chip from the accused Supplier Respondent, those downstream products should not be excluded. (RIB at 293-294.) Respondents argue that excluding

downstream products will provide little relief to Rambus and will disrupt legitimate trade in the United States. (RIB at 294.) Respondents argue that the EPROM factors and public interest factors weigh against issuing a LEO excluding downstream products. (RIB at 294-297.) Staff agrees that the LEO should not include any products that do not contain a semiconductor chip from the Supplier Respondents, but should include downstream products that contain the accused semiconductor chips from Supplier Respondents. (SIB at 227-228.)

Should the Commission find a violation, the ALJ recommends that the limited exclusion order should apply to any downstream products that contain the accused semiconductor chips but should not include any products that do not contain an accused semiconductor chip from the Supplier Respondents. *See Certain Erasable Programmable Read-Only Memories, Components Thereof, Products Containing Such Memories, and Processes for Making Such Memories*, Inv. No. 337-TA-276, USITC Pub. 2196 (May 1989). The evidence shows that: (1) the importance of the accused chips to operation of the downstream products is high; (2) a limited exclusion order (as proposed by the Staff) would issue only as to the named Respondents; (3) Rambus would be denied effective relief if downstream products were not included as the accused chips are almost always imported as part of a larger product; (4) licensed products are available as alternatives to the accused chips; (5) there is a high likelihood that the downstream products of the named Respondents include the accused chips; (6) an appropriate certification provision can be added to reduce the risk that legitimate trade would be disrupted as well as the burden on Customs to identify products not covered by the exclusion order; and (7) the relative value of the infringing component is high in certain accused products. Therefore, the ALJ finds that the evidence supports the inclusion of downstream relief as to the named Respondents only under the EPROM factors.

***205** Should Respondents ASUS, Audio Partnership, Cisco, HP, Motorola, Oppo Digital, Seagate, and/or others attempt to rely on the testimony of Dr. Vander Veen as purportedly demonstrating that exclusion of certain downstream products is not warranted, such reliance is misplaced. *See generally* RX-6290C, Vander Veen Rebuttal. Dr. Vander Veen admitted at trial that he performed solely a quantitative analysis in determining the value of the infringing components relative to the value of the downstream products, and thus could not opine on the extent the infringing components contribute to the operation and functionality of the downstream products. Vander Veen, Tr. 1782:11-1783:25. In addition, Dr. Vander Veen's quantitative analysis is suspect given his: (1) use of inflated pricing information (Vander Veen, Tr. 1785:22-1791:13); (2) failure to distinguish certain downstream products (e.g., motherboards, server cards, hard drives, etc.) that are imported without being incorporated into larger downstream products (e.g., computers, servers, etc.) (Vander Veen, Tr. 1798:09-1801:07); and (3) assumption (without evidentiary support) that certain products for which he lacked pricing information can be treated the same as other products for which limited pricing information was provided (Vander Veen, Tr. 1801:08-1803:12). For at least these reasons, the evidence fails to support the Respondents' view that certain downstream products should be exempted from a limited exclusion order.

C. Cease and Desist Order

Section 337 provides that in addition to, or in lieu of, the issuance of an exclusion order, the Commission may issue a cease and desist order as a remedy for violation of section 337. *See* 19 U.S.C. § 1337(f)(1). The Commission generally issues a cease and desist order directed to a domestic respondent when there is a "commercially significant" amount of infringing, imported product in the United States that could be sold so as to undercut the remedy provided by an exclusion order. *See Certain Crystalline Cefadroxil Monohydrate*, Inv. No. 337-TA-293, USITC Pub. 2391, Comm'n Op. on Remedy, the Public Interest and Bonding at 37-42 (June 1991); *Certain Condensers, Parts Thereof and Products Containing Same, Including Air Conditioners for Automobiles*, Inv. No. 337-TA-334, Comm'n Op. at 26-28 (Aug. 27, 1997).

Rambus argues that a cease and desist order against all Respondents. (CIB at 296.) Specifically, Rambus argues that the evidence shows that respondents Asus, ***, Hitachi, LSI, Oppo, and Seagate currently maintain significant inventory of accused products in the United States. (CIB at 296-297.) Rambus argues that a cease and desist order recommend entry of a cease and desist order prohibiting Respondents from importing, marketing, advertising, demonstrating, sampling, warehousing inventory for distribution, offering for sale, selling, distributing, licensing, or use of any semiconductor chips that include memory controllers

and/or peripheral interfaces and products containing said semiconductor chips that infringe any claim of the Asserted Patents. (CIB at 297.) Staff agrees that a cease and desist order should be issued against these listed respondents. (SIB at 229-230.)

***206** Respondents argue that Rambus has failed to show that the downstream Customer Respondents maintain a commercially significant inventory of accused products. (RIB at 298.) Respondents argue that any cease and desist order against the downstream products will provide little relief to Rambus. (RIB at 298.)

*** Therefore, cease and desist orders are appropriate as to these Respondents.

D. Bond During Presidential Review Period

The Administrative Law Judge and the Commission must determine the amount of bond to be required of a respondent, pursuant to section 337(j)(3), during the 60-day Presidential review period following the issuance of permanent relief, in the event that the Commission determines to issue a remedy. The purpose of the bond is to protect the complainant from any injury. 19 C.F.R. § 210.42(a)(1)(ii), § 210.50(a)(3).

When reliable price information is available, the Commission has often set the bond by eliminating the differential between the domestic product and the imported, infringing product. *See Certain Microsphere Adhesives, Processes for Making Same, and Products Containing Same, Including Self-Stick Repositionable Notes*, Inv. No. 337-TA-366, Comm'n Op. at 24 (1995). In other cases, the Commission has turned to alternative approaches, especially when the level of a reasonable royalty rate could be ascertained. *See, e.g., Certain Integrated Circuit Telecommunication Chips and Products Containing Same, Including Dialing Apparatus*, Inv. No. 337-TA-337, Comm'n Op. at 41 (1995). A 100 percent bond has been required when no effective alternative existed. *See, e.g., Certain Flash Memory Circuits and Products Containing Same*, Inv. No. 337-TA-382, USITC Pub. No. 3046, Comm'n Op. at 26-27 (July 1997) (a 100% bond imposed when price comparison was not practical because the parties sold products at different levels of commerce, and the proposed royalty rate appeared to be *de minimis* and without adequate support in the record).

Rambus argues that the bond should be set at 100% of the entered value. (CIB at 297.) Rambus argues that a reasonable royalty rate is insufficient because it would be manifestly unfair to Rambus's legitimate licensees to merely charge Respondents essentially the same royalty rate. (CIB at 297.)

Respondents the bond should be determined as a percentage of a "reasonable royalty" which should be no more than what Rambus has set for other similar technology in the past. (RIB at 299.) Staff agrees. (SIB at 230-231.)

The ALJ recommends that the Commission set a bond at a reasonable royalty rate of the entered value of the accused products. Rambus's argument that the bond should be set at 100% of the entered value because a reasonable royalty would be unfair to Rambus's licensees is tantamount to punishing Respondents for past infringing acts. The Commission is not the appropriate forum for such punitive redress.

II. Conclusion

***207** In accordance with the discussion of the issues contained herein, it is the RECOMMENDED DETERMINATION ("RD") of the ALJ that the Commission should issue a limited exclusion order directed at Respondents products found to infringe the Barth Patents and the Dally Patents, including downstream products that contain the accused products. The Commission should also issue a cease and desist order directed toward respondents Asus, Garmin, Hitachi, LSI, Oppo, and Seagate who currently maintain significant inventories of Accused Products in the United States that prohibits the sale of any commercially significant quantities of the Accused Products. Furthermore, if the Commission imposes a remedy following a finding of violation, Respondents should be required to post a bond set at a reasonable royalty rate of the entered value of the accused products during the Presidential review period.

Within seven days of the date of this document, each party shall submit to the office of the Administrative Law Judge a statement as to whether or not it seeks to have any portion of this document deleted from the public version. The parties' submissions must be made by hard copy by the aforementioned date.

Any party seeking to have any portion of this document deleted from the public version thereof must submit to this office (1) a copy of this document with red brackets indicating any portion asserted to contain confidential business information by the aforementioned date and (2) a list specifying where said redactions are located. The parties' submission concerning the public version of this document need not be filed with the Commission Secretary.

SO ORDERED.

Theodore R. Essex
Administrative Law Judge

Footnotes

- 1 U.S. Patent Nos. 6,470,405, 6,591,353, 7,287,109 are collectively referred to as "the Barth I Patents" or "the Barth Patents." U.S. Patent Nos. 7,602,857 and 7,715,494 are collectively referred to as "the Dally Patents."
- 2 The agreement also terminated the investigation as to certain Customer Respondent products that contain and/or incorporate Broadcom products. According to the motion to terminate, "[t]he Agreements do not, however, resolve any claims raised in Rambus's Complaint based on non-Broadcom products incorporated in any such products of Customer Respondents (regardless of whether the same Customer Respondent product also contains a Broadcom product that is now subject to the Agreements), or any other products of Customer Respondents where the infringement claim is not based on the presence of a Broadcom product." *Joint Motion to Terminate Investigation as to Respondent Broadcom Corporation, and Downstream Broadcom Products, on the Basis of Settlement Agreement*, Motion Docket No. 753-102, at 1, note 1.
- 3 The NVIDIA customer respondents are Biostar Microtech Corp., Biostar Microtech International Corp., Elitetgroup Computer System Co., Ltd., EVGA Corporation, Galaxy Microsystems, Ltd., Giga-Byte Tech. Co., Ltd., G.B.T., Inc., Jatón Corporation, Jatón Technology TPE, Micro-Star International Co., Ltd., MSI Computer Corp., Gracom Technologies LLC, Palit Microsystems, Ltd., Pine Technology Holdings, Ltd., Sparkle Computer Co., Ltd., Nala Sales, Inc. f/k/a Zotac USA, Inc., and Zotac International (MCO), Ltd.
- 4 On June 25, 2009, the ALJ issued a Notice Regarding Order No., 12 where he corrected an error in the order.
- 5 Rambus's Initial Post-Hearing Brief and Staff's Initial Post-Hearing Brief also addressed the terms "output signal" and "output bit signal" with "transmitter" and "transmitter circuit." Respondents did not address those terms, so the ALJ is only construing "transmitter" and "transmitter circuit." In any event, Respondents' and Rambus's experts construed "output signal" and "output bit signal" consistent with their respective definitions of "transmitter" and "transmitter circuit."
- 6 In a write operation the memory controller is the data transferring device and the memory device is the data receiving device, such that the memory controller "writes" data to the memory device. *See* RX-5429C, Jacobs Direct Q/A 148-149; Jacobs, Tr. 1052:01-03, 1056:07- 14. By contrast, in a read operation the memory device is the data transferring device

and the memory controller is the data receiving device, such that the memory controller “reads” data from the memory device. *See* RX-5429C, Jacobs Direct Q/A 145-147; Jacobs, Tr. 1052:04-06.

7 It is not disputed that the Accused Products interface with memory devices that have memory cores, i.e., storage area of the memory device that includes memory cells and support circuitry for receiving and performing memory operations, such as row decoders, column decoders, and sense amplifiers, or that they have banks. RPB at 80-90; CX-6880C.0122-23; JX-075C at 70:10-71:7; CX-8566C.0017; CX-8593C.0004; CX-8607C.0036; JX-042C at 65:13-14; CX-7029C.0043; CX-9543C at 11-12, 205 (discussing memory cores).

8 The Customer Respondents do not alter the way the memory controllers of the Primary Respondents operate when incorporating those controllers into their products. (CX-9543C at 16, 78-79, 2386; CX-10863C.0002; CX-10763C.0001; CX-8173C.0003.)

9 Respondents identify Seagate chips that can operate with SDR (RPB at 98), but when those products are set up to operate with DDR, they cannot instead operate with SDR, nor can the customer change the chips to operate with SDR. HTr. 1202.

10 ***

11 Respondents have chosen not to discuss the following prior art references in detail even though they argue that they also anticipate the Barth Patents: Japanese patent Publication No. 7-262769 (“Seki”); U.S. Patent No. 5,343,503 (“Goodrich”); RamLink High-Bandwidth Memory Interface Based on SCI Signaling Technology (“Ramlink”); and Motorola 6800 Art (“MMI”).

12 In feet, the Examiner in charge of reexamining the '353 Patent recently explained:

[T]he claims do not make any requirement that a command be “complete”. The claims only require the receipt of a command. Thus, there is no requirement that a command be received and then “completed” with a defas]section.

(SX-0009, 11/14/2009 Office Action at pp. 22-23; RX-4245.0024-25.)

13 Moreover, even assuming that Rambus is correct that Yano's data strobe (DS) does not initiate sampling as claimed, the evidence shows that it would at least have been obvious to modify Yano so as to achieve the functionality of the claimed strobe signal. Namely, Yano's data strobe (DS) is asserted contemporaneous with valid data on the data bus. A person of ordinary skill in the relevant art would have looked to utilize such a technique as an alternative, improved approach to initiate sampling by a memory device, particularly as synchronous systems started overtaking asynchronous systems and the speeds of memory systems increased in the critical time frame (*i.e.*, as of the October 1995 priority date of the Barth I patents). (RX-5429C, Jacobs Direct Q/A 463-501, 532-542.)

14 *Prima facie* obviousness arguments and motivations to combine for the references considered in the anticipation section are included with those references in this section rather than as a separate section. The secondary consideration analysis will take place in the obviousness section proper *infra*.

15 While the Widmer Patent qualifies as prior art and will be considered as evidence in the record of this case as to whether other references are enabled, the Respondents have not raised, in any detail, any invalidity arguments based on the Widmer Patent. This cursory treatment is inadequate. Accordingly, the ALJ finds any specific invalidity arguments based on the Widmer Patent to be waived.

16 The Ewen Article, “Single-Chip 1062Mbaud CMOS Transceiver for Serial Data Communication” (February 1995), is authored by many of the same authors as the Widmer Article. (RX-4125 at 32.) The Widmer Article references the Ewen Article in the first footnote and (RX-4125.) The Widmer Article specifically states that it “adopts techniques used previously” in the Ewen Article. (RX-4109 at 127.)

- 17 Claims 31 and 49 of the '857 Patent and claim 3 of the '494 Patent include an identical limitation of “the output signal with an output frequency of at least 1 GHz and a bandwidth greater than 100 MHz,” so this analysis is equally applicable to them as well.
- 18 This analysis also applies as to dependent claims 32 and 50, which similarly call for multiple transmitter circuits coupled to a common component circuit (*e.g.*, a processor).
- 19 If you compare the input bits with the number of signal levels in the output waveform, there is a one-to-one correspondence between the input bits and the output signal levels.
- 20 This analysis also applies as to dependent claims 32 and 50, which similarly call for multiple transmitter circuits coupled to a common component circuit (*e.g.*, a processor).
- 21 Rambus' dispute with respect to this limitation is not what is disclosed by the CWSL500 technology; rather, Rambus' dispute is with the meaning of the term “output frequency.”
- 22 The system for automatic precharge found in Release 4 is the same as the auto precharge system found in the subsequent JEDEC DDR SDRAM specification Rambus alleges is covered by the asserted Barth claims. (*See* RX-3905.0017.)
- 23 The evidence shows that because sense operations, including providing a control code to a memory device specifying a sense operation, would be inherent in DRAM write operations, each of the NextBus Spec and Harriman disclose the sense operation elements of the asserted Barth claims. (*Id.* at Q&A 515.)
- 24 Respondents confusingly discuss Nakamura in the anticipation section of their pre-trial brief, but appear to allege only obviousness with respect to that reference. (*See* RIB at 194-201.) The ALJ thus addresses Nakamura in the context of obviousness.
- 25 Claims 11-13 of the '353 Patent, Claims 11-13, 15, And 18 of the ' 405 Patent, and Claims 1, 2, 4, 5, 12, and 13 of the '109 Patent.
- 26 *See* U.S. Patent Application Nos. 08/979,253 (the “253 application”); 08/980,091 (the “091 application”); and 08/979,402 (the “402 application”); CX-9697 (prosecution history for '402 application); CX-3068 (prosecution history for '091 application”); CX-3066 (prosecution history for '253 application).
- 27 The Federal Circuit explained Rambus' “delay tactics” as Rambus' intention to delay the initiation of litigation until the manufacturers were either too invested in RDRAM for the SDRAM litigation to negatively impact Rambus' sales or until Rambus had no choice but to sue because RDRAM was rejected. *Micron*, 645 F.3d at 1325. b
- 28 *See Kingsdown Medical Consultants, Ltd. v. Hollister, Inc.*, 863 F.2d 867, 874 (Fed. Cir. 1988) (It should be made clear at the outset of the present discussion that there is nothing improper, illegal or inequitable in filing a patent application for the purpose of obtaining a right to exclude a known competitor's product from the market; nor is it in any manner improper to amend or insert claims intended to cover a competitor's product the applicant's attorney has learned about during the prosecution of a patent application. Any such amendment or insertion must comply with all statutes and regulations, of course, but, if it does, its genesis in the marketplace is simply irrelevant and cannot of itself evidence deceitful intent.)
- 29 As set forth herein, this shifts the burden to Rambus to prove the lack of prejudice to the Respondents in the destruction of the documents. *Micron*, 645 F.3d at 1328, (If it is shown that the spoliator acted in bad faith, the spoliator bears the “heavy burden” to show a lack of prejudice to the opposing party because “[a] party who is guilty of . . . intentionally shredding documents . . . should not easily be able to excuse the misconduct by claiming that the vanished documents were of minimal import.”)(citing *Anderson v. Cryovac, Inc.*, 862 F.2d 910, 925 (1st Cir. 1988).)

- 30 The '292 Application “describes specific technologies that were under discussion at JEDEC at the time when Rambus was a member.” (RIB at 218.)
- 31 See *TranCore*, 563 F.3d at 1277 (“The only issue relevant to patent exhaustion is whether Mark IV’s sales were authorized, not whether TransCore and Mark IV intended, expressly or impliedly, for the covenant to extend to Mark IV’s customers.”).
- 32 See *TranCore*, 563 F.3d at 1276 (“The real question ... is not whether an agreement is framed in terms of a ‘covenant not to sue’ or a ‘license.’ That difference is only one of form, not substance--both are properly viewed as ‘authorizations.’ Rather, the pertinent question here is not whether but what the TransCor-Mark IV settlement agreement authorizes. More specifically, does the TransCore-Mark IV settlement agreement authorize *sales*? We conclude that it does.”) (emphasis in original).
- 33 See *Fujifilm*, 605 F.3d at 1371 (“*Quanta Computer, Inc. v. LG Electronics, Inc.* did not eliminate the first sale rule’s territoriality requirement.”).
- 34 See *Tessera*, 646 F.3d at 1369 (“Because royalties were not paid or were paid late by some licensees, Tessera asserts that sales by those licensees did not trigger exhaustion of its patent rights.”).
- 35 See *Certain Semiconductor Chips Having Synchronous Dynamic Random Access Memory Controllers and Products Containing Same*, Inv. No. 337-TA-661, Respondents’ Petition for Review of Initial Determination on Violation of Section 337 and Recommended Determination on Remedy and Bond, EDIS Doc. ID 418745 at 90-91 (Feb. 12, 2010).
- 36 See *Certain Semiconductor Chips Having Synchronous Dynamic Random Access Memory Controllers and Products Containing Same*, Inv. No. 337-TA-661, Respondents’ Supplemental Brief Regarding Patent Exhaustion, EDIS Doc. ID 427026 at 17 (June 7, 2010).
- 37 See *Certain Semiconductor Chips Having Synchronous Dynamic Random Access Memory Controllers and Products Containing Same*, Inv. No. 337-TA-661, Complainant Rambus’s Response to the June 22, 2010 Notice of the Commission, EDIS Doc. ID 428148 at 3-5 (June 25, 2010).
- 38 See 661 Comm’n Op. at 17 (“[W]e find that Respondents have failed to demonstrate that Rambus has exhausted its patent rights with respect to accused products that incorporate Samsung memory. Specifically, Respondents have failed to demonstrate that the relevant sales of Samsung memory take place in the United States.”).
- 39 Respondents Broadcom and Motorola had also asserted this defense, but these two respondents have since been terminated from the investigation or are in the process of being terminated. (See Order No. 60 (terminating Broadcom from the investigation on the basis of settlement agreement; see *Joint Motion to Partially Terminate Investigation on the Basis of Settlement Agreement* (Motion Docket No. 753-106) filed on February 28, 2012 (as of the date of this Final Initial Determination, responses to the joint motion were still outstanding).)
- 40 With respect to the patents asserted in this investigation, the Commission has notably stood by its prior domestic industry finding as to the Barth Patents in light of *Multimedia Display and Navigation Devices* standard. (See Commission DI Letter.) The Commission’s position on this issue is consistent with the fact that the *Multimedia Display and Navigation Devices* opinion favorably cited the domestic industry finding in the 661 investigation for a number of different points in its discussion of the nexus requirement. For example, the Commission indicated that evidence that the patent license is tied to a particular technology (as opposed to a license of all patents in a broad field) suggests a nexus between a licensing activity and the asserted patent. See *Multimedia Displays and Navigation*, Comm’n Op. at 10 (citing 661 DI Opinion at 7-9).
- 41 A similar analysis resulted in the violation finding on the Barth I patents in the 661 ID. (See 661 ID at 20-31.)

- 42 While the analysis set forth above was based on the information available for 2008, similar approximations can be done for other years using revenue information provided within the same set of documents.
- 43 See *Certain Cigarettes & Pkg. Thereof*, Inv. No. 337-TA-424, Order No. 59, 2000 ITC LEXIS 120 (Mar. 1, 2000) (allocating expenditures based as a percentage of sales revenue); *Certain Laminated Floor Panels*, Inv. No. 337-TA-545, Order No. 17, 2006 ITC LEXIS 157 (Mar. 2, 2006) (same).
- 44 See *Certain Semiconductor Chips Having Synchronous Dynamic Random Access Memory Controllers And Products Containing Same*, Inv. No. 337-TA-661, Order No. 21 at 5-6 (Oct. 7, 2009) (unreviewed ID) (“661 DI Opinion”) (“The license agreements do not list the specific patent numbers that are subject to the license agreement, but instead license the portfolio of patents covering the defined ‘Licensed Products,’ which would include products practicing the asserted patents.”).
- 45 Respondents argue that Rambus relies on some licenses that predate the filing of the Barth I patents to show its investment. RPB at 418. But Respondents fail to recognize that the license agreements relied upon here license the Barth I family and all Rambus patents filed or allowed after execution of the agreements, such as the asserted Barth I patents. See, e.g., CX-51C, CX-52C, CX-53C, CX-54C, CX-55C, CX-57C, CX-58C, CX-59C, and CX-579C. Thus, relying on these investments is entirely proper.
- 46 The agreement refers to ***
- 47 Commission Rule 210.42(d) states:
- (d) Contents. The initial determination shall include: an opinion stating findings (with specific page references to principal supporting items of evidence in the record) and conclusions and the reasons or bases therefor necessary for **the disposition of all material issues of fact, law, or discretion presented in the record**; and a statement that, pursuant to §210.42(h), the initial determination shall become the determination of the Commission unless a party files a petition for review of the initial determination pursuant to §210.43(a) or the Commission, pursuant to §210.44, orders on its own motion a review of the initial determination or certain issues therein.
- (emphasis added).

USITC Inv. No. 337-TA-753 (U.S. Intern. Trade Com'n), 2012 WL 927056