

1 FEDERAL TRADE COMMISSION

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UNITED STATES OF AMERICA
FEDERAL TRADE COMMISSION

In the Matter of:)
Rambus, Inc.) Docket No. 9302
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Friday, June 27, 2003
9:30 a.m.

TRIAL VOLUME 37
PART 1
PUBLIC RECORD

BEFORE THE HONORABLE STEPHEN J. McGUIRE
Chief Administrative Law Judge
Federal Trade Commission
600 Pennsylvania Avenue, N.W.
Washington, D.C.

Reported by: Susanne Bergling, RMR

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P R O C E E D I N G S

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JUDGE McGUIRE: This hearing is now in order.

Are there any housekeeping items we need to pick up this morning?

MR. STONE: I don't believe so, Your Honor.

JUDGE McGUIRE: If not, you can continue with your cross examination, Mr. Stone.

MR. STONE: Thank you, Your Honor.

JUDGE McGUIRE: Good morning, Professor. How are you this morning?

THE WITNESS: Good, thank you.

MR. ROYALL: Could I ask for one moment? Our computer is having another malfunction.

(Pause in the proceedings.)

JUDGE McGUIRE: All right, Mr. Stone.

MR. STONE: Thank you, Your Honor.

CROSS EXAMINATION (cont.)

BY MR. STONE:

Q. Good morning again, Professor McAfee.

A. Good morning.

Q. Is it correct that you were not able to tell us based on the assumptions or understanding that you performed what specific claims of any patent applications or patents or what specific patent

1 applications or patents in their entirety should have
2 been disclosed according to your understanding and
3 assumptions by Rambus to JEDEC?

4 A. That's correct.

5 Q. Is it also correct that you can't say as to a
6 specific date when any particular disclosure should
7 have been made by Rambus to JEDEC?

8 A. I think as I've already testified, I'm not in a
9 position to say what should have been done. In fact,
10 that --

11 Q. Let me -- you are correct. Let me withdraw the
12 question. Let me reframe it I think consistent with
13 what I have heard you say.

14 Based on the assumptions you have made, you're
15 not able to identify a specific date on which any
16 particular disclosure should have been made by Rambus
17 to JEDEC. Is that correct?

18 A. Well, I don't actually understand the
19 difference in that question. Again, you seem to be
20 calling for a legal conclusion or at least a -- for me
21 to conclude what should have been done in terms of
22 disclosure, which was --

23 Q. Right.

24 A. -- not my --

25 Q. I don't mean to ask you that. If I did, I

1 wasn't clear enough. Let me try to reframe it again.

2 You have assumed certain things about Rambus'
3 conduct that has led you to -- that has provided the
4 basis for the opinions you've ultimately formed.

5 A. That's correct.

6 Q. I'm just going to ask you about your
7 assumptions, not about any of the conclusions you've
8 formed. I'm just asking you in the course of
9 developing your assumptions, have you made assumptions
10 as to specific dates on which disclosures should have
11 been made by Rambus to JEDEC?

12 A. I have not.

13 Q. Okay. And have you assumed any particular
14 triggering event would have caused Rambus to be
15 obligated in some form or another to make a disclosure
16 to JEDEC?

17 A. No, I haven't assumed anything in the way of --
18 other than the need -- other than there was a
19 requirement or a violation of the process that formed
20 the basis for them to have misled JEDEC or
21 misrepresented their IP.

22 Q. Thank you.

23 Have you assumed in connection with the JEDEC
24 process that when patents are disclosed to JEDEC, that
25 it will then request a RAND assurance or a RAND letter

1 be provided by the patent holder?

2 A. So, my understanding is -- what I've assumed is
3 that in order to incorporate the disclosed intellectual
4 property, the -- a RAND letter was necessary, but
5 that -- I could conceive of circumstances where having
6 heard there was intellectual property, the -- JEDEC
7 decided not to pursue that avenue and didn't seek a
8 RAND letter, just went a different direction. That
9 would not make a difference to my opinion.

10 Q. Have you assumed that if JEDEC was advised of
11 patented technology that was contemplated to be
12 included in a standard, that they would not include
13 that patented technology in the standard without first
14 requesting a RAND assurance from the patent holder?

15 A. That's my expectation. There is one example in
16 the record I believe or in the trial testimony of a
17 company that was using the -- or at least as I
18 understand it was using the need for a RAND letter as a
19 way of slowing down the proceedings and that after some
20 amount of deliberation, JEDEC decided that there wasn't
21 any actual IP and that this was, in fact, an attempt to
22 slow down the JEDEC deliberations, and so there is an
23 instance where they did not seek a RAND letter in the
24 end, but that was because they determined to their
25 satisfaction that, in fact, there was no relevant IP.

1 Q. And do you recall the name of that company?

2 A. Not offhand.

3 Q. If I suggested to you that it was Echelon,
4 would that refresh your recollection at all?

5 A. That sounds right.

6 Q. Okay. And it was your understanding in that
7 regard, was it not, that as a matter of economics,
8 someone who provides information that might turn out to
9 be incorrect could impose costs on the system?

10 MR. ROYALL: Objection, vague. I'm not sure
11 what system is being referenced here.

12 JUDGE McGUIRE: Sustained.

13 BY MR. STONE:

14 Q. In regard to the testimony that you referred to
15 a moment ago about Echelon, was it your understanding
16 that some people thought that Echelon was giving notice
17 that they had intellectual property that applied to
18 certain technologies incorporated in a standard in an
19 effort to slow the standard-setting process down?

20 A. That is a fair summary I think of my
21 understanding.

22 Q. Okay. And would you agree that the conduct
23 that was at least suggested by some of the testimony
24 was the type of conduct that would impose a cost on the
25 standard-setting process employed by JEDEC?

1 A. It is my understanding that misrepresentations
2 generally can harm the standard-setting process and
3 that this is apparently -- again, I've done no further
4 investigation beyond what I read in the trial record --
5 but this is apparently an example of that.

6 Q. So, is it consistent, then, with your
7 understanding that if someone advises JEDEC that
8 patented technology may be included in a standard and
9 JEDEC determines that the technology is not, in fact,
10 patented, that it would not be inconsistent with their
11 procedures to then not request a RAND letter?

12 JUDGE McGUIRE: Now, there is two negatives
13 there, Mr. Stone.

14 MR. STONE: Well, let me try to simplify it,
15 because I was trying to keep count as I went, Your
16 Honor, but I may have gotten turned around. So, let me
17 try to simplify it.

18 BY MR. STONE:

19 Q. Let me back up.

20 Is it your assumption that when JEDEC decides
21 to include patented technology in a standard where they
22 have an expectation that the technology is, in fact,
23 patented, that they will request a RAND letter or RAND
24 assurance from the patent holder?

25 MR. ROYALL: Can I ask for clarification as to

1 whose expectation is being referred to, JEDEC
2 collectively or specific JEDEC members?

3 MR. STONE: Let me reframe.

4 BY MR. STONE:

5 Q. Is it -- have you assumed that when JEDEC is
6 advised that certain technology that is proposed for
7 incorporation into a standard is patented, that JEDEC
8 will request a RAND letter or RAND assurance from the
9 patent holder unless a determination is made that the
10 technology is, in fact, not patented?

11 A. My understanding is that they -- if they are
12 planning or considering incorporating intellectual
13 property in -- patented intellectual property in a
14 standard, that they won't do that without a RAND
15 letter, and I think that answers your question.

16 Q. But I was trying to ask a question which also
17 picked up the exception with regard to Echelon that we
18 had talked about earlier, and can you give me a general
19 statement of the policy that you have assumed exists
20 that includes the exception for Echelon?

21 MR. ROYALL: Again, can I ask for clarification
22 as to what is meant by "exception for Echelon"? I
23 don't think the record is clear on that.

24 JUDGE McGUIRE: Yeah, I don't think it is, Mr.
25 Stone.

1 MR. STONE: Sure.

2 BY MR. STONE:

3 Q. Let me ask it this way, Professor McAfee: Tell
4 us, if you would, what you have assumed is JEDEC's
5 policy or rules with respect to when they will request
6 a RAND letter or RAND assurance be provided.

7 A. When they're planning to incorporate -- when
8 JEDEC is planning or JEDEC members are planning to
9 incorporate -- proposing to incorporate intellectual
10 property into a standard, they will request -- my
11 understanding is they will request a RAND letter or
12 they won't incorporate the intellectual property
13 without a RAND letter from the owner of that
14 technology.

15 Now, my understanding is that in terms of
16 Echelon, that because they didn't consider that Echelon
17 had intellectual property in spite of it -- Echelon's
18 statements, that that didn't violate their process, but
19 again, these are -- my assumption is that they will not
20 incorporate the technology that's patented or patent
21 pending without a RAND letter. That's the nature of my
22 assumption. And I don't believe Echelon violates that.

23 Q. Okay. Is it a correct statement, then, of your
24 assumption that if JEDEC determines that the technology
25 is not patented, even after someone having said that it

1 is, that they may proceed without requesting a RAND
2 letter or RAND assurance?

3 A. Well, I think they did exactly that in
4 Echelon's case.

5 Q. Okay. Let me ask you now, if I might, about
6 the but for world that was the subject of some
7 testimony yesterday, and maybe we can bring up DX-233
8 as a point of reference.

9 You talk in Exhibit -- you testified with
10 respect to DX-233, I believe, that -- let me rephrase
11 it. I don't need to go back and repeat what you said.

12 In the but-for world, you started with the
13 assumption of hypothetically, as you put it, that
14 Rambus did not engage in the challenged conduct that
15 you had described for us, correct?

16 A. I'm sorry, I was looking at the exhibit. Can I
17 ask you to repeat?

18 Q. Certainly.

19 In setting up your construct of a but-for
20 world, you assumed that Rambus had not engaged in the
21 conduct that is challenged here.

22 A. That's correct.

23 Q. And you then took one of -- you took two paths
24 as alternatives, that Rambus was asked for a RAND
25 letter and provided it and that Rambus was asked for a

1 RAND letter and did not provide it.

2 A. That's correct.

3 Q. If JEDEC had determined that the technology it
4 sought to include was not patented, a third path could
5 have been followed, which is that JEDEC would not have
6 requested a RAND letter or RAND assurance, correct?

7 A. I think it's correct that that third path --
8 again, this is -- the assumptions about JEDEC are
9 assumptions and not -- and not economic conclusions,
10 but that at least seems plausible as a -- given my
11 reading of the case, it seems possible -- that is, the
12 possibility of that is plausible. That was a contorted
13 sentence.

14 Q. If JEDEC did not -- let me start again.

15 If JEDEC concluded that Rambus would not
16 ultimately be issued patents which would cover the
17 technology that JEDEC sought to incorporate into the
18 standard, it would be consistent with JEDEC's rules and
19 practice that it not request a RAND letter or RAND
20 assurance from Rambus as you have assumed those rules
21 or practices. Isn't that correct?

22 MR. ROYALL: Your Honor, I would object to this
23 line of questioning. Mr. Stone objected at the
24 beginning of the direct examination to anything beyond
25 very limited discussion of the nature of the

1 assumptions that the witness has made, and now he is
2 asking the witness to give what amounts to factual
3 testimony interpreting JEDEC rules, which is something
4 that your own order prohibits him from doing, and so I
5 don't see the point in this entire line of questioning.

6 MR. STONE: Your Honor, if I might respond, I'm
7 simply asking the witness questions about the
8 assumptions he has made, and I'm asking him in a
9 hypothetical way. I'm not asking him for any opinion
10 as to these factual issues.

11 JUDGE McGUIRE: I'll entertain that line of
12 inquiry, but let's keep that very much tied to the
13 context of his objection.

14 MR. STONE: I will.

15 BY MR. STONE:

16 Q. Do you have the question in mind, Professor
17 McAfee?

18 A. I do, but I -- given the objection, I think I
19 misunderstood the question, because I understood you to
20 be asking me about what was permitted within JEDEC's
21 rules and not about, given a hypothetical, what are my
22 economic conclusions --

23 JUDGE McGUIRE: Then if that is the inquiry,
24 then that is I think sustained, but if you want to pose
25 it as a hypothetical, then we'll do that.

1 MR. STONE: I do, Your Honor. That's how I
2 want to pose it.

3 JUDGE McGUIRE: All right, well, let's get to
4 it then.

5 BY MR. STONE:

6 Q. Professor McAfee, for purposes -- what I'm
7 trying to understand is the limits of the assumptions
8 you have made or the parameters of the assumptions you
9 have made, and I'm asking you hypothetically, would it
10 be consistent with your understanding and your
11 assumptions of JEDEC's practices and rules that if
12 JEDEC determined that Rambus would not be issued any
13 patents that covered the technology that JEDEC was
14 seeking to incorporate into its standards, that JEDEC
15 would not feel compelled to issue a request for a RAND
16 letter or RAND assurance?

17 A. Okay, I think I understand that question. I'm
18 going to give an answer in such a way that it either
19 won't be responsive or, if I understood it correctly,
20 it will.

21 My -- my hypothesis about the reaction of JEDEC
22 to a disclosure is -- does not include the possibility
23 that JEDEC or does not consider the possibility that
24 JEDEC, having heard the disclosure, then says, well, we
25 just don't believe it. We're going to incorporate it

1 anyway, and we'll fight it out later if that -- if it
2 turns out -- the disclosure turns out to be right. I
3 did not consider that in constructing the but-for
4 world.

5 Q. As an economic matter, would it constitute in
6 your opinion exclusionary conduct if JEDEC made a
7 determination that it did not think patents would issue
8 that covered the Rambus technology they sought to
9 incorporate into the standard and for that reason did
10 not request a RAND assurance or RAND letter?

11 MR. ROYALL: I'd ask for clarification. The
12 question is vague as to "exclusionary conduct." On the
13 part of who?

14 MR. STONE: I think --

15 JUDGE McGUIRE: We assume it's on behalf of
16 Rambus. Is that correct?

17 MR. STONE: I think that's the whole reason
18 we're here, Your Honor.

19 JUDGE McGUIRE: That seemed pretty clear to me,
20 Mr. Royall.

21 MR. ROYALL: Okay, as long as that's -- as long
22 as that's the question, then it's fine.

23 JUDGE McGUIRE: That's well established at this
24 point.

25 THE WITNESS: Can I ask you to either read the

1 question back or to restate it?

2 MR. STONE: Would it be possible to have it
3 read back, Your Honor?

4 JUDGE McGUIRE: Go ahead.

5 (The record was read as follows:)

6 "QUESTION: As an economic matter, would it
7 constitute in your opinion exclusionary conduct if
8 JEDEC made a determination that it did not think
9 patents would issue that covered the Rambus technology
10 they sought to incorporate into the standard and for
11 that reason did not request a RAND assurance or RAND
12 letter?"

13 THE WITNESS: Okay, there's a missing
14 hypothesis which I take to -- implicit but not explicit
15 is the missing hypothesis that Rambus disclosed --
16 because in the but-for world, we're starting off with
17 the hypothesis that Rambus disclosed, that is, they
18 acted in good faith, they followed the process,
19 whatever the legal -- again, I'm not here to testify
20 about legal requirements, but they followed the legal
21 requirements. JEDEC ignored their disclosure or did
22 not act upon it and then incorporated the technology
23 into the standard. In that case, Rambus would not have
24 engaged in exclusionary conduct, as I understand it,
25 given my -- the hypotheticals I have put forth.

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1 BY MR. STONE:

2 Q. Okay, and let me follow up on that.

3 If JEDEC knew of the Rambus intellectual
4 property but was not advised of it by Rambus, and if it
5 made the determination that the patents would not issue
6 in such a way that they would cover the technology that
7 they sought to incorporate, and if they then concluded
8 not to request a RAND assurance or RAND letter, would
9 Rambus have engaged in exclusionary conduct in an
10 economic sense in your opinion as a result of having
11 not disclosed that intellectual property to JEDEC?

12 MR. ROYALL: I'd object to the question as
13 vague in that it doesn't define by the word "JEDEC"
14 whether Mr. Stone is referring to all JEDEC members
15 collectively or some subset of JEDEC's membership.

16 JUDGE McGUIRE: Sustained.

17 BY MR. STONE:

18 Q. You've talked to us yesterday about the JEDEC
19 decision-making process and how it achieves consensus,
20 correct?

21 A. I have.

22 Q. And you said it was somewhat like the model --
23 but I've forgotten the name that you applied to it.
24 Can you remind me?

25 A. The median voter model.

1 Q. Somewhat like the median voter model.

2 When I use "JEDEC," what I'm referring to is
3 the collective body as you understand it and have tried
4 to understand or model its behavior, if I might.

5 A. Okay.

6 Q. With that clarification, which I hope addresses
7 the objection, let me see if I can pose the question
8 this way:

9 If JEDEC was aware that Rambus had or
10 potentially could have intellectual property that might
11 be thought to potentially cover technology that JEDEC
12 sought to incorporate into a standard, and if JEDEC
13 decided that the intellectual property would not result
14 in issued patents that covered the technology it sought
15 to incorporate, and if it decided not to request a RAND
16 letter or RAND assurance, in your opinion as a matter
17 of economics, would Rambus' failure to disclose
18 intellectual property to JEDEC in that instance have
19 constituted exclusionary conduct?

20 A. The beginning part of your hypothetical was if
21 JEDEC was aware. Now, it turns out that economists
22 are -- especially game theorists, that is the branch of
23 economics devoted to the study of games -- are acutely
24 troubled by terms like "aware," and the reason is there
25 are various levels of "aware."

1 It's not -- it's one thing, for example, for
2 the members of JEDEC to independently have knowledge
3 but not be in a position to discuss it or not know that
4 others have the same knowledge. It may or may not be
5 possible through the deliberations of JEDEC for that --
6 for that awareness or that knowledge to reach
7 consensus, and as a consequence, I can interpret your
8 question many different ways, and unfortunately, in
9 some of the ways I interpret it, the answer is yes, and
10 in some of the ways I interpret it, the answer is no.

11 Q. Okay, let me try this: If a majority of the
12 JEDEC members who voted on whether or not to
13 incorporate the Rambus technology into the JEDEC
14 standards knew that Rambus had potential patent claims
15 over that technology and if they concluded -- that is,
16 the majority who had this knowledge -- concluded that
17 Rambus would not obtain issued patents which covered
18 that technology, and if on that basis JEDEC did not
19 request a RAND assurance or RAND letter from Rambus,
20 would Rambus' assumed failure to disclose constitute in
21 your opinion, as a matter of economics, exclusionary
22 conduct?

23 MR. ROYALL: Your Honor, I would object to the
24 question as vague. The term "majority" is not defined
25 and the term "potential patent claims" is not defined.

1 JUDGE McGUIRE: Overruled.

2 THE WITNESS: I know what "majority" means.
3 So, again, that's -- remains an incomplete
4 hypothetical. It probably wouldn't have been if I
5 thought JEDEC was literally the median voter model,
6 because a majority determines the outcome in a median
7 voter model, but the process of JEDEC consensus means
8 that the answer really still could go either way; that
9 is, it could be exclusionary conduct, and it may not be
10 depending on really the exact details. I haven't
11 actually considered this in enough depth to even know
12 exactly what it depends on.

13 BY MR. STONE:

14 Q. Okay, let me just ask it this way, then, and
15 maybe I can simplify a bit.

16 There are situations in which JEDEC could
17 become aware of Rambus' potential patents other than
18 through Rambus' disclosure of that information to JEDEC
19 such that Rambus' failure to disclose would not, as a
20 matter of economics, in your opinion constitute
21 exclusionary conduct. Isn't that right?

22 A. That's correct.

23 Q. If we could, let's bring up the DX-147 as
24 context for my next line of questions.

25 The JEDEC process that you've testified about

1 previously and that to some extent is summarized on
2 DX-147 included the need for JEDEC to arrive at a
3 consensus as to what features should be included in a
4 particular standard, correct?

5 A. As it says, yes.

6 Q. And have you assumed that the decision to
7 include the four Rambus technologies that we've
8 referred to yesterday was the result of any action
9 Rambus took to move JEDEC from other technologies to
10 those?

11 A. Can I have the question read back?

12 Q. Yeah, it's a -- I haven't thought of a simple
13 way to phrase this. Let me try a different way and see
14 if I can get to my point.

15 I understand your opinion that -- your
16 opinion/assumption that had JEDEC -- had Rambus
17 disclosed to JEDEC, they would have moved from these
18 technologies to others, and I'm not asking you to
19 contradict that opinion.

20 Rather, I'm asking whether you have either
21 assumed or have formed an opinion that anything Rambus
22 did caused JEDEC in the first instance to select any
23 one of the four technologies that we've identified as
24 Rambus technologies.

25 A. I haven't made any assumptions in that regard,

1 and moreover, my understanding of this question --
2 which maybe I didn't understand the question -- but my
3 understanding is you're asking me as a matter -- this
4 would -- strikes me to be something that's a matter of
5 law; that is, it's not part of my economic conclusions.

6 Instead, it's was this a willful action or a
7 positive statement, why don't you adopt this
8 technology, versus a passive statement or passive
9 actions, and that's something -- that's a distinction I
10 haven't needed to make, and -- but as I understand it,
11 it could be relevant as a matter of law, but that's not
12 my expertise.

13 Q. Let me ask it differently. Maybe I can find
14 another way.

15 Is it -- have you assumed that if Rambus had
16 never joined JEDEC, that the four technologies at issue
17 here would have been selected by JEDEC for inclusion
18 within the standard?

19 A. I haven't assumed that, but it seems plausible.

20 Q. Is it consistent with the assumptions you have
21 made that if Rambus had never joined JEDEC, that JEDEC
22 would have selected the same four technologies that
23 we -- that it did select?

24 A. Yes.

25 Q. Okay. And is it correct as a matter of your

1 economic opinion that it's your opinion that if JEDEC
2 had never -- strike that.

3 Is it correct that as a matter of your economic
4 opinion, if Rambus had never joined JEDEC, there would
5 not be exclusionary conduct on Rambus' part?

6 A. This is actually outside of my hypotheses, but
7 that seems correct, although I have to say I haven't
8 actually -- I'm afraid of saying "yes" unambiguously
9 since I haven't really thought about this circumstance
10 deeply; that is to say, certainly my reasoning falls
11 apart if Rambus were not a member of JEDEC.

12 Q. Okay, let me ask again, if we can just for some
13 context, bring up DX-145.

14 I want to direct your attention, if I might, to
15 the second bullet point, which is, "Open availability
16 of standard," if I might.

17 Have you for purposes of the opinions you have
18 formed assumed when standards would be made available
19 to the public; that is, JEDEC standards?

20 A. I can't think of any assumption about when
21 other than prior to the deployment of the standard.
22 Actually, no, that's not fair. It's before the
23 deployment of the standard in the sense that
24 manufacturers of DRAMs and the related components need
25 access to the standard to experiment with it, to learn

1 about it, to test manufacturing, define problems, so it
2 would be prior to the deployment of the standard.

3 Other than that specifically, I haven't really
4 considered the question of when the standard is
5 available other than that it was openly available early
6 in some sense.

7 Q. And let me just explore that.

8 There is, as a matter of economics, value in
9 having access to the standard during the course of its
10 development and before it becomes final, correct?

11 A. Yes.

12 Q. And manufacturers, you've assumed based on what
13 you understand from the record, manufacturers make use
14 of that preliminary information in work that they do.

15 A. That is correct.

16 Q. If the preliminary versions of the standard
17 were made available only to JEDEC members and not to
18 others, would that give an economic advantage to JEDEC
19 members?

20 A. You didn't say who, but for -- that is, there
21 are some companies that would have an economic
22 advantage from being in JEDEC, but there would be other
23 companies that would not.

24 Q. If -- let me just assume hypothetically, if a
25 company was a manufacturer of chipsets, controllers or

1 motherboards and was not a member of JEDEC and did not
2 have access to preliminary versions of the standard,
3 would its competitors who were members of JEDEC have an
4 economic advantage by virtue of their JEDEC membership
5 if that membership resulted in them having access to
6 preliminary versions of the standard?

7 A. Potentially.

8 Q. Let me ask you about the fourth and fifth
9 bullet points, implementation costs and manufacturing
10 costs.

11 Is it correct that in your opinion, as a matter
12 of economics, those costs should be considered together
13 because ultimately it's the cost of the system that
14 matters for purposes of your analysis?

15 A. Yes. To be fair, that -- I -- when I said
16 that, I oversimplified slightly in that implementation
17 costs, of course, vary with the implementation.
18 Manufacturing costs vary with what's being
19 manufactured. When you mix that in with consensus, it
20 wouldn't be that you just add the two necessarily,
21 because it may be that reaching consensus requires
22 weighing one or the other more heavily, but certainly
23 at the overview level, it's approximately that you
24 would add them together.

25 Q. Let me ask you about the final point,

1 evolutionary versus revolutionary.

2 As you use that term, have you formed a view as
3 to whether the switch or transition from EDO to SDRAM
4 would be described as evolutionary or revolutionary?

5 A. I think evolutionary/revolutionary is a
6 continuum. The switch from EDO to SDRAM was more
7 revolutionary than it -- than a switch from EDO to
8 burst EDO would have been, but less revolutionary than
9 a switch from EDO to RDRAM. So, was it revolutionary
10 or evolutionary? Well, it was more revolutionary than
11 going to the burst EDO, but not as revolutionary as
12 other alternatives available at the time.

13 And that is assumption on my part in that I'm
14 not actually evaluating how difficult those transitions
15 were. I'm relying on the expertise of people who
16 testified at trial.

17 Q. As a matter of economics, am I correct that
18 it's your opinion that if the performance is constant,
19 evolution is preferred over revolution?

20 A. Yes; that is, other things equal, you would
21 prefer an evolutionary approach.

22 Q. And that's because you can -- among other
23 things, you can re-use knowledge in that sense and you
24 can lower your risk.

25 A. That's true.

1 Q. Now, as a matter of economics, there are
2 benefits perceived to result from innovation, correct?

3 A. Generally, yes.

4 Q. And as a matter of economics, we know that it's
5 that desire to further innovation that led to the
6 creation of the patent policy of the United States,
7 correct?

8 MR. ROYALL: Objection, Your Honor, I think
9 this calls for a legal conclusion.

10 MR. STONE: I don't mean to do that. Let me
11 rephrase it.

12 BY MR. STONE:

13 Q. It is correct, is it not, that the patent
14 system of the United States creates economic incentives
15 that will in many instances encourage innovation?

16 A. That's certainly consistent with the economic
17 understanding of patents; that is, the economic theory
18 of the patent system.

19 Q. Okay. And is it also correct that economic
20 benefit can often be realized from revolutionary ideas?

21 A. I only have trouble with the word "often."

22 Q. Okay, let me take that out.

23 Is it correct that economic benefit can be
24 realized from revolutionary ideas?

25 A. Yes.

1 Q. Okay. And is it also correct that you have
2 concluded on prior occasions, such as in your book,
3 that established manufacturers may sometimes prefer
4 evolution to revolution?

5 A. So, now I'm only having trouble with "in your
6 book," because I don't actually recall that passage,
7 but I believe I testified here at trial that
8 manufacturers may prefer evolution over revolution,
9 other things equal.

10 Q. Okay. And it is correct, is it not, that
11 sometimes in the context of economics, it has been
12 concluded by economists such as yourself that outsiders
13 who bring revolutionary ideas to an industry bring
14 benefits that would not have necessarily been realized
15 by the established industry's continued evolutionary
16 progress?

17 A. Was the word "sometimes" in your question?

18 Q. Yes.

19 A. Yes, then the answer is yes.

20 Q. Okay. Is it consistent with your economic
21 opinions that JEDEC would prefer evolution over
22 revolution?

23 A. Again, you've left out "other things equal." A
24 sufficiently large gain in performance is going to lead
25 to a preference for revolutionary, and an inadequately

1 large gain in performance would prefer evolutionary.

2 So --

3 Q. Okay, thank you.

4 Let's pull up DX-132, if we could. I showed
5 you this yesterday, Professor McAfee, and I just want
6 to bring you back to it for a moment.

7 We talked about the sources of technology and I
8 believe agreed that sometimes the technology can come
9 from DRAM manufacturers, sometimes it could come from
10 technology providers, such as Rambus, and it might on
11 some occasions come from someone like Intel, correct?

12 A. I don't believe we restricted it to that set,
13 but those were members of the set.

14 Q. Okay. And in the context where the technology
15 is provided to the manufacturers by independent
16 technology providers such as Rambus, they -- there's a
17 price to be charged for that technology, correct?

18 A. Can I ask you to repeat your question or --

19 Q. Sure.

20 Just as a matter of economics, when a
21 technology provider that is independent provides the
22 technology to a company that is a manufacturer, you
23 would expect there to be a price for providing that
24 technology.

25 A. I would expect a price, yes.

1 Q. Okay. And in the context of the work you have
2 done in this case, it would be consistent that the
3 price might be measured as a fixed fee plus a royalty,
4 and it also might be measured in other ways.

5 A. That's correct.

6 Q. When the technology is provided internally --
7 that is, when a manufacturer develops technology and
8 provides it to itself -- does the manufacturer in that
9 case realize benefits from doing so even though it may
10 not be actually paying a price?

11 A. Does it realize benefits from what?

12 Q. Developing the technology and making it
13 available to itself.

14 A. Yes.

15 Q. And does the measure of those benefits depend
16 in part on whether it can charge a price to others for
17 the use of the technology?

18 A. If it is able to charge a price to others, it
19 would benefit insofar as it collected revenue from
20 others; that is, the company that had the technology
21 would benefit insofar as it collected revenue from
22 others.

23 Q. And can the company also realize the benefits
24 of the technology it has developed through obtaining a
25 lead in manufacturing; that is, getting a time

1 advantage? Let me rephrase it. That seems to be not a
2 well-framed question. Let me try again.

3 Are there ways in which a vertically integrated
4 manufacturer can realize economic benefits from its
5 internal development of technology other than by
6 charging a price to other companies for the use of the
7 technology?

8 A. Well, we've already spoken about they might use
9 it in their own operations, and so, yes, they could
10 have an advantage in using it in their own operations,
11 but -- and -- but we had already spoken about that.
12 Are you asking me about yet another kind of advantage?

13 Q. Let's start with just confirming that one way
14 they could realize an economic advantage is by the use
15 of the technology.

16 A. Yes.

17 Q. Could they also realize an economic advantage
18 if they were able to patent the technology by using it
19 in cross-licensing negotiations?

20 A. I expect that -- well, at least in principle --
21 I'm sure there are circumstances where companies have
22 used technologies that they have developed to gain an
23 advantage in cross-licensing arrangements in a way that
24 was advantageous to the company. In fact, I think Mr.
25 Appleton testified approximately to that in the case of

1 Micron, if I understood the question properly, which I
2 think I did, but --

3 Q. Okay. And I'm asking you simply as a matter of
4 economics -- I'm not asking you to remember Mr.
5 Appleton's testimony specifically or not or agree with
6 it or not -- but just as a matter of economics, is
7 there economic value in obtaining patents on internally
8 developed technology because they give you benefits in
9 licensing or cross-licensing negotiations?

10 A. Yes, and in fact, I think my book discusses
11 examples of this as well.

12 Q. And are there also benefits to patenting
13 internally developed technology in that you may thereby
14 be able to prevent others from utilizing it?

15 A. Yes, in principle. Again, not -- it's not
16 always the case, but in principle, that's correct.

17 Q. Okay. And are there economic advantages in
18 being able to participate -- let me strike that.

19 Are you familiar as a matter of economics with
20 patent pools?

21 A. Yes, but I've made no special study of them,
22 but I'm at least somewhat cognizant of them.

23 Q. Okay. And is one of the benefits that may be
24 realized by a company that internally develops
25 technology and patents is that it is able to thereby

1 gain admission, if you will, to a patent pool?

2 A. In principle.

3 JUDGE McGUIRE: All right, now, for the Court's
4 own edification, I need some explanation as to what
5 constitutes a "patent pool."

6 MR. STONE: Certainly.

7 BY MR. STONE:

8 Q. Professor McAfee, subject to the qualifications
9 you provided us earlier, would you provide us a general
10 description of a patent pool?

11 A. Companies may in some sense join together or
12 agree not to -- to allow each other's intellectual
13 property to be used by all the members of the pool, and
14 that way they eliminate threats of lawsuits and the --
15 well, I want to charge you this for this, you charge me
16 that for that and that sort of thing. That's my
17 understanding of a patent pool, but this is not
18 something I've made a specific study of.

19 JUDGE McGUIRE: That's all right, that's good
20 enough. That gives the Court some context to the
21 question.

22 MR. STONE: Thank you, Your Honor.

23 BY MR. STONE:

24 Q. Let's go back, if we can, to DX-147.

25 Again -- and I am going to ask you simply to

1 confirm an assumption that I think we talked about
2 yesterday -- you have assumed that JEDEC will not
3 include patented technology in standards it adopts
4 without, at a minimum, first being given a RAND letter
5 or RAND assurance. Is that correct?

6 MR. ROYALL: Your Honor, I would object to this
7 as asked and answered now several times. I don't see
8 the point in going back over it.

9 JUDGE McGUIRE: Sustained.

10 BY MR. STONE:

11 Q. Let me just go to the next question, then,
12 Professor McAfee.

13 Have you, for purposes of your economic
14 opinions, considered whether a rule that prohibits the
15 use of patented technology in a standard unless a RAND
16 letter or assurance has first been given is illegal?

17 MR. ROYALL: Objection, Your Honor, calls for a
18 legal conclusion.

19 MR. STONE: Does not, Your Honor.

20 MR. ROYALL: Well, the word "illegal" certainly
21 suggests it does.

22 JUDGE McGUIRE: Just a second.

23 I am going to have to uphold that objection.
24 It does call for a legal conclusion.

25 MR. STONE: Let me rephrase.

1 BY MR. STONE:

2 Q. As a matter of economics, you have considered
3 external restraints on behavior, correct?

4 A. The -- I don't know what -- the phrase
5 "external constraints on behavior" means something to
6 me, but I'm just concerned that it may mean something
7 different to you, because it's just an odd choice of
8 phrase. I mean, I think of things like budgets as
9 being external constraints on behavior, and yes, we do
10 consider the effects of that kind of external
11 constraint on behavior.

12 Q. And -- and -- I'm sorry, did I interrupt you?

13 A. And laws, lots of things are external
14 constraints on behavior. So, yes, we do consider them.

15 Q. Okay. And one of the things economists
16 consider is that laws from time to time impose
17 constraints on behavior, correct?

18 A. Yes, economists do consider that on occasion.
19 In fact, there's an entire area of economics called law
20 and economics which studies the interaction of the two.

21 Q. Okay. And have you for purposes of the
22 opinions you've formed here considered whether there
23 are any legal constraints that would prevent JEDEC from
24 prohibiting the use of patented technology in standards
25 unless a RAND letter or RAND assurance has been

1 received?

2 A. I'm sorry, I need that read back.

3 JUDGE McGUIRE: Could the court reporter please
4 read that question back?

5 (The record was read as follows:)

6 "QUESTION: And have you for purposes of the
7 opinions you've formed here considered whether there
8 are any legal constraints that would prevent JEDEC from
9 prohibiting the use of patented technology in standards
10 unless a RAND letter or RAND assurance has been
11 received?"

12 THE WITNESS: I have not considered whether
13 there are -- there's a legal prohibition. In fact, I
14 think I stated that I assumed JEDEC was requiring such
15 a RAND letter, and so I did not consider whether there
16 was a law that would have prohibited JEDEC from
17 actually making that requirement.

18 BY MR. STONE:

19 Q. If there were a law that prohibited JEDEC from
20 imposing such a requirement, would that impact your
21 conclusion?

22 MR. ROYALL: Your Honor, I think this question
23 does inherently ask for a legal conclusion.

24 MR. STONE: No, I --

25 JUDGE McGUIRE: Overruled. I don't think it

1 does.

2 THE WITNESS: Well, it would -- as I understand
3 the question, that is, there's a law prohibiting one of
4 my assumptions. That would mean my assumption was
5 violated, and hence, it could have an impact on my
6 conclusion, because I had assumed that JEDEC would --
7 well, at least the conclusions that depend on JEDEC's
8 requirement of the RAND letter, which in particular we
9 use in exclusionary conduct conclusions, it would have
10 an impact, yes.

11 BY MR. STONE:

12 Q. In the course of your work in connection with
13 this case, you have been provided information by
14 complaint counsel, correct?

15 A. Yes.

16 Q. Did they provide you with any information
17 regarding a case that the FTC brought challenging a
18 standard-setting organization's policy of refusing to
19 include patented technology in their standards?

20 A. I don't recall any such evidence. I did review
21 a very large volume of evidence, and there could have
22 been something in there that I'm just not recalling as
23 I sit here today, but I do not recall such evidence.

24 Q. Okay. One of the things you've told us that
25 you have done in the course of your work is to try to

1 check your assumptions to some extent, correct?

2 A. Yes.

3 Q. And I want to ask you about this assumption
4 that JEDEC would not allow patented technology to be
5 included in a standard without receiving a RAND letter
6 or RAND assurance in terms of the factual checking
7 you've done. That's the focus of my question.

8 If we could turn to Exhibit RX-1211, if we
9 might, and Your Honor, may I approach and --

10 JUDGE McGUIRE: Yes.

11 BY MR. STONE:

12 Q. I'm directing your attention to what's been
13 marked as RX-1211, which is a JEDEC publication,
14 JEP21-H, and I want to ask you to turn, if you would,
15 Professor McAfee, to the last page, page 20 of this
16 document, and I'm going to direct your attention
17 specifically to the third paragraph under the heading
18 Notice.

19 You'll note here that it says -- and I really
20 am focused just on the first sentence -- "JEDEC
21 Standards are adopted without regard to whether or not
22 their adoption may involve patents on," I think it
23 should read instead of or, "articles, materials or
24 processes."

25 Do you see that sentence?

1 A. I do see that sentence.

2 Q. Is that sentence -- and I know I'm asking you
3 to look at it alone -- but is that sentence consistent
4 with the assumption you have made about JEDEC's
5 prohibition on the inclusion of patented technology
6 unless a RAND letter or RAND assurance has been
7 provided?

8 A. I don't understand this sentence to be
9 inconsistent. It certainly is not corroborative or
10 supportive, but I don't understand it to be
11 inconsistent in -- but it's not very specific, and so
12 it's not corroborative of my understanding of the JEDEC
13 rules.

14 Q. It makes no mention of any requirement of a
15 RAND letter or RAND assurance before patented
16 technology is included, does it?

17 A. It does not.

18 Q. Did you assume for purposes of your work in
19 this case that when JEDEC did adopt the SDRAM standard
20 that we've talked about, that products manufactured in
21 accordance with that standard would not infringe any
22 patents?

23 A. As I understand your question, my assumption is
24 actually that when products were manufactured would
25 violate Rambus patents. So, yes, I did assume that

1 they would violate patents, just not that that was
2 generally known.

3 Q. Let me reframe it. Undoubtedly my fault again.

4 Did you assume that when JEDEC adopted the
5 SDRAM standard, that JEDEC believed that products
6 manufactured in accordance with that standard would not
7 infringe any patents?

8 A. No. In fact, my understanding is there are
9 basically semiconductor patents held by TI that -- in
10 order to manufacture any kind of basic semiconductor
11 device, and there may be other such patents that would
12 apply essentially to any kind of semiconductor
13 manufacture.

14 Q. Okay, let me see if I can take that into
15 account in framing my question.

16 Did you assume for purposes of the opinions you
17 have expressed in connection with this case that when
18 JEDEC adopted the SDRAM standard, it believed that
19 products manufactured in accordance with that standard
20 would not infringe any patents that would apply to
21 SDRAMs specifically but not to all semiconductors?

22 MR. ROYALL: Your Honor, could I ask for
23 clarification in questions like this that when Mr.
24 Stone is referring to JEDEC, he's referring to all
25 members collectively or some kind of clarification so

1 we know --

2 JUDGE McGUIRE: Could you clarify that, Mr.
3 Stone?

4 MR. STONE: Certainly, Your Honor.

5 BY MR. STONE:

6 Q. Referring you back, Professor McAfee, to the
7 discussion we had earlier today about the median voter
8 model as modified to some extent to describe JEDEC's
9 behavior --

10 A. Um-hum.

11 Q. -- that it is in that sense, the collective
12 decision-making process of JEDEC, as you have modeled
13 it, that I refer to when I say "JEDEC." Does that make
14 sense to you?

15 A. Okay.

16 Q. Okay. With that clarification, do you need me
17 to restate the question?

18 A. No.

19 Q. Okay.

20 A. I haven't assumed one way or the other about
21 whether there were other patents that were picked up by
22 SDRAM. As I understand the question, I might have
23 posed it as were the patents not involved in EDO, for
24 example, that were involved in SDRAM, that's a -- I'm
25 clarifying the question by posing it that way. I'm not

1 aware of any such patents, but it was not important to
2 my -- to my opinion.

3 Q. If there were patents that JEDEC was aware of
4 that applied to SDRAM and not to EDO, and if JEDEC did
5 not request RAND letters or RAND assurances with
6 respect to those patents, would that have an impact on
7 your opinions?

8 A. Well, it would certainly have an impact on the
9 assumption that JEDEC requires a RAND letter, and
10 tracing that through, it would then have an impact on
11 the opinions that arose based on my understanding that
12 JEDEC requires a RAND letter. So, potentially,
13 although what you've described is actually something
14 that was factual that I didn't assume one way or the
15 other, but it would have an impact on my -- on the
16 credibility that I place on one of my assumptions.

17 Q. Okay. And the assumption whose credibility it
18 might cast doubt on would be the assumption that JEDEC
19 would insist on a RAND letter or RAND assurance before
20 it would include patented technology in a standard,
21 correct?

22 A. As I -- I understood your question to ask me
23 what if there were other patents that they didn't ask a
24 RAND -- request a RAND letter for, yes, it would -- it
25 would raise red flags on that hypothesis -- on that

1 assumption.

2 Q. Did you consider as part of your factual
3 assumptions that JEDEC was aware when it adopted the
4 SDRAM standard that Motorola had a patent that applied
5 to SDRAM?

6 A. As I sit here today, I vaguely recollect
7 something about a Motorola patent, but I don't actually
8 remember the details, and so I just don't recall.

9 Q. And did you as part of the assumptions you made
10 assume that JEDEC was aware that Hitachi had a patent
11 that applied to SDRAMs that was known to JEDEC at the
12 time the SDRAM standard was adopted?

13 A. Again, I don't recall the specifics. I think
14 I've already testified that I don't recall any
15 patent -- I didn't recall any patents that applied to
16 SDRAM and not to EDO, and I just don't -- I don't
17 recall anything further about that.

18 Q. Let me just see if I might -- no, I won't do
19 that.

20 Let's move to DX-154, if we could bring that
21 up.

22 You used a power plant and a coal mine as an
23 example of hold-up in your testimony I believe a couple
24 days ago, correct?

25 A. Yes.

1 Q. And you showed an example -- I think it's on
2 DX-154 -- on how if a contract was signed after the
3 plant had been built, the coal costs \$20 a ton as
4 contrasted with the example you showed on DX-155 -- if
5 we can bring that up -- which was the contract being
6 signed before the plant was built and the cost being
7 \$10 a ton, correct?

8 A. I recall that testimony.

9 Q. As a matter of economic theory, there is a
10 certain increase in the price of coal that would cause
11 the power plant to stop buying coal and shut down,
12 correct?

13 A. That's correct.

14 Q. And in economic terms, how do you describe that
15 price increase?

16 A. Well, one term for it is the choke price.

17 Q. And can you relate that to -- is that related
18 to marginal costs, average costs?

19 A. The plant shuts down when its output prices
20 reaches its average variable costs. As I sit here
21 today, I'm not able to recollect the term of what input
22 price causes the plant to shut down, but it shuts down
23 when its output price reaches the average variable
24 costs.

25 Q. So, if its average variable costs go up to

1 where they hit the output price, that would shut it
2 down?

3 A. That would shut it down, yes.

4 Q. And the solution -- one of the solutions you
5 talked about in the context of the coal example was to
6 enter into a long-term contract --

7 A. Pardon me, I need to amend my previous answer.

8 That's the Principles of Economics 101 version
9 of the story; that is to say, a plant shuts down when
10 the price reaches the average variable cost, but option
11 values actually amend that answer and complicate it, so
12 that is to say, if there -- if there are, say, for
13 example, sunk costs associated with shutting down or
14 costs associated with restarting the plant once it's
15 shut down, then the decision won't be at that point,
16 but yes, the first path of the decision is that point.
17 I'm sorry to be pedantic about this, but this is
18 something that I teach.

19 Q. That's all right, I just need a moment to read
20 the answer again, if I can. Okay.

21 And one of the ways you testified that the
22 scenario you've described as hold-up can be avoided is
23 by signing a long-term contract before the plant is
24 built.

25 A. That is correct.

1 Q. And of course, there are inherent problems that
2 you've written about and others have written about with
3 long-term contracts.

4 A. That's correct.

5 Q. Which may impose costs on one party or the
6 other that they didn't anticipate.

7 A. For example.

8 Q. Okay. And of course, in your hold-up example,
9 one other constraint on the price that could be charged
10 by the coal mine is the cost of transporting coal from
11 a more distant mine to this location.

12 A. That's -- yes, that's correct.

13 Q. Okay. Now, directing you back to the
14 technologies at issue here, DRAMs, you would expect as
15 a matter of economics, wouldn't you, that DRAM
16 manufacturers, in considering whether to develop
17 processes to manufacture RDRAM or SDRAM or SLDRAM,
18 would make some assessment of the costs and potential
19 revenues to be realized from each of those decisions?

20 A. I would.

21 Q. And as a matter of your understanding of the
22 DRAM industry, you understand that some companies chose
23 to develop the capability to manufacture not just
24 SDRAM, but also RDRAM.

25 A. I do understand that companies developed the

1 capability not just for SDRAM and RDRAM, but explored
2 even other technologies.

3 Q. Such as SLDRAM, for example?

4 A. For example.

5 Q. Okay. And you also would agree, would you not,
6 that the DRAM industry has many examples of firms
7 developing the processes to manufacture particular DRAM
8 products that they don't ultimately then produce in
9 high volume?

10 A. I'm sorry, I --

11 Q. Sure, let me just -- I'm trying to ask --

12 A. It's not the complexity. It could just be read
13 back, I think.

14 JUDGE McGUIRE: All right, court reporter,
15 could you please read that back?

16 (The record was read as follows:)

17 "QUESTION: And you also would agree, would you
18 not, that the DRAM industry has many examples of firms
19 developing the processes to manufacture particular DRAM
20 products that they don't ultimately then produce in
21 high volume?"

22 THE WITNESS: I don't know about many, but
23 several certainly.

24 BY MR. STONE:

25 Q. Could we look at DX-160 for some context here.

1 For purposes of your economic opinions that
2 you've expressed in connection with this case, you made
3 certain assumptions about the size of specific
4 investments, correct?

5 A. Yes.

6 Q. And those would be the investments that would
7 be specific to a particular choice of technology,
8 correct?

9 A. That's correct.

10 Q. And they include things such as the design
11 costs associated with that particular technology,
12 correct?

13 A. They do.

14 Q. And the development of masks peculiar or unique
15 to that technology?

16 A. That's correct.

17 Q. And any testing or qualification processes
18 unique to that technology as well?

19 A. Those are included.

20 Q. Are there other categories of costs that you
21 have included in these specific investments that are
22 related to a choice of a particular DRAM technology?

23 A. Yes, there are costs -- the same kinds of costs
24 associated with other components that work with the
25 DRAM.

1 Q. So, that would be costs associated with memory
2 controllers, motherboards, chipsets and BIOS?

3 A. For example.

4 Q. And would you agree as a matter of your
5 economic analysis that the costs we have just described
6 as specific investments are incurred in either greater
7 or lesser amounts, but the same category of costs are
8 incurred when a change is made from SDRAM to DDR?

9 A. Well, so, my understanding is that when you go
10 from SDRAM to DDR, minimizing those kinds of costs is
11 part of the design problem faced in choosing DDR.

12 Q. But the same -- but the category of costs are
13 still incurred. Is that correct?

14 A. The category are incurred, yes.

15 Q. Okay. And the category of costs, again, in
16 greater or lesser amounts, also are incurred when you
17 make transitions from, for example, PC100 SDRAM to
18 PC266 SDRAM. Is that your understanding?

19 A. Yes, again, the category are incurred, although
20 my understanding is that the size of those costs are --
21 are substantially less than, say, going from EDO to
22 SDRAM.

23 Q. And in determining the size of the costs, what
24 you have done is relied on information that you've been
25 provided by others, either through the trial testimony,

1 deposition testimony or your interviews or documents
2 you've read. Is that correct?

3 A. Ultimately -- yes, I'm not the original source
4 of any of the data.

5 Q. And have you taken the data that you've
6 received from others and prepared any sort of
7 quantification of the costs by category for different
8 transitions from one technology to another?

9 A. I did not -- yes, I did not. Sorry.

10 Actually, when you reach a convenient stopping
11 point, I would like to use the restroom.

12 Q. Now would be fine.

13 JUDGE McGUIRE: Well, I guess this is a good
14 time. Let's take a ten-minute break.

15 (A brief recess was taken.)

16 JUDGE McGUIRE: Back on the record.

17 Mr. Stone, you may proceed.

18 MR. STONE: Thank you, Your Honor.

19 BY MR. STONE:

20 Q. Could we bring up DX-223? I guess I don't
21 really need the DX for the purposes of this question,
22 but maybe it's helpful to put it in context.

23 Did you assume one way or the other or not
24 assume at all whether the costs the DRAM manufacturer
25 incurs in changing from one process technology to

1 another are greater than the costs that a DRAM
2 manufacturer incurs in changing from one interface
3 technology to another?

4 A. The costs of changing a DRAM standard -- I'm
5 sorry, I am going to need that hear that again.

6 Q. Certainly. Let me try to back up a little bit.

7 One of the things you talked about as part of
8 your opinion is that there would be costs that would be
9 incurred if JEDEC chose to change its standards to
10 eliminate the four Rambus technologies that you have
11 talked about, correct?

12 A. That's correct.

13 Q. And in assessing those costs, you haven't,
14 again, done any quantification of those, have you?

15 A. Well, I haven't added them up. I mean, I have
16 seen -- I have certainly seen numbers in the record,
17 but I haven't added them up.

18 Q. Okay. And have you, for purposes of forming
19 your opinions, considered whether the difficulty of --
20 let me back up and start again.

21 Would you agree that the costs of removing
22 those four technologies is equal to or less than the
23 cost of changing from an interface technology such as
24 SDRAM to an interface technology such as RDRAM? Is
25 that one of the assumptions you've made?

1 A. The cost of removing the four technologies --
2 the question is would the cost of removing the four
3 technologies be less than switching from SDRAM to
4 RDRAM? My understanding is that the answer to that is
5 yes.

6 Q. And is it your understanding or have you made
7 an assumption -- and if not, that's fine -- that the
8 costs associated with changing from one process
9 technology are greater than the costs of changing from
10 one interface technology to another?

11 A. What's the -- what specifically do you mean by
12 a "process technology"?

13 Q. All right, you are familiar with the
14 manufacturing processes that are often referred to in
15 terms of the number of microns?

16 A. Yes.

17 Q. Okay. Have you assumed one way or the other or
18 not assumed at all that the costs of switching from one
19 process technology to the next are greater than the
20 costs incurred in switching from one interface
21 technology to another?

22 A. So, my understanding is that the costs of
23 changing an interface technology tend to be greater
24 because they're -- at least their total costs, because
25 they are industry-wide, they include all the other

1 components, whereas the cost of a die shrink is pretty
2 much within the manufacturer and does not spread out
3 through the rest of the industry.

4 Q. Would it be inconsistent with the assumptions
5 you have made if the facts turned out to be that the
6 costs of changing from one process technology to
7 another are greater than the costs of switching from
8 one interface technology to another?

9 A. Well, the costs to whom, the total industry
10 costs or the costs to the manufacturer?

11 Q. Fair point.

12 Would it be inconsistent with the assumptions
13 you've made if the facts turned out to be that the
14 costs to a DRAM manufacturer of switching process
15 technologies were greater than the costs of switching
16 interface technologies?

17 A. No, I've made no assumption about the costs of
18 the process technology, so it wouldn't matter if that
19 was more or less.

20 Q. In your understanding of the DRAM industry, how
21 often are process technologies changed?

22 A. Eighteen months, two years, something in that
23 neighborhood.

24 Q. If we could bring up 226.

25 One of the things you spoke about yesterday, I

1 believe, were barriers to entry, and DX-226 was a
2 demonstrative you used in connection with that,
3 correct?

4 A. That's correct.

5 Q. Let me ask you about scale. Does the scale
6 factor apply to a new entrant in the technology market?

7 A. You know, I don't know the answer to that.
8 It's an interesting question, but I don't know the
9 answer to it.

10 Q. Were the barriers to entry that you talked
11 about yesterday --

12 A. Actually, can I add one more thing to my
13 answer?

14 Q. Certainly.

15 A. There's certainly the cost of developing
16 technologies that -- there are certainly some scale
17 economies to developing technologies, so I think the
18 answer to the question is actually yes, especially if
19 you want to test the technology -- that is to say, you
20 want to see how it implements -- and you would actually
21 need to have some kind of silicon manufacturing
22 facilities, and that would actually create quite a
23 scale economy. The -- yes, so I think there was
24 probably a scale economy in the technology markets.

25 Q. When you talked yesterday about barriers to

1 entry and used DX-226 to help illustrate your
2 testimony, were you referring then to barriers to entry
3 in the DRAM manufacturing business?

4 A. When I used scale, I was referring to the DRAM
5 manufacturing business.

6 Q. And when you used sunk costs, were you
7 referring to the DRAM manufacturing business?

8 A. Yes.

9 Q. And when you used strong learning curve, were
10 you referring to the DRAM manufacturing business and
11 the manufacturing of related components?

12 A. Yes.

13 Q. Let's go to DX-160, if we could, again. Let me
14 direct your attention to the fourth bullet point, the
15 ease of reaching agreement.

16 One of the things you testified to was it's
17 difficult for JEDEC to adopt standards which would
18 eliminate the four Rambus technologies because 50
19 percent, roughly, of the manufacturing capacity is
20 licensed and 50 percent is not, correct?

21 A. That's -- approximately, that's my
22 understanding, yes.

23 Q. Hypothetically, I want you to assume that the
24 entire industry had been offered a license on the same
25 terms and that 50 percent of the industry accepted the

1 license and 50 percent of the industry rejected the
2 license, went ahead to manufacture the products,
3 infringing the patents.

4 If that scenario occurred hypothetically, would
5 you have the same difficulty in reaching agreement
6 about a new standard that you testified to yesterday?

7 A. Yes.

8 Q. Don't all of the manufacturers have an interest
9 in developing standards which will be less costly in
10 terms of the payment of royalties?

11 A. If we're referring to the question of the ease
12 of reaching agreement, so that this is something that
13 is an ex ante/ex post question, there are issues in my
14 mind, and your question doesn't specify that.

15 Q. Okay. Assume the situation where 50 percent of
16 the market has taken a license and 50 percent has
17 rejected the license, and an organization that includes
18 all of them as members is confronted with the question
19 of whether to adopt a standard which removes the
20 infringing features. Can you assume that?

21 A. Yes.

22 Q. Wouldn't all of the manufacturers, those that
23 are paying royalties and those that are in litigation,
24 have an interest in seeing a standard developed that
25 did not incorporate the patented technologies?

1 A. The answer is not necessarily, and it depends
2 on other unspecified hypotheses.

3 Q. Okay. And have you made a study in the
4 circumstances of this case as to whether the interests
5 of the 50 percent that are licensed and the 50 percent
6 that are not licensed are all consistently in favor of
7 adopting a standard that eliminates the patented
8 technologies?

9 A. I have actually investigated this question, but
10 I have not reached a conclusion on that question;
11 however, that does not overturn my conclusion that it
12 would nonetheless be a challenge given the differences.

13 Q. And that challenge -- let me strike that.

14 Let's pull up DX-158.

15 You've testified previously about various
16 mechanisms that an organization might take to reduce
17 the risk of hold-up ex ante, correct?

18 A. Yes.

19 Q. And you have testified to that as a matter of
20 economics?

21 A. Yes.

22 Q. Let me ask you about it as a matter of economic
23 theory, if I might.

24 The first bullet point on DX-158, IP disclosure
25 commitments, as a matter of economics, you said if we

1 can tell everyone who participates in the
2 standard-setting process that they need to disclose
3 whatever the pertinent intellectual property is to us,
4 that would be one way to mitigate the risk.

5 A. Yes.

6 Q. And you mitigate the risk most completely if
7 you tell every company that they have to tell you about
8 all of the IP they have.

9 A. All of the relevant IP, yes.

10 Q. All of the relevant IP.

11 And the mitigation you achieve is less if you
12 limit the disclosure obligation simply to the knowledge
13 of the representative at the meeting.

14 A. That's correct.

15 Q. And if some companies are very large and have
16 many employees, there might, as a matter of economics,
17 be a lot of knowledge that is not held by the
18 representative with respect to relevant IP.

19 A. That's correct.

20 Q. Similarly, if you're a company that does most
21 of its research and development in another country and
22 if your representative to the organization is not part
23 of the same location or even in the same country where
24 the research is done, they might have less knowledge
25 than the company as a whole.

1 A. I'm not sure I see what the other country has
2 to do with it, but if the representative was not part
3 of the research effort or not connected to the research
4 effort of the company, the representative might not
5 know as much as one of the researchers knew.

6 Q. Okay. It's also true, is it not, that this
7 disclosure provision that might mitigate the risk would
8 not extend to intellectual property held by persons who
9 were not members.

10 A. That's correct, as I understand the question,
11 which is to say does this protect you from intellectual
12 property of non-members, no.

13 Q. So, there would be economic motivation for a
14 standard-setting organization to search in some fashion
15 for intellectual property that might bear on its
16 standards that it otherwise would not expect to know
17 about.

18 A. There would be a benefit to that.

19 Q. And as you testified earlier, there is a cost
20 associated with being provided with incorrect
21 information.

22 A. Generally, yes.

23 Q. And is it also correct that if the disclosure
24 is expected at a very early stage of a standard-setting
25 process, that there are costs associated with having to

1 deal with a higher number of disclosures because
2 there's more -- different technologies being
3 considered? That's not clear. Let me see if I can
4 draw a picture.

5 If we assume the funnel that you talked about
6 yesterday, and if at the beginning of the process there
7 are five technologies under consideration, and if as we
8 go forward that narrows down to three and then to one,
9 there are costs associated with requiring some
10 disclosure of pertinent intellectual property at the
11 point in time when there are five technologies proposed
12 that are greater than the costs when there are just
13 one, correct?

14 A. I'm not sure I agree with that proposition, and
15 it depends on the nature of the winnowing process. It
16 may be that if it's easy to project some of the
17 alternatives just because someone says, well, there's
18 IP on this particular alternative, you've actually had
19 a net savings in the deliberation costs, and so I --
20 I'm not testifying that that's always the case. It's,
21 rather, that it's not clear to me one way or the other
22 which is the expedient way to do the winnowing process.

23 Q. I appreciate that answer. Let me see if I can
24 clarify my point.

25 It could vary from organization to organization

1 whether there was a net benefit in requiring disclosure
2 early as opposed to waiting and imposing an obligation
3 to disclose later.

4 A. Absolutely.

5 Q. Okay. Have you performed any analysis of
6 which -- have you performed any analysis of JEDEC's
7 actual costs and benefits in an effort to determine
8 what would be the economically efficient disclosure
9 standard for it to impose?

10 A. No.

11 Q. You recognize, don't you, that many
12 standard-setting organizations have struggled with the
13 various trade-offs that we have just talked about in
14 brief?

15 MR. ROYALL: Your Honor, I would object to this
16 question. Mr. Stone himself as objected a number of
17 times that I'm aware of when any questions have been
18 raised about other standard-setting organizations.

19 JUDGE McGUIRE: Sustained.

20 BY MR. STONE:

21 Q. In the course of forming your economic
22 opinions, have you given any consideration to whether
23 the assumptions you have made about JEDEC's policies
24 regarding disclosure are the economically most
25 efficient policies it could have selected?

1 A. I have not investigated the efficiency of
2 JEDEC's procedures and rules.

3 Q. Have you formed any opinion as a matter of
4 economics one way or the other as to whether were an
5 organization to require disclosure of patent
6 applications, that procedure would be economically
7 beneficial or not?

8 A. Well, I think as I testified, these have
9 been -- all of these disclosure requirements that were
10 on the slide which is now off the projector, which
11 could be done to various degrees, they have costs and
12 benefits, and as I understand the question you've just
13 asked me, yes, I'm aware of costs and benefits to
14 these, and I haven't actually tried to -- attempted to
15 perform any kind of cost-benefit analysis for
16 JEDEC's -- the design of JEDEC's rules.

17 Q. Okay. Let me ask you about the testimony you
18 gave yesterday, which I think was in your considered
19 judgment, Rambus might have issued a RAND letter if it
20 had been requested to do so. Is that a fair summary of
21 that line of testimony?

22 A. It might have. I guess that's why I explored
23 both branches of the tree, as to -- I didn't come to
24 the conclusion that it would not have. That was
25 actually what I judged to be more likely, but -- but it

1 might have.

2 Q. I want to ask you about that. Bring up, if we
3 could, DX-234.

4 You used DX-234 to illustrate some of your
5 testimony about the reasons why your considered
6 judgment was that it would be more likely that Rambus
7 would not issue a RAND letter than that it would,
8 correct?

9 A. That's correct.

10 Q. As a matter of economics, when the question was
11 posed as to whether or not to provide a RAND letter,
12 you would assume, would you not, that whatever
13 knowledge JEDEC had about alternatives to the use of
14 the Rambus technology would also be known to Rambus?

15 A. Well, most of them. I don't know about all of
16 them, but generally that would be my starting point.

17 Q. And one of the risks that Rambus would need to
18 consider in deciding whether or not to issue a RAND
19 letter is whether or not JEDEC would adopt a
20 non-infringing alternative technology, correct?

21 A. That would be one of the things they would
22 consider.

23 Q. And in that regard, as a matter of economics,
24 do you assume that their calculation of that risk would
25 be the same as what JEDEC's calculation of that risk

1 would be?

2 A. I wouldn't assume it was the same, but I would
3 probably assume what's known as an unbiased -- that it
4 was unbiased, which is to say if it's different, it's
5 not different in any particular direction. It's just
6 there may be -- it may be different, but correct on
7 average -- or it's the same on average rather than
8 correct.

9 Q. If Rambus had been requested to provide a RAND
10 letter or RAND assurance and if it had concluded that
11 in the event it did not it would be likely that JEDEC
12 would adopt competing or alternative technologies that
13 were not infringing, there would be economic benefits
14 to Rambus in giving a RAND letter, correct?

15 A. Well, there -- again, it -- there would be
16 costs and benefits in giving a RAND letter, but you're
17 now asking me about the heart of why I was unable to
18 determine that it would not issue a RAND letter.

19 Q. And so let me just -- I'm asking you not about
20 net benefit or net costs at the moment. I'm trying to
21 identify that both exist.

22 At the time -- let's assume hypothetically, as
23 you have, that Rambus was asked for a RAND letter, and
24 if there was a risk that noninfringing alternatives
25 might be adopted by JEDEC, there would be some benefits

1 to Rambus in providing a RAND letter, correct?

2 A. Yes.

3 Q. And as a matter of economic theory, there might
4 be costs to Rambus in providing a RAND letter, correct?

5 A. There might be costs.

6 Q. And the costs would be, in terms of categories,
7 what?

8 A. Well, the costs of issuing a RAND letter are
9 things that are listed on this slide, in particular
10 that it -- not issuing a RAND letter might help RDRAM
11 succeed by delaying the JEDEC standard-setting process.
12 It would -- by not issuing a RAND letter, they would --
13 if the technology were still to be adopted, Rambus
14 would then be able to charge what it wanted to
15 discriminate and so forth. So, there would be these
16 sorts of considerations.

17 Q. But as to the latter consideration, haven't you
18 assumed that the technology would not be adopted if
19 Rambus refused to provide a RAND letter?

20 A. I do not think the technology -- yes, I have
21 assumed the technology would not be adopted, at least
22 in this -- in this context.

23 Q. So, for purposes of your economic opinions
24 here, the only cost to Rambus of issuing a RAND letter
25 would be that they might not obtain some benefit for

1 the future success of RDRAM.

2 A. Well, I guess the way I tend to think about
3 this is I rarely think of anything as certain, and I
4 think about this in terms of probability. So, when I
5 say that JEDEC wouldn't include the IP, I mean it's --
6 that's their requirement. Is there no chance that
7 there would be infringement? I don't make that -- I
8 don't draw that conclusion, that is to say,
9 particularly.

10 There might be another patent that's held by
11 Rambus that is not one of the four technologies which
12 is then infringed. This has also gone beyond my --
13 it's now -- it strikes me as it's going into facts
14 rather than -- and legal opinions even, which I'm not
15 trying to draw, but I guess the full answer to your
16 question is is that I tend to think about these things
17 as being probabilistic rather than certain, and that
18 means there may be small advantages just on the -- on
19 other branches of the tree that aren't actually listed
20 on the slides.

21 Q. And I'm trying not to call for legal
22 conclusions or even fact issues. I'm only trying to
23 call for your economic opinions. I may not always
24 succeed in asking the question that way, but that's my
25 goal.

1 As a matter of economic opinion, have you
2 formed an opinion as to whether it would have been in
3 Rambus' economic interest to issue a RAND letter if it
4 had been requested to do so?

5 A. I'm not in a position actually to make that
6 determination, and if I thought it was really in
7 Rambus' interest to issue a RAND letter or fully --
8 that is to say, it was decidedly in their interest to
9 issue a RAND letter, then I would have testified that I
10 felt that were the likely outcome, but I -- I -- this
11 involves a lot of trade-offs in the sense of what's the
12 likelihood that RDRAM succeeds in being the dominant
13 memory, what's the likelihood that JEDEC standards
14 infringe. I'm not in a position to assess those
15 probabilities as of the time that's relevant for this
16 assessment, and so I can't say one way or the other.

17 Q. Once it became well known to JEDEC that Rambus
18 claimed that it had patents which covered products
19 manufactured in accordance with JEDEC's standards,
20 was -- as you understand the policy and as you have
21 assumed it -- JEDEC required to then request a RAND
22 letter or RAND assurance from Rambus?

23 A. You mean in the year 2000?

24 Q. The year 2000 would be fine for purposes of
25 that question.

1 A. I don't know what JEDEC -- the JEDEC process or
2 rules require. The testimony that I -- again, this is
3 a fact issue, I think, that I haven't needed to rely on
4 or needed to assume. The testimony, I think, said
5 that -- well, once it was -- once there was litigation
6 going on, we don't actually get involved, though that's
7 a paraphrase, but I didn't need to assume one way or
8 the other about what happens at that point in time.
9 That was after the period that I was -- on which I was
10 focusing.

11 Q. Your period ended in what year?

12 A. Well, I mean, my -- my --

13 Q. I'm sorry, let me be more clear in my question.

14 The period of time that is the subject of your
15 expert opinions starts when and ends when?

16 A. Well, it depends on which issue we're
17 discussing, but with respect to exclusionary conduct,
18 which is this set of slides, the -- the period I was
19 focusing on was prior to Rambus' departure from -- from
20 JEDEC, so prior to 19 -- well, prior to June 1996.

21 Q. Let me --

22 A. I certainly wouldn't -- just to clarify, I
23 certainly was not considering the issuing of a RAND
24 letter much later, in a much later period, and what the
25 consequences of that might have been.

1 Q. Okay. The -- we talked yesterday about the
2 dates for SDRAM and DDR SDRAM on which you would have
3 expected a negotiation to occur, but I want to be clear
4 about the DDR SDRAM ex ante negotiation, if I might.

5 Is it your -- is it part of your opinion that
6 the hypothetical ex ante negotiation that would have
7 occurred with respect to DDR SDRAM would have occurred
8 before or after Rambus sent its formal letter of
9 withdrawal to JEDEC in June of 1996?

10 A. My hypothetical is that at the time that the
11 technology was being -- so, let me remind myself of the
12 hypothetical. The hypothetical is Rambus has
13 disclosed. At the time of the disclosure -- the
14 disclosure occurs when they're discussing the relevant
15 technology, so it's the dual edge clocking. At the
16 time of the disclosure, when they're discussing dual
17 edge clocking -- actually, so that's an interesting
18 question.

19 I wouldn't have expected the disclosure -- the
20 negotiation to occur until they reached a point where
21 they were considering actually incorporating dual edge
22 clocking into the standard, and that might have
23 happened after Rambus had already left.

24 Q. Okay. In any event, any analysis we make today
25 of how the negotiation would have occurred in the past

1 is something that economists struggle with in various
2 contexts from time to time, correct?

3 A. That's correct.

4 Q. And in the patent context, for example,
5 economists often are called upon to express their
6 opinion as to what a reasonable royalty would have been
7 had a negotiation occurred at an earlier point in time.

8 MR. ROYALL: Objection, Your Honor, that he has
9 any foundation to say what economists are asked to do
10 in the patent context.

11 MR. STONE: Let me reframe.

12 JUDGE McGUIRE: Restate.

13 BY MR. STONE:

14 Q. Are you familiar with the economic methodology
15 utilized in determining how patent licenses would be
16 set at hypothetically earlier points in time than any
17 actual negotiation occurred? Oh, that's a terrible
18 question. I am going to withdraw that.

19 JUDGE McGUIRE: You know, I have heard worse
20 from you, Mr. Stone.

21 MR. STONE: Well, I'll try not to let it happen
22 again.

23 BY MR. STONE:

24 Q. Professor McAfee, let me ask it this way: You
25 are familiar with the fact that patent litigation

1 occurs.

2 A. I am familiar with that fact.

3 Q. And you are familiar with the fact that in the
4 context of patent litigation, courts are often called
5 upon to decide what a reasonable royalty would be.

6 A. Yes, but you're reaching the limit of my
7 knowledge.

8 Q. Okay. Have you as an economist ever looked at
9 the question of how you would determine what a
10 reasonable royalty would be based upon a hypothetical
11 negotiation that occurred at an earlier point in time?

12 A. The answer is yes, but I haven't -- it's quite
13 recent, but I have not attempted to apply it to this
14 case -- what I learned to this case.

15 Q. Okay, but you're familiar -- are you familiar
16 that there's sort of an established methodology,
17 sometimes referred to as the Georgia Pacific
18 methodology, for making such a determination?

19 A. I have seen reference to that.

20 Q. Okay.

21 Your Honor, at this time I need to go to some
22 of the in camera information, and I am going to work on
23 my questions, as well.

24 JUDGE McGUIRE: Okay, and I'm just kidding.

25 MR. STONE: I understand.

1 JUDGE McGUIRE: I have heard bad questions from
2 both sides.

3 All right, again, to those in the audience, by
4 prior court order, it's been determined that the
5 evidence we are about to take on the testimony is
6 confidential, and as a consequence, this part of the
7 hearing will be closed to the public. So, I'll ask all
8 of you in the audience that are not otherwise cleared
9 to have access to this information to please vacate the
10 courtroom, and I'll ensure that you're advised when
11 we're done with this portion of the proceeding.

12 UNIDENTIFIED SPEAKER: Your Honor, I just
13 wondered if you had any idea whether that would be
14 before or after lunch.

15 JUDGE McGUIRE: I'm sorry, sir, what was your
16 question?

17 UNIDENTIFIED SPEAKER: I was wondering whether
18 the in camera session would go beyond the lunch hour.

19 MR. STONE: It will not.

20 JUDGE McGUIRE: Do you have some idea, Mr.
21 Stone, how long that will last?

22 MR. STONE: I think 30 minutes will be a fairly
23 accurate estimate. It could be a bit less.

24 (The in camera testimony continued in Volume
25 37, Part 2, Pages 7823 through 7848, then resumed as

1 follows.)

2 MR. STONE: No further questions, Your Honor.

3 JUDGE McGUIRE: Okay, very good. It's ten
4 until 12:00. I guess this would be a good time then to
5 break, unless, Mr. Royall, you wanted to proceed with
6 your questioning. I have no idea how much time you're
7 going to be spending on this witness.

8 MR. ROYALL: I do think breaking now might help
9 me to assess that. I don't think I'll need to go too
10 long, but I could see it taking an hour and a half
11 maybe.

12 JUDGE McGUIRE: Well, then --

13 MR. ROYALL: Please don't hold me to it. My
14 estimates haven't been so accurate in the past.

15 JUDGE McGUIRE: It's ten to 12:00. Why don't
16 we return back at quarter after 1:00. Hearing in
17 recess.

18 (Whereupon, at 11:50 a.m., a lunch recess was
19 taken.)

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1 AFTERNOON SESSION

2 (1:15 p.m.)

3 JUDGE McGUIRE: This hearing is now in order.
4 Complaint counsel at this time may proceed with its
5 inquiry of the witness.

6 MR. ROYALL: Thank you, Your Honor, and my
7 intention is -- I have just a few things to cover that
8 are also in camera, and so my plan was to try to do
9 that first, if that pleases the Court, for a few
10 minutes and then open it up.

11 JUDGE McGUIRE: How much time do you anticipate
12 that will take, Mr. Royall?

13 MR. ROYALL: I would think, at most, ten
14 minutes.

15 JUDGE McGUIRE: Again, to the audience, we are
16 about to hear in camera testimony, and if you can
17 vacate the courtroom and I'll advise you about when
18 you're free to come back.

19 (The in camera testimony continued in Volume
20 37, Part 2, Pages 7849 through 7869, then resumed as
21 follows.)

22 REDIRECT EXAMINATION (cont.)

23 BY MR. ROYALL:

24 Q. Can we pull up DX-240?

25 Do you recall this slide, Professor McAfee,

1 from your testimony earlier in the past few days?

2 A. Yes.

3 Q. And this slide relates to certain
4 anticompetitive effects that in your economic -- that
5 you have concluded from the standpoint of economics
6 have either been caused or have been threatened by
7 Rambus' conduct?

8 A. Yes.

9 Q. The third bullet refers to the threat of higher
10 DRAM prices, and I'd like to ask you a couple of
11 questions about that.

12 We have talked about the DDR royalties charged
13 by Rambus, that's what we've been talking about just in
14 the last few minutes, and what I'd like to ask is, have
15 you seen -- in your review of the record, have you seen
16 any evidence that corroborates your views or that you
17 have concluded for purposes of your analysis
18 corroborates or supports your views that, in fact,
19 Rambus' DDR royalties do threaten to bring about higher
20 DRAM prices?

21 A. Yes, I have.

22 MR. ROYALL: Your Honor, may I approach?

23 JUDGE McGUIRE: Yes.

24 BY MR. ROYALL:

25 Q. Professor McAfee, I've just handed you two

1 documents. I'd like to take them one at a time, and
2 let's start with what's -- the document that's marked
3 CX-2558.

4 A. Um-hum, yes.

5 Q. Do you have that?

6 A. I do.

7 Q. Is this document one of the documents that you
8 were referring to in response to my prior question when
9 you said that you had seen evidence that corroborated
10 your views about the threat of higher DRAM prices as a
11 result of Rambus' DDR royalty?

12 A. Yes, it is.

13 MR. STONE: Objection, Your Honor.

14 JUDGE McGUIRE: Mr. Stone?

15 MR. STONE: Objection, leading, and secondly,
16 this goes into the areas of factual testimony by this
17 witness that Mr. Royall objected to. Every time I
18 would go into an area about the underlying facts, he
19 objected. I had objected yesterday. And he's now
20 getting into areas that are not appropriate for this
21 witness' testimony.

22 MR. ROYALL: May I respond, Your Honor?

23 JUDGE McGUIRE: Yeah, go ahead.

24 MR. ROYALL: First of all, I don't think it's a
25 leading question at all. I asked whether this is one

1 of the documents that he was referring to, and it
2 either or isn't, and he can tell us, but --

3 JUDGE McGUIRE: He can answer the question to
4 that extent only, is this one of the documents he was
5 referring to.

6 MR. ROYALL: And I believe he's already
7 answered that question before the objection.

8 JUDGE McGUIRE: Well, I don't care if he
9 started an answer -- oh, he's already answered that
10 part of the question?

11 MR. ROYALL: I believe he has answered, yes.

12 JUDGE McGUIRE: Then what's your next question?

13 MR. ROYALL: My next question relates to the
14 substance of the document.

15 JUDGE McGUIRE: At that point we may hear again
16 from opposing counsel, but go ahead and state your next
17 question.

18 BY MR. ROYALL:

19 Q. How, if at all, Professor McAfee, does this
20 document relate to your conclusions about the
21 threatened effects of higher DRAM prices resulting from
22 Rambus' DDR-related royalties?

23 MR. STONE: I do object, Your Honor, that this
24 is an area of his interpretation of the facts for
25 purposes of this testimony, is exactly the areas in

1 which both my objections and Mr. Royall's objections
2 have been sustained.

3 JUDGE McGUIRE: All right, he is not going to
4 be able to testify as to the interpretation of the
5 facts as stated in the objection, but I believe the
6 question says, does this document relate to your
7 conclusions, so to that extent, he can answer that
8 question, and then if he gets beyond that where he is
9 interpreting the facts, then I am going to uphold the
10 objection.

11 MR. ROYALL: Yes, thank you, Your Honor.

12 BY MR. ROYALL:

13 Q. Do you have the question in mind?

14 A. I don't.

15 Q. The question was, how, if at all, does this
16 document relate to your conclusions about the
17 threatened effects of higher DRAM prices resulting from
18 Rambus' DDR-related royalties?

19 A. As I testified, the -- I perceived a long run
20 threat of higher prices associated with the royalties,
21 and this document talks about -- this is my
22 understanding, is that this document is corroborating
23 that threat by suggesting a different positioning of
24 DDR relative to what the -- let me say, a difference in
25 business plans that would result in higher prices for

1 DDR.

2 Q. Can you point us to the language that you're
3 referring to in the document?

4 A. DRAM suppliers -- it's comments that DRAM
5 suppliers have made that they do not want to produce
6 DDR DRAMs if they have to pay this high royalty.

7 MR. STONE: Move to strike, Your Honor.

8 That --

9 JUDGE McGUIRE: Just a second.

10 Mr. Stone?

11 MR. STONE: Move to strike on the grounds that
12 that is now interpreting the document. Furthermore,
13 his reliance on hearsay like that is an inappropriate
14 basis for his testimony.

15 MR. ROYALL: May I respond, Your Honor?

16 JUDGE McGUIRE: Yes.

17 MR. ROYALL: First of all, Mr. Stone has asked
18 this witness today in reference to his assumptions
19 about a number of documents, and all I am doing is
20 asking him further about documents in reference to
21 understanding his assumptions, and so this is no
22 different than what he's done, and in that regard, I
23 would say it's highly -- it's entirely appropriate.

24 JUDGE McGUIRE: Mr. Stone, how is he
25 interpreting this document? Because I'm not quite

1 clear on how he's done that just based on his last
2 answer.

3 MR. STONE: Well, clearly implicit in his
4 answer is he is giving meaning to the words in order to
5 say that they are support. I did not ask him to
6 interpret any documents. I asked him to explain what
7 his assumptions were in detail. I just tried to get
8 more detail for his assumptions. I didn't show him
9 documents and say, did these support your assumptions?
10 I did ask him whether a statement in a document was
11 consistent or inconsistent with his assumptions, but
12 not whether it supported them or not.

13 MR. ROYALL: Your Honor, let me say --

14 JUDGE McGUIRE: One last comment.

15 MR. ROYALL: Well, this is a very significant
16 issue, and it's significant for a number of reasons,
17 but one is I have -- I'm only asking him about what
18 evidence that he has relied on or considered in making
19 his assumptions, and that is an absolutely critical
20 thing for me to be able to draw out with this witness.

21 JUDGE McGUIRE: You can ask -- whether it's
22 critical or not, that doesn't speak to his objection.
23 His objection is whether his answer is attempting to
24 interpret a document, and as I said earlier, he is not
25 going to be allowed to do that. This last answer, it's

1 not clear to me whether he's interpreting a document,
2 but you can ask him again to what extent he factored in
3 this document, but I don't want any testimony regarding
4 what could be construed as interpretation of the
5 language.

6 Now, maybe, again, this is going to have to
7 come up again. It's not clear to me at this point to
8 what extent he's interpreting the terms of the
9 document. So, I am going to let you proceed, and then
10 I'll hear again I'm sure from opposing counsel if it
11 gets beyond where we are.

12 MR. ROYALL: Well, could I just put in context
13 my response, because I can imagine this may come up
14 again. I'm not asking this witness to interpret the
15 document. This witness has made it extremely clear
16 that he is not testifying as to what the facts are or
17 are not. He has also made it clear that he's made
18 assumptions and that he has conducted a factual
19 investigation to corroborate those assumptions and that
20 it's important --

21 JUDGE McGUIRE: In that context, that's fine.
22 I think the problem opposing counsel is having was his
23 answer appeared to be interpreting this document, even
24 if he stated at an earlier point in this hearing that
25 he's not attempting to do that. The answer could come

1 out as if he were, and that was, as I understand the
2 objection, the context under which that was noted.

3 So, I'm going to give you a chance to ask the
4 question again in the proper context, and again, I'll
5 admonish the witness to avoid any testimony that may be
6 construed as interpreting any evidence in this case.

7 MR. ROYALL: Your Honor, I think the point I'm
8 making is that in order for the witness to explain the
9 facts that he considered in developing his assumptions,
10 the factual assumptions that he made, he needs to
11 comment on documents, and if every time --

12 JUDGE McGUIRE: I didn't say he couldn't
13 comment on it. I just want to be sure his testimony
14 does not appear to be interpreting the document, and as
15 long as, again, we put it in the proper context, then
16 we'll see if it doesn't clear the problems that
17 opposing counsel is having.

18 MR. ROYALL: All right, let me try --

19 JUDGE McGUIRE: If I understand what he was
20 saying, was that it was how the testimony was coming
21 out that he had the problem with, so...

22 MR. ROYALL: Let me try to frame the questions
23 with that input in mind.

24 BY MR. ROYALL:

25 Q. Professor McAfee, I'm not asking you to

1 interpret for us what the facts are, the facts in this
2 case do or do not prove, and I think you've made it
3 clear that you have -- you understand that's not your
4 role. On the other hand, you've made assumptions about
5 facts, as you've testified, and based on those
6 assumptions, you've conducted an economic analysis.

7 What I'm asking you is can you explain how this
8 document, which you've identified as one that you
9 viewed before, how this document -- how you took it
10 into account in developing your factual assumptions in
11 this case?

12 A. Let me do the reverse of what my reasoning is
13 and start with my conclusions.

14 One of my conclusions was that there was a
15 threat to long run DRAM prices, that is, a threat of
16 increase of long run DRAM prices and a decreasing
17 quantity, and I reached that conclusion because
18 ordinarily it wouldn't be just a threat, it would be --
19 you would expect to see an actual harm, but this
20 industry is unusual from an economist's perspective in
21 that the other characteristics that we discussed lead
22 to what's called a vertical supply or a perfectly
23 inelastic supply.

24 That is to say, the DRAM manufacturers will
25 continue to produce DRAM whether or not there's a

1 significant increase in their input prices because
2 the -- of the big fixed costs of their operations, and
3 as a result, in this industry you wouldn't expect to
4 see higher DRAM prices immediately, that is, you
5 wouldn't expect to see, as in other industries, cost
6 increases in the form of royalties passed on to final
7 consumers right away.

8 What was significant to me about this document
9 in crafting my assumptions was the suggestion that,
10 well, perhaps DDR -- there would be a diversion of
11 resources away from DDR immediately. That is, it
12 suggested that the royalties might be passed on rapidly
13 rather than -- rather than only over the long term.

14 Q. Now, let me ask you with respect to the second
15 document that I handed you, CX-2561, is this a document
16 that you considered in developing the factual
17 assumptions that you have developed for purposes of
18 your economic analysis?

19 A. Yes, it is, if you will give me a moment to
20 review it. (Document review.) Okay.

21 Q. Have you had an opportunity to review it?

22 A. I have.

23 Q. Is there any aspect of this document that you
24 considered in the course of developing your own
25 assumptions about any issues that relate to your

1 economic analysis?

2 A. Yes, there is.

3 Q. And can you point us to that, where in the
4 document you see language that relates to your
5 assumptions?

6 A. Well, in particular, with respect to the
7 conclusion concerning effects on prices, in the
8 numbered list, item 2, there's a statement that says,
9 "Will also factor in impact of IP royalty."

10 Q. Can you -- oh, I see. Is this -- what's been
11 highlighted on the screen, is this what you're
12 referring to?

13 A. That's correct.

14 Q. And how does that relate to the assumptions
15 that you have made for purposes of your economic
16 analysis?

17 A. As I testified, my concern in examining
18 downstream DRAM prices was pass-through, what
19 economists call pass-through of costs, and this
20 document, by using the language "will also factor in
21 impact of IP royalty," suggests what the document says.

22 Q. By which you mean?

23 A. Oh, I will quote the document. "DDR volume,
24 cost and pricing update."

25 Q. All right, let's move on to something else.

1 Can we pull up DX-248?

2 MR. DAVIS: Our computer seems to have frozen
3 up a little bit here.

4 JUDGE McGUIRE: Excuse me?

5 MR. ROYALL: The computer is frozen up.

6 JUDGE McGUIRE: Oh.

7 MR. ROYALL: Actually, we can -- I can ask this
8 question without reference to the exhibit.

9 BY MR. ROYALL:

10 Q. Do you recall yesterday Mr. Stone asked you
11 some questions about the time frame that would be
12 relevant from your standpoint in terms of the
13 disclosure of Rambus intellectual property to JEDEC?

14 A. Yes, he did.

15 Q. And do you recall that you gave an answer to
16 the effect that the time period that was relevant for
17 your purposes was the pre-1996 time period?

18 MR. STONE: Your Honor, I object to the
19 mischaracterization of the testimony and to the leading
20 nature of this. This is redirect, and --

21 JUDGE McGUIRE: All right, sustained.

22 MR. ROYALL: I'm simply trying to move things
23 along, but I can ask --

24 JUDGE McGUIRE: I realize that, I realize that.
25 You are just going to have to do it in a little clearer

1 fashion, a little better fashion.

2 BY MR. ROYALL:

3 Q. And do you recall what time frame you indicated
4 was relevant to your analysis?

5 A. I -- as the document says -- well, actually, I
6 was asked to explain this on more than one occasion and
7 to give the time period on more than one occasion, and
8 I may have given short forms of the answer on some of
9 those occasions.

10 Q. Let me try -- let me try it this way: Do you
11 see in this slide, DX-248, you have listed in the first
12 bullet point the date June 18, 1996?

13 A. I do.

14 Q. And what is your understanding of the
15 significance of that date?

16 A. This is my understanding -- in fact, I believe,
17 as I testified on direct, that this is the date that
18 Rambus left JEDEC. That's an assumption on my part.

19 Q. And does that date have any significance from
20 the standpoint of the timing of intellectual property
21 disclosures within JEDEC that are relevant for purposes
22 of your economic analysis?

23 A. Well, as I believe I clarified on the direct
24 testimony and may have been confused again during the
25 cross examination, my opinion as an economist -- I

1 don't have an opinion about what should have been
2 disclosed. That's -- that strikes me as being
3 essentially a legal issue. My opinion as an economist
4 that whatever should have been disclosed should not be
5 enforced. That was my economic conclusion.

6 I sort of wish I hadn't used the date June
7 18th, 1996, but instead, to just refer to the economic
8 conclusion, which relates what should have been
9 disclosed, whatever that might be, to -- to
10 nonenforcement, and so that is to say, rather than use
11 the date June 18th, 1996, it's whatever is found to be
12 what should have been disclosed should not be enforced.

13 Q. Do you recall -- do you recall that you were
14 asked some questions by Mr. Stone relating to network
15 issues?

16 A. Yes.

17 Q. And in that regard, I believe that you may have
18 given some testimony as to what you understand the word
19 "network" or "network effects" to mean as to how this
20 relates to your analysis in this case?

21 A. I believe I may have garbled my answer, yes.

22 Q. Do you recall if that issue is discussed in
23 your expert report?

24 A. It is.

25 Q. And do you have the expert report in front of

1 you?

2 Let me ask you to turn to page 56 of your
3 expert report, and I would focus your attention on
4 paragraph 71.

5 MR. STONE: Your Honor, I object to the use of
6 the expert -- the expert reports we've already
7 determined -- the Court has ruled they are not
8 admissible. If Mr. McAfee needs to supplement, correct
9 or change his testimony, I think he should be asked to
10 do that rather than rely on a document the Court has
11 determined is inadmissible.

12 JUDGE McGUIRE: Sustained. I think you can ask
13 the question without referring to his expert report.

14 BY MR. ROYALL:

15 Q. Are you familiar, Professor McAfee, with the
16 term "direct network compatibility"?

17 A. Yes.

18 Q. And is that a term that's used in economics?

19 A. It is.

20 Q. And what do you understand that term to mean?

21 A. It's the requirement of devices to interact
22 with each other, interoperate. It was originally used
23 with local telephone networks, which weren't
24 necessarily able to contact other telephone networks,
25 and it was -- as we know, the value of a telephone is

1 greater the more people you can call, and so that
2 became known as a network effect or a direct network
3 effect. So, this is the requirement of
4 interoperability.

5 It's something that we have seen in this case
6 with respect to an exhibit which I put up that had
7 already been put up as well that showed the interaction
8 or interoperability of DRAM with other components
9 within a PC.

10 Q. Are you familiar also with the term "indirect
11 network compatibility"?

12 A. Yes, I am.

13 Q. And what do you understand that term to mean?

14 A. So, an indirect network compatibility is -- or
15 indirect network effect is a change in value that's
16 associated not directly with the ability to
17 interoperate, but with some -- with the provision of
18 some sort of other component. The classic example
19 would be video rentals. The more people that had a VHS
20 VCR, the more VHS videos were available in the local
21 rental store, and hence, the more valuable was the VHS
22 VCR, and that's what eventually tipped the balance from
23 the Sony Beta to the VHS.

24 We have seen the same sort of thing happen with
25 DVDs recently; that is, the balance in the local video

1 store has tipped away from VHS towards DVDs as more
2 consumers have them -- have DVDs. That, of course,
3 makes the DVD more valuable, and that's known as an
4 indirect network effect.

5 Q. And do either of these concepts, direct network
6 effects or indirect network effects, have applicability
7 to your economic analysis in this case?

8 A. Both do.

9 Q. And can you explain how they relate?

10 A. Well, as I think I already mentioned, the
11 direct -- we've seen direct network effects in the
12 requirement that DRAM communicate with other devices
13 within the system, and so those devices must be
14 designed to be -- to interoperate, and that creates a
15 requirement that the more of such components exist for
16 DRAM, the more valuable will be the DRAM.

17 And we had a discussion of this with respect to
18 things like fax machines and other devices, chipsets,
19 all of which tend to increase the value of DRAM and are
20 a source of lock-in as a consequence for DRAM design.

21 Indirect network effects are also present in
22 that as a given DRAM becomes more popular, we see other
23 devices designed to work with it, that is, third-party
24 devices, which then tends to increase the value of that
25 DRAM, thus locking the industry more into that

1 particular design.

2 Q. I'm going to shift to another issue now.

3 A. Okay.

4 Q. Do you have an understanding as to whether any
5 court has reached any final determination as to the
6 validity and enforceability of Rambus' or any of
7 Rambus' SDR or DDR SDRAM patents?

8 MR. STONE: Calls for a legal conclusion, Your
9 Honor.

10 JUDGE McGUIRE: Sustained.

11 MR. ROYALL: Your Honor, the question -- may I
12 be heard?

13 JUDGE McGUIRE: You may be heard.

14 MR. ROYALL: The question was not whether he
15 had an understanding. It was whether there had been
16 any such decision. I'm not asking him to interpret it
17 or give any legal testimony at all, but as Mr. Stone
18 asked the witness earlier about legal issues from the
19 standpoint of an economic analysis, it's in the same
20 context that I'm asking this question.

21 MR. STONE: Well, Your Honor, A, it's beyond
22 the scope. I didn't ask him about any decision about
23 validity. B, to the extent I wanted to ask him about
24 the Federal Circuit and his understanding, Mr. Royall
25 did make an objection that it called for a legal

1 conclusion, which was sustained, and so no testimony on
2 that was given.

3 JUDGE McGUIRE: It was beyond the scope in any
4 event, so it is still sustained.

5 MR. ROYALL: What I had in mind was within the
6 scope, and --

7 JUDGE McGUIRE: Mr. Royall, I have sustained
8 the objection.

9 MR. ROYALL: I understand, Your Honor. What I
10 had in mind was within the scope, and I can ask it in a
11 different way and make that clear.

12 JUDGE McGUIRE: You can go on and ask your next
13 question in any event.

14 BY MR. ROYALL:

15 Q. Do you recall being asked by Mr. Stone about
16 whether you had made assumptions about whether Rambus
17 patents read on or covered either SDRAM or DDR?

18 A. I don't specifically recall those terms, but I
19 was definitely asked about the -- whether the --
20 whether Rambus had patent coverage or something like
21 that, the patents were relevant or something. I don't
22 remember exactly what I was asked.

23 Q. And for purposes of your conclusions on
24 monopoly power, do you make assumptions about the
25 coverage of Rambus patents?

1 A. Well, I think as I testified, I am not
2 questioning that Rambus has IP that they can enforce
3 against the standards.

4 Q. For purposes of your economic analysis and your
5 conclusions about monopoly power, is it an essential
6 assumption -- and I'm asking for your assumptions -- is
7 it an essential assumption on your part that a court of
8 proper jurisdiction has rendered a final conclusion as
9 to the validity and enforceability of Rambus' patents?

10 A. No, it's not.

11 Q. Why not?

12 A. Well, to be fair, I'm not sure that I'm
13 positioned to interpret the phrase "court --" I've
14 forgot, a court of something jurisdiction, but the
15 important thing from my perspective is Rambus' ability
16 to enforce its patents; that is to say, if Rambus had
17 no ability to enforce its patents, I think we could all
18 go home, but the -- insofar as they have an ability to
19 enforce their patents, whether that's a final
20 determination or not I can't see would be relevant.

21 Q. And when you say "enforce patents," what are
22 you referring to?

23 A. Against JEDEC-compliant standards, devices.
24 Against the manufacturer of those devices.

25 Q. And does the existence of license agreements,

1 actual license agreements, relate in any way to
2 conclusions that you would draw about Rambus' -- let me
3 restate that.

4 Have you made any assumptions about the ability
5 of Rambus to enforce its SDRAM and DDR SDRAM-related
6 patents?

7 A. I think, as I just testified, that I am
8 assuming that they can do that, and I have seen, of
9 course, evidence in the record, because companies don't
10 sign license agreements unless they -- there's a threat
11 of enforcement. That doesn't actually speak to the
12 legal issue directly, nor do I need to assume anything
13 about the legal issue.

14 And actually, from an economic perspective, it
15 doesn't matter one way or the other whether they
16 actually have the patent rights. If they can enforce
17 them and charge for them, it's the charges that matter
18 from an economic perspective.

19 Q. Can we pull up DX-229?

20 Do you recall this slide, Professor McAfee?

21 A. I do.

22 Q. And in this slide, do you -- you use the term
23 "equal or superior products."

24 Do you see that?

25 A. I do see that.

1 Q. And do you recall that Mr. Stone yesterday
2 asked you some questions about those terms?

3 A. Yes, I do recall, but not specifically.

4 Q. And can you tell us, just so the record's
5 clear, what you mean by use of those terms in the
6 context of your economic analysis?

7 A. Well, these are products that -- the use I'm
8 making of them is these are the products that the
9 buyer -- that a -- that the buyers would -- would
10 choose; that is to say, that are equal or superior from
11 the perspective of substitution by buyers.

12 Q. When you use those terms, are you using them in
13 the technical sense or in an economic sense?

14 A. I'm using them in an economic sense.

15 Q. Does your use of this terminology relate at all
16 to your use of the term, which has come up in your
17 testimony, of "commercially viable alternatives"?

18 A. It does.

19 Q. How are those two concepts related as they
20 factor into your economic analysis?

21 A. So, commercially viable alternatives are
22 price-constraining alternatives; that is to say, from
23 the buyer's perspective, if the price of a given
24 alternative is increased, if it's too high, the buyers
25 can substitute one of the other alternatives, and so --

1 I should say equal or superior from an economic
2 perspective always includes prices. It's not -- you
3 can't actually assess whether it's equal or superior
4 without prices.

5 And so, the issue of equal or superior
6 products -- excuse me, the relationship between the
7 price-constraining alternatives and equal or superior
8 products is that at reasonable prices or at nearly
9 similar prices, similar prices, the commercially viable
10 alternatives are equally -- equal or superior.

11 Q. And have you reached any conclusion as -- in
12 terms of your own economic analysis as to whether
13 Rambus' challenged conduct has resulted in the
14 exclusion of equal or superior products as you define
15 that term from the economic perspective?

16 A. Yes, as I testified, their conduct has -- given
17 my assumptions, their conduct has excluded equal or
18 superior products.

19 Q. And do you recall -- with reference to the term
20 "commercial viability," do you recall that Mr. Stone
21 asked you whether you're aware of that term appearing
22 in any economic textbook?

23 A. I do.

24 Q. And do you recall that he asked you whether
25 that term appeared in the DOJ-FTC Merger Guidelines?

1 A. I do recall that question.

2 Q. And do you recall your answer to that question?

3 A. I didn't recall it -- I did not recall the term
4 "commercial viability" appearing in the FTC-DOJ
5 Guidelines.

6 Q. Does --

7 A. Those aren't actually exactly identical
8 guidelines, by the way, but they are very similar.

9 Q. Does the term "commercial viability" as you
10 have used the term for purposes of your economic
11 analysis relate at all to the concept of
12 price-constraining alternatives that you discussed
13 earlier in your testimony?

14 A. That is my definition of commercial viability,
15 is that it's a price-constraining alternative. So,
16 yes, not only does it relate; it's the same concept.

17 Q. Are you familiar with or do you know whether
18 the term "price-constraining alternative" appears
19 anywhere in the economic literature?

20 A. Yes, it does.

21 Q. Do you know whether that term appears anywhere
22 in either FTC or DOJ Guidelines?

23 A. It is my recollection that it appears in the --
24 in both.

25 MR. ROYALL: May I approach, Your Honor?

1 JUDGE McGUIRE: Yes.

2 BY MR. ROYALL:

3 Q. Professor McAfee, I have just handed you a
4 document that for the record I would mark as CX-3094.

5 (CX Exhibit Number 3094 was marked for
6 identification.)

7 BY MR. ROYALL:

8 Q. Do you recognize this document?

9 A. Yes. This is -- appears to be the Federal
10 Trade Commission version of the -- of the Horizontal
11 Merger Guidelines.

12 Q. And could I ask you to turn to -- referring to
13 the bottom left-hand corner, the numbers there, could I
14 ask you to turn to page 6 of 26?

15 A. Yes.

16 Q. And roughly halfway down, in the middle of the
17 page, do you see the paragraph beginning with the
18 words, "In considering"?

19 A. I do.

20 Q. And that sentence states, "In considering the
21 likely reaction of buyers to a price increase, the
22 agency will take into account all relevant evidence,
23 including but not limited to the following," and then
24 there are four items listed under that sentence.

25 Do you see that?

1 A. I do.

2 Q. And the first of those items refers to evidence
3 that buyers have shifted or have considered shifting
4 purchases between products, and I read only a portion
5 of it, but do you see that language?

6 A. I do.

7 Q. I'm sorry, I didn't --

8 A. I do see that language, yes.

9 Q. Then the fourth item refers to the timing and
10 costs of switching products.

11 Do you see that language?

12 A. I do see that.

13 Q. When you said earlier that you recalled the
14 concept of price-constraining alternatives being
15 discussed in the FTC and DOJ Guidelines, were you
16 recalling this -- this language that I've pointed you
17 to or something else?

18 A. No, strictly --

19 MR. STONE: Your Honor, Counsel is leading the
20 witness. He should -- all he needs to ask is where in
21 the document -- where in the document does it appear?
22 He's leading him. If the witness can't find it, it is
23 relevant evidence. To point him to it is to lead him.

24 Now, we all know that the Guidelines will be
25 argued before Your Honor in any event, so my objection

1 is that that sentence is probably a bit moot, but I do
2 think counsel continues to lead the witness.

3 JUDGE McGUIRE: It is moot, but it is sustained
4 as well, Mr. Royall.

5 BY MR. ROYALL:

6 Q. Well, without reference to necessarily the
7 language that I read but by reference to the
8 document -- and take your time to review the
9 document -- but is there anything in this document that
10 you've identified that relates to the concept of
11 price-constraining alternatives that we identified a
12 moment ago?

13 A. I think as I testified on direct, the -- my
14 notion of price-constraining alternatives embodied in
15 commercial viability is exactly parallel and analogous
16 to the language of the Horizontal Merger Guidelines
17 with which I'm quite familiar and have, in fact,
18 published about; that is, I have written papers about
19 the Horizontal Merger Guidelines, and the parts that I
20 would point to is the evidence that buyers have shifted
21 or considered shifting purchases between products in
22 response to relative changes in price, so this is
23 talking directly about buyer substitution, which I
24 think was actually even on the slide that I presented
25 in discussing price-constraining alternatives, and then

1 the timing and costs of switching products as well.

2 These -- this conceptually is identical. I
3 gave it a different name rather than a sniff test,
4 partly because when I do a sniff test, I tend to
5 actually have data about buyer purchases available to
6 me. Here, I don't actually have the data available
7 about buyer purchases. Instead, I'm having to rely on
8 discussions with engineers and the published record
9 from the time that would indicate the same kinds of
10 concepts; that is, evidence that the buyers have
11 shifted or have considered shifting their choices. But
12 in that sense, I think the language is identical in
13 meaning and intent from my definition.

14 MR. ROYALL: Your Honor, at this time I would
15 move in evidence CX-3094.

16 JUDGE McGUIRE: Mr. Stone, objection?

17 MR. STONE: I do object, Your Honor. I think
18 this is a document which is properly cited as
19 authority, as we would cite a case to Your Honor. I
20 don't think the Guidelines are themselves evidence.
21 This is a legal document published by the FTC, and I
22 think it's -- it can be cited for -- as an authority
23 with respect to antitrust issues, but I don't think
24 it's permissible as an exhibit. It's not evidence.

25 JUDGE McGUIRE: The Court will take notice of

1 the document.

2 MR. STONE: I think that's appropriate, Your
3 Honor.

4 JUDGE McGUIRE: But it will not be entered into
5 the record.

6 MR. ROYALL: Thank you, Your Honor.

7 BY MR. ROYALL:

8 Q. Do you recall, Professor McAfee, that in his
9 questions to you yesterday, Mr. Stone asked you
10 about -- he asked you a hypothetical question about
11 hypothetically what impact, if any, it would have on
12 your assumptions -- let me restate that.

13 He asked you -- Mr. Stone asked you whether it
14 would have any impact on your assumptions --

15 JUDGE McGUIRE: Excuse me, I want to make clear
16 on my last comment that when I said the Court will take
17 notice of the document, it's inferred that I mean
18 judicial type notice other than just it's noted.

19 MR. STONE: Yes, Your Honor.

20 JUDGE McGUIRE: Are we clear on that?

21 MR. STONE: That was my understanding.

22 MR. ROYALL: Thank you, Your Honor. Let me
23 start over again.

24 JUDGE McGUIRE: I'm sorry, Mr. Royall.

25 MR. ROYALL: No, no, I garbled the prior

1 question.

2 BY MR. ROYALL:

3 Q. You were asked yesterday or do you recall being
4 asked yesterday about what, if any, impact it would
5 have on your assumptions if hypothetically Rambus had
6 made disclosures to JEDEC relating to the relevance of
7 its technologies to SyncLink.

8 A. I was asked something about SyncLink,
9 disclosures to SyncLink and those being the same
10 members as JEDEC or something to that effect. I don't
11 recall specifically.

12 Q. And in the course of conducting the factual
13 investigation that you have conducted in developing
14 your assumptions and corroborating the reasonableness
15 of your assumptions, have you reviewed any disclosures
16 that were made by Rambus to JEDEC in reference to
17 SyncLink?

18 A. Yes, I have.

19 Q. Let me --

20 Your Honor, may I approach?

21 JUDGE McGUIRE: Yes.

22 BY MR. ROYALL:

23 Q. Professor McAfee, I have just handed you a
24 document that's been marked as CX-91A. Do you
25 recognize this document?

1 A. Well, I recognize it as JEDEC minutes.

2 Q. This document attaches a number of documents,
3 and if I could point you to a particular attachment,
4 which is on page 13 of the document, page 13 of CX-91A.

5 A. Attachment C, yes.

6 Q. Yes, Attachment C, and do you recognize that
7 document?

8 A. Yeah, I -- I --

9 Q. And by that I mean do you recognize it as
10 something that you have reviewed or considered in
11 connection with your economic analysis in this case?

12 A. I have definitely reviewed it. I recognize it.

13 Q. And the document, as is clear from the record,
14 is a September 11, 1995 letter on Rambus stationery,
15 and do you recall the subject of this letter?

16 A. I'm sorry, I'm really having trouble reading
17 this document. (Document review.) Yes, I remember
18 this document. Do I recall the -- I recall my analysis
19 and the reading of this document.

20 Q. I'm sorry, you said you recall?

21 A. Is there a question -- was I asked a question?
22 I had asked for time just to actually read it, because
23 I had --

24 Q. Well, I can repose the question.

25 Can we pull up DX-230?

1 DX-230 is now on the screen. Do you recall
2 that we discussed this slide as part of your testimony
3 earlier?

4 A. Yes.

5 Q. And this relates to the principal assumptions
6 that you have made relating to the nature of Rambus'
7 challenged conduct?

8 A. Yes, I recall that.

9 Q. And the second bullet point here states,
10 "Rambus failed to disclose relevant IP as required by
11 JEDEC rules/process."

12 Do you see that?

13 A. Yes, I do.

14 Q. Now, then, referring back to the document that
15 you have in your hand, Attachment C to CX-91A, can you
16 explain whether in your view of that document you
17 reached any conclusion as to whether that document was
18 consistent with or in any way inconsistent with the
19 assumption that you made about Rambus' failure to
20 disclose IP to JEDEC?

21 MR. STONE: Your Honor, I object that this is
22 outside the scope of my cross examination. I asked the
23 witness on pages 7549 and 7550 to assume for purposes
24 of my questions that Mr. Crisp had advised JEDEC in the
25 context of talking about SyncLink of Rambus patents so

1 as to establish that he had a certain level of
2 awareness of the patents in the context of the last
3 bullet point on the demonstrative that Mr. Royall just
4 referred to, namely, the risk-taking issue, and the use
5 in this regard, that's not an assumption that we're now
6 going through, that I questioned about.

7 It goes beyond the scope of my cross
8 examination, and the use of this document in that
9 context is also beyond the scope.

10 JUDGE McGUIRE: Mr. Royall?

11 MR. ROYALL: Your Honor, I don't believe it is
12 beyond the scope when Mr. Stone asked the witness about
13 a hypothetical letter, and the witness did consider it
14 an actual letter of the sort that he hypothesized, to
15 then present the witness with that letter and ask him
16 what, if any, conclusions he reached as to whether that
17 affected his assumptions. It seems directly within the
18 scope of his examination.

19 MR. STONE: Your Honor, and if this were asking
20 about the appropriate issue, namely, the last bullet
21 point on the demonstrative, not the second one, I would
22 not be rising in objection to it, but it's beyond the
23 scope of anything I did with that assumption about a
24 letter.

25 JUDGE McGUIRE: Sustained.

1 MR. ROYALL: One moment, Your Honor.
2 Could I confer briefly with Mr. Stone?

3 JUDGE McGUIRE: You may.
4 (Counsel conferring.)

5 BY MR. ROYALL:

6 Q. Let me withdraw the question and the document
7 for the moment, and let's go back to -- to DX-230.

8 We just talked about this slide, Professor
9 McAfee, DX-230, and this relates to the assumptions --
10 principal assumptions that you've made for purposes of
11 your analysis relating to Rambus' challenged conduct.

12 A. Is there a question?

13 Q. I just want to clarify that again for the -- is
14 that correct, that's your understanding?

15 A. That's correct, yes.

16 Q. And as was just noted on the record, Mr. Stone
17 asked you about the last bullet on this page. Do you
18 recall being asked questions about that bullet, which
19 reads, "Rambus was aware of legal risk associated with
20 this conduct (i.e., equitable estoppel)"?

21 A. I recall that series of questions.

22 Q. And do you recall that in the context of those
23 questions or in the context of this bullet point, Mr.
24 Stone asked you about the concept of mistake?

25 A. Yes, that had been part of my direct testimony,

1 and he asked me more than one question about mistakes.

2 Q. And one of the questions he asked you related
3 to the question of whether it's possible for
4 corporations to make mistakes? Do you recall that?

5 A. He did ask that, and I agreed that it was.

6 Q. And in making the assumptions that you made
7 about Rambus' conduct, did you consider the possibility
8 that Rambus itself made mistakes as it relates to the
9 issues in this case?

10 A. I certainly did consider that possibility.

11 Q. When you --

12 JUDGE McGUIRE: All right, I'm confused there.
13 When you say "as it concerns the issues in this case,"
14 I'm not clear -- you are going to have to put it in a
15 clearer context, if only for the Court.

16 MR. ROYALL: Well, I can do that, Your Honor.

17 JUDGE McGUIRE: All right.

18 BY MR. ROYALL:

19 Q. Specifically with reference to this bullet
20 point, which I read into the record a moment ago, the
21 last bullet point on DX-230, did you consider whether
22 Rambus may have made mistakes relating to the potential
23 legal risks associated with its conduct?

24 A. Yes, I did, especially in light of the quote to
25 Mr. David that I actually put in my slides.

1 Q. And as part of the work that you did to develop
2 and corroborate your factual assumptions, did you
3 review evidence relating to that subject?

4 A. I did.

5 Q. Did you see anything in the evidence that you
6 reviewed that caused you to modify this assumption?

7 A. I saw -- I've considered that my assumption was
8 corroborated by a substantial amount of evidence and
9 that I felt comfortable in assuming that Rambus was
10 aware of the legal risks and that this was not just an
11 outcome of a mistake on Rambus' part.

12 MR. ROYALL: May I approach, Your Honor?

13 JUDGE McGUIRE: Yes.

14 BY MR. ROYALL:

15 Q. Professor McAfee, I've just handed you a
16 document that's been marked for identification as
17 CX-1942, and do you recognize this as a document that
18 you reviewed in connection with your economic analysis
19 in this case?

20 A. I do.

21 Q. And is this a document that relates to the
22 issue that we've been discussing; that is, the work
23 that you did to develop your factual assumptions and
24 corroborate your factual assumptions with reference to
25 the legal risks or the assumptions that you made with

1 reference to the legal risks associated with Rambus'
2 conduct?

3 A. It is. My understanding of this document is
4 that these are notes --

5 MR. STONE: Object, Your Honor. The question
6 as framed can be answered yes or no. I think the
7 witness answered it when he said, "It is." I want to
8 preserve, if I might, my ability to object to the
9 interpretation of the document by this witness, which
10 subject to the prior rulings, he may not be permitted
11 to do so.

12 JUDGE McGUIRE: All right, that's sustained,
13 and you can ask your next question.

14 BY MR. ROYALL:

15 Q. To be clear, Professor McAfee, I'm not asking
16 you to offer an interpretation as to what this letter
17 says in terms of the facts of this case or what may or
18 may not be the facts in this case.

19 What I would like to ask you, however, is did
20 your review of this document cause you to modify in any
21 way the conclusions -- or rather, the assumptions that
22 you made that we focused on a moment ago in the prior
23 demonstrative, Exhibit DX-230; namely, the assumption
24 that Rambus was aware of legal risks associated with
25 its challenged conduct?

1 A. I don't know whether I saw this document before
2 I made that assumption or after I made that assumption.
3 I just don't recall today, but it would not cause me to
4 modify it. It may have actually informed my choice of
5 assumption; that is to say, I may have seen it before I
6 made the assumption rather than after. But -- but
7 either way, it certainly does -- it certainly comforts
8 me in my assumption, makes me more comfortable in my
9 assumption.

10 Q. What is it about this document that -- from the
11 standpoint of your own assumptions and developing and
12 corroborating those assumptions -- causes you to have
13 comfort in your assumption?

14 MR. STONE: Your Honor, I would object. This
15 is an effort to have this witness testify to Rambus'
16 state of mind. That's an area covered by Your Honor's
17 in limine. We did not get into it on cross.

18 JUDGE McGUIRE: Right.

19 MR. STONE: The only thing that is permissible
20 here, I believe, in light of Your Honor's in limine is
21 for the witness to state his assumptions about Rambus'
22 state of mind and then the finding of fact on those
23 issues is directed to Your Honor's province, not the
24 subject of expert testimony. So, this witness states
25 his assumptions, and then ultimately you'll determine

1 whether the facts support his assumptions or don't.
2 Whatever evidence this witness relied on or didn't is
3 irrelevant and really is an effort to testify directly
4 to Rambus' state of mind in his opinion.

5 JUDGE McGUIRE: Mr. Royall, you can respond to
6 that.

7 MR. ROYALL: Your Honor --

8 JUDGE McGUIRE: You do understand my prior
9 holding on this issue, I'm sure.

10 MR. ROYALL: Yes, I clearly do, and I'm not
11 asking this witness to testify as to the state of mind
12 of Rambus or anyone else. On the other hand, he was
13 questioned in cross examination about this very
14 assumption and the potential that Rambus had made
15 mistakes and whether that was something that he took
16 into account in forming his assumptions, and I am
17 simply probing that issue, and I -- I would note, and I
18 could cite to the number of cases that were in our
19 prior filings, but it is a perfectly appropriate thing
20 to do --

21 JUDGE McGUIRE: I will entertain the question
22 in the context of my prior rulings on the state of
23 mind.

24 MR. ROYALL: Thank you, Your Honor.

25 BY MR. ROYALL:

1 Q. Professor McAfee, understanding that I am not
2 asking you to interpret the facts and am certainly not
3 asking you to interpret anyone's state of mind, all I'm
4 asking you about is the process that you went through
5 in developing your assumptions and then corroborating
6 those assumptions by review of information in the
7 factual record.

8 The question I had for you, I posed for you, is
9 whether there's anything in this document that caused
10 you either to modify your assumptions or to reach any
11 determination as to whether you were comfortable with
12 the assumptions that you defined for purposes of
13 conducting your economic analysis.

14 A. The answer is yes, that this document was
15 useful in my evaluation of the assumptions. I
16 understand the author of this document, I don't believe
17 is on the record at the moment, to be Lester Vincent,
18 who is an attorney employed by Rambus --

19 JUDGE McGUIRE: All right, hold on there, Mr.
20 McAfee.

21 MR. STONE: Your Honor, this is the witness
22 testifying to what the document means and what it is.

23 JUDGE McGUIRE: Sustained, and that last
24 comment will be stricken from the record.

25 Now, we're not going to go into this too much

1 further, Mr. Royall. If I have any more problems, I am
2 just going to interject and you're off this subject.

3 MR. ROYALL: I understand, Your Honor, and I
4 will -- if I can conclude this -- this --

5 JUDGE McGUIRE: Very delicately.

6 MR. ROYALL: May I have a moment to confer,
7 Your Honor?

8 JUDGE McGUIRE: Go ahead.

9 (Counsel conferring.)

10 MR. ROYALL: Your Honor, with the understanding
11 that your rulings today in terms of the ability to
12 probe factual issues, even relating to assumptions,
13 will extend to Rambus' experts as well, I have no
14 further questions.

15 JUDGE McGUIRE: Well, and my rulings will be I
16 guess whatever I determine them to be at the time, and
17 I strive to be consistent. There may be instances
18 where both sides feel I haven't always been able to
19 achieve that, but your comment otherwise is noted.

20 Okay, Mr. Stone, any further recross?

21 MR. STONE: I have no questions at this time of
22 Professor McAfee.

23 JUDGE McGUIRE: Okay, thank you.

24 Sir, we certainly appreciate your testimony,
25 and you're excused from this proceeding.

1 THE WITNESS: Thank you very much, Your Honor.

2 JUDGE McGUIRE: Thank you, Professor.

3 Then Mr. Royall, did you have any other
4 testimony you wanted to put on this afternoon?

5 MR. ROYALL: The only other testimony, there
6 may have been -- there may be a couple of
7 evidentiary -- minor evidentiary points.

8 MR. STONE: Your Honor, if I might, just while
9 they're working, if I can just raise an issue that's
10 sort of housekeeping.

11 JUDGE McGUIRE: Yes, go ahead.

12 MR. STONE: Because some of the in camera
13 documents came up as early as today, and we had planned
14 to file the motion today, if we could have until early
15 next week --

16 JUDGE McGUIRE: Yes, that's no problem.

17 MR. STONE: Thank you.

18 JUDGE McGUIRE: There is no rush on that.

19 MR. ROYALL: I would, Your Honor, like to mark
20 Professor McAfee's book as a demonstrative exhibit.

21 JUDGE McGUIRE: I have no problem with that.
22 Mr. Stone?

23 MR. STONE: I think copies should be provided
24 by whatever party marks it to all counsel and --

25 JUDGE McGUIRE: Okay, let's see, where are we

1 on the DX numbering scale?

2 THE REPORTER: DX-249, I believe.

3 JUDGE McGUIRE: All right, DX-249, so marked.

4 (DX Exhibit Number 249 was marked for
5 identification.)

6 JUDGE McGUIRE: All right, I asked you earlier,
7 did you have anything else you wanted to offer this
8 afternoon? I wasn't clear what you said.

9 MR. ROYALL: Your Honor, I covered a few
10 exhibits today that I don't think I did move in, and
11 those would be CX-3092, CX-3093, CX-2558 and CX-2561.
12 I don't actually have those in front of me, but I'm
13 told that I failed to --

14 MR. PERRY: Your Honor, if I may intervene, two
15 of those numbers have been used before on some other
16 exhibits. What I would propose is that we work that
17 out over the weekend and that on Monday morning,
18 whatever he wants to offer be offered so that we know
19 what we're doing.

20 JUDGE McGUIRE: That's fine, I have no problem
21 with that.

22 MR. ROYALL: That's fine. With that, I have
23 nothing else.

24 JUDGE McGUIRE: Okay. Now, what's going to be
25 on tap for Monday? I understand you're going to call

1 Mr. Vincent. Is that correct?

2 MR. ROYALL: Oh, I am told that there is
3 something else that we're prepared to do today.

4 MR. WEBER: We are ready to continue with Mr.
5 Karp's reading.

6 JUDGE McGUIRE: You just ruined my plans for an
7 early weekend.

8 MR. WEBER: We can come back on Monday, Your
9 Honor, whatever you want to do.

10 JUDGE McGUIRE: No, I want to -- now, again,
11 this is a -- this can be off the record at this point.

12 (Discussion off the record.)

13 (A brief recess was taken.)

14 JUDGE McGUIRE: Okay, Mr. Weber, proceed.

15 MR. WEBER: In terms of where we are, we
16 finished -- the Infineon video transcript we finished
17 for the record, that was CX-2059. Right now we are in
18 the FTC transcript, which is CX-2114, and last time
19 there was an exhibit that was discussed, and I'd like
20 to offer that into evidence now. It's CX-2955. This
21 was on our initial exhibit list, but it wasn't part of
22 the stipulation. I have a copy for counsel.

23 JUDGE McGUIRE: Any objection?

24 MR. PERRY: No, Your Honor, no objection.

25 JUDGE McGUIRE: Entered.

1 (CX Exhibit Number 2955 was admitted into
2 evidence.)

3 MR. WEBER: We are going to see if we have got
4 the computer situated or set up. We are going to pull
5 up the document that we were about to get to at the
6 last reading, which was CX-1744.

7 JUDGE McGUIRE: How much time do we picture
8 this exercise taking this evening, certainly by 5:00?

9 MR. WEBER: I think more like an hour or an
10 hour and a half maximum. This is a live reading, so we
11 don't have an exact estimate.

12 MR. PERRY: My estimate is 45 minutes, Your
13 Honor.

14 JUDGE McGUIRE: Okay, good.

15 MR. PERRY: I think it's relatively
16 objection-free, but about 20 minutes from now there are
17 some objections that we will have to make.

18 JUDGE McGUIRE: Okay.

19 MR. WEBER: Okay, Your Honor, I think we're
20 ready to proceed. We are going to be reading starting
21 at page 97, lines 19 through 25, and we'll be referring
22 to CX-1744, which the first page is up on the screen.

23 (Whereupon, the transcript citations were read
24 into the record in open court.)

25 MR. WEBER: Okay, there's an in camera issue

1 with 1744, so we will go to 1744A anyway.

2 JUDGE McGUIRE: We are almost in camera anyway,
3 aren't we?

4 MR. WEBER: Yeah, but it excludes the in camera
5 stuff, so we will go to the A version. I assume the
6 page numbers are the same, page 6, and we will be
7 reading from page 100, lines 17 through 25, of the
8 transcript, and if we could pull up at the top of the
9 screen where it says, "Geoff, one on one."

10 (Whereupon, the transcript citations were read
11 into the record in open court.)

12 MR. PERRY: Excuse me, Your Honor, the question
13 as read at the deposition was "1:1," and that's how it
14 should be read.

15 JUDGE McGUIRE: All right, noted. Please
16 restate.

17 MR. WEBER: Sure.

18 (Whereupon, the transcript citations were read
19 into the record in open court.)

20 MR. PERRY: Your Honor, Mr. Weber has
21 misunderstood me. I am not asking him to read all the
22 punctuation. He was -- the document has a colon in it.
23 He told the -- he told you it was "one on one," which
24 has a different meaning. He should just be reading the
25 question that he read before in the deposition.

1 JUDGE McGUIRE: Well, I'll agree. Isn't that
2 what he just did this second time?

3 MR. PERRY: I just thought if he was going to
4 start putting all the punctuation in from the -- we
5 would be here forever.

6 JUDGE McGUIRE: Okay, yeah, I understand. We
7 don't need all the punctuation. Just read it as it
8 goes, Mr. Weber.

9 MR. WEBER: Okay, page 100, line 17.

10 (Whereupon, the transcript citations were read
11 into the record in open court.)

12 MR. WEBER: Now we will read at page 105, lines
13 5 through 13. This doesn't refer to any pages of the
14 document.

15 (Whereupon, the transcript citations were read
16 into the record in open court.)

17 MR. WEBER: Can we go to page 47 of CX-1744,
18 and we will be reading from page 123, line 19, through
19 page 124, line 9. This is one of respondent's
20 designations.

21 (Whereupon, the transcript citations were read
22 into the record in open court.)

23 MR. WEBER: The next excerpt is also from this
24 page, if we could pull up, there's a reference to the
25 last three lines, if we could blow that part up of this

1 page, and we're going to be reading from page 126,
2 lines 2 through 16.

3 (Whereupon, the transcript citations were read
4 into the record in open court.)

5 MR. WEBER: If we could go to the next page,
6 page 48 of CX-1744. Okay, we are going to be reading
7 line 126 -- I'm sorry, I --

8 JUDGE McGUIRE: Yeah, line 23 --

9 MR. WEBER: -- Mr. Perry has pointed out I
10 missed a question and answer, and we will go back to
11 the prior page, if we could put that up.

12 JUDGE McGUIRE: All right, page 126?

13 MR. WEBER: Yeah, I forgot to read the question
14 at line 12 and the answer through line 16. So, we will
15 read that. I'm trying to move too fast, Your Honor. I
16 apologize.

17 (Whereupon, the transcript citations were read
18 into the record in open court.)

19 MR. WEBER: All right, the next excerpt will be
20 on the next page, we will be reading page 126, line 23,
21 through page 127, line 19.

22 (Whereupon, the transcript citations were read
23 into the record in open court.)

24 MR. WEBER: Now, the next excerpt we are going
25 to go to --

1 MR. PERRY: Excuse me, Your Honor.

2 JUDGE McGUIRE: You still have another question
3 and answer there, Mr. Weber.

4 MR. WEBER: No, it's the next page, so I have
5 got to -- that's how I'm handling it. I think I sent
6 you a guys a copy of this.

7 MR. PERRY: It's just you said you were reading
8 through line 19, and I thought you were going to a
9 different page in the transcript.

10 MR. WEBER: No, I'm going to a different page
11 to pull up on the screen.

12 MR. PERRY: I think we both were confused.

13 JUDGE McGUIRE: Yes.

14 MR. WEBER: If we could pull up page 52 of
15 CX-1744, please, and now we will be reading from page
16 127, line 20, through 130, line 8, the rest of this
17 excerpt.

18 (Whereupon, the transcript citations were read
19 into the record in open court.)

20 MR. WEBER: Now we're going to go to page 92 of
21 CX-1744, and the next excerpt, which is page 134, line
22 3, through page 135, line 11.

23 (Whereupon, the transcript citations were read
24 into the record in open court.)

25 MR. WEBER: Could we move ahead on the document

1 to page 94 of CX-1744, and this is Bates ending 758.
2 We are going to be reading from page 136, lines 1
3 through 24.

4 (Whereupon, the transcript citations were read
5 into the record in open court.)

6 MR. WEBER: Next we are going to be at page 104
7 of CX-1744, and we'll be reading from page 138, line
8 11, stopping at page 140, line 7, then we'll move on to
9 another page of the document. So, starting at page
10 138, line 7.

11 (Whereupon, the transcript citations were read
12 into the record in open court.)

13 MR. WEBER: Okay, we are going to move on to
14 page 122 of CX-1744, and we're going to be reading from
15 page 140, lines 8 through 24, and then we'll go on to
16 another page after that.

17 (Whereupon, the transcript citations were read
18 into the record in open court.)

19 MR. WEBER: Now we're going to page 126 of
20 CX-1744, and continuing on page 140, line 25, through
21 page 143, line 10.

22 (Whereupon, the transcript citations were read
23 into the record in open court.)

24 MR. WEBER: Next designation is from page 136
25 of CX-1744, and this is respondent's designation. We

1 will be reading at page 144, line 7, through 145, line
2 14.

3 (Whereupon, the transcript citations were read
4 into the record in open court.)

5 MR. WEBER: Next we're going to page 141 in
6 CX-1744, and we will be reading in from the transcript
7 at lines -- at page 146, line 7, through 147, line 16.

8 (Whereupon, the transcript citations were read
9 into the record in open court.)

10 MR. WEBER: Next we'll be going to page 150 of
11 CX-1744, which includes designations from both parties,
12 and we will be reading from CX -- from page 149, line
13 16, through page 150, line 14.

14 (Whereupon, the transcript citations were read
15 into the record in open court.)

16 MR. WEBER: Next we will be looking at page 161
17 of CX-1744A, and this excerpt, we will be reading from
18 page 152, line 13, through page 155, line 1, and then
19 we will be going to something else in the transcript.

20 (Whereupon, the transcript citations were read
21 into the record in open court.)

22 MR. WEBER: Now we are going to go to a
23 different document, but before we do, I would like to
24 offer CX-1744A. I believe CX-1744 is in, but because
25 parts are in camera and CX-1744A is the public portions

1 of the document, we would like to offer that.

2 MR. PERRY: No objection.

3 JUDGE McGUIRE: Entered.

4 (CX Exhibit Number 1744A was admitted into
5 evidence.)

6 MR. WEBER: Now we are going to go to a
7 different document that is CX-1040 -- actually, I need
8 to -- yeah, CX-1040, if we could get that up on the
9 screen, and we're going to be reading from page 155,
10 line 2, through page 156, line 18, and then we'll be on
11 a different document at that point.

12 (Whereupon, the transcript citations were read
13 into the record in open court.)

14 MR. WEBER: Now we're going to have another
15 document, which is CX-1264, and we're going to be
16 reading from page 156, line 19, through page 157, line
17 4.

18 (Whereupon, the transcript citations were read
19 into the record in open court.)

20 MR. WEBER: Now we are going to be on the same
21 document, page 157, line 25, through page 158, line 14.

22 (Whereupon, the transcript citations were read
23 into the record in open court.)

24 MR. WEBER: The next excerpt we will read will
25 be at page 159, line 19, reading through page 161, line

1 16.

2 (Whereupon, the transcript citations were read
3 into the record in open court.)

4 MR. WEBER: Next we are going to have a series
5 of short designations on -- starting at page 161, line
6 25, continuing through page -- actually, 161, line --
7 164, line 18. This includes designations by both
8 sides.

9 (Whereupon, the transcript citations were read
10 into the record in open court.)

11 MR. WEBER: The next excerpt will be page 165,
12 line 5, through page 166, line 2, again with
13 designations from both sides.

14 (Whereupon, the transcript citations were read
15 into the record in open court.)

16 MR. WEBER: Now we're going to be reading from
17 page 166, lines 15 through 23.

18 (Whereupon, the transcript citations were read
19 into the record in open court.)

20 MR. WEBER: The next excerpt we have is page
21 167, lines 4 through 16. It starts with actually the
22 witness restating the question.

23 (Whereupon, the transcript citations were read
24 into the record in open court.)

25 MR. PERRY: Excuse me, but it's a clarification

1 of the question, and I think it's appropriate for me to
2 be Mr. Stone and say so.

3 MR. WEBER: All right.

4 (Whereupon, the transcript citations were read
5 into the record in open court.)

6 MR. WEBER: Now we move on to the next
7 designation, which is page 167, line 18, through page
8 169, line 22.

9 (Whereupon, the transcript citations were read
10 into the record in open court.)

11 MR. WEBER: If we could pull up on the screen
12 and go back to CX-1040, and I think it's page 2,
13 actually, where it says, "D, Legal Files."

14 (Whereupon, the transcript citations were read
15 into the record in open court.)

16 MR. WEBER: Okay, another excerpt at page 170,
17 lines 10 through 15.

18 (Whereupon, the transcript citations were read
19 into the record in open court.)

20 MR. WEBER: The next excerpt is from page 171,
21 lines 3 through 25.

22 (Whereupon, the transcript citations were read
23 into the record in open court.)

24 MR. WEBER: If we could pull up paragraph E of
25 the same document.

1 (Whereupon, the transcript citations were read
2 into the record in open court.)

3 MR. WEBER: Page 174, lines 9 through 17.

4 (Whereupon, the transcript citations were read
5 into the record in open court.)

6 MR. WEBER: Now we're moving ahead to page 182,
7 line 7, through page 183, line 7.

8 (Whereupon, the transcript citations were read
9 into the record in open court.)

10 MR. WEBER: Now we're going to be getting to
11 another exhibit. Could we pull up CX-1031 on the
12 screen, please? And we will be reading from page 183,
13 line 11, to page 185, line 13.

14 (Whereupon, the transcript citations were read
15 into the record in open court.)

16 MR. WEBER: We need to go back to CX-1040 for a
17 counter-designation. This is going to be page 186,
18 lines 1 through 17, and the question relates to or the
19 comment is going to relate to part C, if you could pull
20 that up at the bottom of the page.

21 (Whereupon, the transcript citations were read
22 into the record in open court.)

23 MR. WEBER: Now we're going to be moving on to
24 some general questions without -- or at least this next
25 excerpt will be without reference to specific

1 documents, page 198, lines 8 through 21.

2 MR. PERRY: Excuse me. Your Honor, we have
3 objections to a series of questions over the next few
4 pages, and they relate to the effort by complaint
5 counsel to show the witness documents he hadn't seen
6 before, patent applications, and had him explain what's
7 in them, and there's been -- you have dealt with this
8 issue before with various witnesses. They are
9 documents that predated his employment with Rambus, and
10 he's simply being asked to interpret them, as he says
11 in the deposition, on the fly, and we have objections
12 to those questions.

13 JUDGE McGUIRE: All right, response?

14 MR. WEBER: A couple of responses. First of
15 all, at one point in the deposition -- and we may get
16 to it when I read it -- I asked him if he was
17 comfortable answering the questions, and he said yes.
18 Number two, this was directly related to his work at
19 Rambus. This was part of his job responsibilities, so
20 I believe there was a proper foundation for this line
21 of questioning that he was involved in interpreting
22 claims, reading claims, working on patent prosecution
23 and actually amending claims and the like.

24 MR. PERRY: There is no testimony that it was
25 part of his job responsibility to go back to patent

1 applications that had been filed years before and
2 examine them. He says he was comfortable with the
3 technology, Your Honor. He said he was doing it on the
4 fly. There was no foundation laid --

5 JUDGE McGUIRE: Sustain the objection.

6 MR. WEBER: And so we will not read any of page
7 198. We will continue to page 199, lines 6 through 21.
8 I believe there's no objection to this excerpt.

9 MR. PERRY: To that one, that's correct.

10 MR. WEBER: And we need to see CX-1517.

11 (Whereupon, the transcript citations were read
12 into the record in open court.)

13 MR. WEBER: Okay, then we had a question about
14 the document at page 201, line 23, through 202, line
15 12.

16 Objection to this?

17 MR. PERRY: No.

18 (Whereupon, the transcript citations were read
19 into the record in open court.)

20 MR. WEBER: The next excerpt is -- is this
21 something you are going to object to, Steve?

22 MR. PERRY: Yes, sir.

23 MR. WEBER: Same grounds as before?

24 MR. PERRY: Yes, sir.

25 JUDGE McGUIRE: Is it on the same grounds?

1 MR. PERRY: Yes, Your Honor.

2 MR. WEBER: It would be the same grounds. So,
3 given Your Honor's previous ruling, we will move on.

4 JUDGE McGUIRE: It's the same finding, then.
5 Sustained.

6 MR. WEBER: Okay, we are going to skip the next
7 counter-designation in light of Your Honor's ruling, so
8 we will move to the next one, see if there's an issue
9 here.

10 Well, Your Honor, this is different, because
11 this relates to an issued patent.

12 JUDGE McGUIRE: What page are we talking about?

13 MR. WEBER: We're talking about page 211 to
14 212. I don't know if he's going to maintain the same
15 objection, but I would argue this is different because
16 it was an issued patent, so it was part of the Rambus
17 patent portfolio.

18 JUDGE McGUIRE: Okay, I'll hear the objection.

19 MR. PERRY: Yes, Your Honor, there was no
20 foundation laid in the deposition that he had had any
21 role in analyzing this patent. All he's doing is
22 pointing him to a claim and asking him to explain it.
23 That's all he's doing, and that's not part of his job
24 at Rambus.

25 MR. WEBER: The -- may I be heard, Your Honor?

1 JUDGE McGUIRE: Yes.

2 MR. WEBER: The question at line 22 of page
3 211, "Have you seen this patent before?"

4 "ANSWER: Yes."

5 So, I laid the foundation.

6 JUDGE McGUIRE: Overruled. I will hear the
7 question.

8 MR. PERRY: He has seen it before, Your Honor.
9 There was no foundation laid that he had any role in
10 anything that led up to its issuance. Its issuance
11 predated his arrival at Rambus. So, there was no
12 foundation laid that he ever analyzed the claims before
13 or he could say what the claims covered.

14 JUDGE McGUIRE: All right, overruled. I will
15 hear the question.

16 MR. WEBER: If we could get the patent,
17 CX-1494, up on the screen, and I think the questions
18 will relate to page 23, which will be claim 1 on the
19 left-hand side of the page.

20 Starting at page 211, line 19, through 212,
21 line 24.

22 (Whereupon, the transcript citations were read
23 into the record in open court.)

24 MR. WEBER: The next is a counter-designation
25 from respondents that they wanted read in if the prior

1 objections were overruled, and we have an objection
2 that the answer is nonresponsive. So, we are at page
3 213, lines 13 through 22. I guess we're asking for
4 some guidance from Your Honor.

5 JUDGE McGUIRE: What's the issue again?

6 MR. PERRY: Well, what happened is the witness
7 said, "Didn't I just say that?"

8 JUDGE McGUIRE: Yes.

9 MR. PERRY: And then Mr. Weber said, "Can you
10 answer my question? It's very simple."

11 So, now we're going to hear the answer to his
12 question.

13 JUDGE McGUIRE: All right, that's sustained.

14 MR. PERRY: I'm sorry, Your Honor, that --

15 JUDGE McGUIRE: Oh, I'm sorry, overruled. I
16 was thinking it was your objection. It's his
17 objection. We will overrule the objection.

18 MR. WEBER: Okay, we will be happy to read it
19 in.

20 JUDGE McGUIRE: It's that late.

21 MR. WEBER: Okay, we are going to read it in.

22 JUDGE McGUIRE: Wait a minute, didn't I just
23 say that was overruled?

24 MR. PERRY: Yes, it was his objection to our
25 desire to actually hear the answer to the question.

1 JUDGE McGUIRE: Okay, I'm sorry, let's go back.
2 I was confused.

3 MR. PERRY: If I could explain, Your Honor.

4 JUDGE McGUIRE: Let's start over.

5 MR. PERRY: On page 212, the question is,
6 "Would it be fair to say that claim 1 describes a dual
7 edge clocking system on a DRAM?"

8 Mr. Karp says, "I think -- didn't I just say
9 that?"

10 And then there's colloquy between counsel, and
11 Mr. Weber says, "Can you answer my question? It's very
12 simple."

13 MR. WEBER: Can I be heard, Your Honor?

14 MR. PERRY: And their objection is that
15 something's nonresponsive, and it's not clear to me
16 what he's saying is nonresponsive.

17 MR. WEBER: There's a question up there at the
18 top that you didn't catch.

19 MR. PERRY: Oh, I thought -- but you didn't
20 designate that, Counsel.

21 MR. WEBER: Right, I didn't designate it. You
22 counter-designated, but you didn't give the full
23 context and have the question at the top.

24 MR. PERRY: Let's read that, then. "So, your
25 answer would be yes?" And then it's the same question

1 you're asking. "So, would it be fair to say that claim
2 number 1 describes a dual edge clocking system?"

3 MR. WEBER: Your Honor, I am happy to
4 short-circuit this. Let's just read everything in on
5 these pages.

6 MR. PERRY: That's fine.

7 MR. WEBER: Page 213, line 1, just to get the
8 context.

9 (Whereupon, the transcript citations were read
10 into the record in open court.)

11 MR. WEBER: And we had a counter to that
12 designation, and the question is at line 24 of page 213
13 through line 3 of 214. Let me just make sure I got the
14 right page. Page 213, line 24, through page 214, line
15 3.

16 (Whereupon, the transcript citations were read
17 into the record in open court.)

18 MR. WEBER: Next we have a -- some
19 counter-designations that we have an objection to, and
20 there's a question that leads into it at page 218 --

21 MR. PERRY: Those are withdrawn. Let's
22 withdraw 218, withdraw 219, withdraw 220 and move
23 forward.

24 MR. WEBER: Thank you.

25 Now we move forward all the way to page 246,

1 and there's a foundation objection again.

2 MR. PERRY: Yes.

3 MR. WEBER: Okay, I'll withdraw 246.

4 JUDGE McGUIRE: Boy, I'm -- it's really great
5 to see --

6 MR. PERRY: It is Friday afternoon, Your Honor.

7 THE WITNESS: Your Honor, it's my birthday. I
8 am trying to leave as fast as possible.

9 MR. WEBER: Here's what we have left, Your
10 Honor: We have a series of questions that were at the
11 end of my examination that were asked by counsel for
12 Rambus. I don't know if Mr. Perry wants to read them
13 in or me to read them in. I'm happy to do it, but we
14 do have some objections and we have designated some
15 ourselves.

16 JUDGE McGUIRE: Well, I'm not --

17 MR. PERRY: I don't particularly care about
18 reading them in. You guys are doing great. Go ahead.

19 MR. WEBER: Okay. Well, we have got objections
20 to the first couple of them. It's at page 276, Your
21 Honor.

22 JUDGE McGUIRE: Okay.

23 MR. WEBER: And our first couple of objections
24 are what we call outside the scope of designated
25 testimony. As you're aware, the rule on

1 designations -- for designating a party opponent, they
2 have the right to counter-designate what's only in
3 fairness as responding to our designations. So, I
4 think these first two questions are outside the scope
5 of what we designated, and we're looking specifically
6 at page 276, line 15, through 277, line 1. We have
7 that objection.

8 JUDGE McGUIRE: Mr. Perry, how is it in the
9 scope?

10 MR. PERRY: Your Honor, I think this is well
11 within the scope, if not of what we've heard today but
12 what we've heard before, and I think that should as
13 well be the rule when we're talking about depositions
14 that stretch over time, that you shouldn't have to have
15 something within the scope if it's during the same day.
16 It's very short.

17 JUDGE McGUIRE: All right, I'll hear the
18 questions.

19 MR. WEBER: Okay, question at 276, line 15, and
20 will continue to 277, line 1.

21 (Whereupon, the transcript citations were read
22 into the record in open court.)

23 MR. WEBER: Okay, then we have another question
24 and answer. We've objected both on the scope grounds
25 but also lack of foundation, so Your Honor, the

1 question is -- the excerpt is page 277, lines 13
2 through 23.

3 MR. PERRY: Withdrawn.

4 JUDGE McGUIRE: All right.

5 MR. WEBER: Next we have our part of Mr.
6 Stone's questions. We designated a couple questions of
7 our own. This is page 281, lines 14, through page 228,
8 line 11. So, I just -- if we could read that.

9 (Whereupon, the transcript citations were read
10 into the record in open court.)

11 MR. WEBER: Now we have the counter-
12 designation, which would be page 282, line 13, through
13 page 284, line 5.

14 (Whereupon, the transcript citations were read
15 into the record in open court.)

16 MR. WEBER: Okay, next we have another
17 counter-designation. It's going to be page 285, line
18 4, through page 286, line 1. Is that -- is this --

19 MR. PERRY: Line 1.

20 MR. WEBER: Okay.

21 MR. PERRY: That's okay, we can withdraw it.
22 Withdraw 285.

23 MR. WEBER: Your Honor, you can see we're
24 getting to the end of this.

25 Next I have a -- there's something at page 293.

1 It goes on for several pages. We have objections to
2 this testimony. It's page 293, line 22. There's an
3 exhibit that was marked. It continues through page
4 295, line 18. This also relates to something I think
5 we have already read in from the Infineon transcript,
6 so at this point I think it's somewhat cumulative.

7 JUDGE McGUIRE: Mr. Perry, did you want to add
8 to that?

9 MR. PERRY: Well, I must admit that I don't
10 know if there are bits and pieces of this that are
11 cumulative. It may well be that since this is only
12 about ten minutes, it may be best that we start Monday
13 morning with this if he really is going to pursue that
14 particular objection, which, of course, understandably
15 was not made in the margin.

16 JUDGE McGUIRE: Right.

17 MR. PERRY: But I would -- I would want to make
18 sure that, in fact, the points that we want are indeed
19 in the record before Your Honor makes a ruling on that,
20 and I didn't know it was going to come up.

21 JUDGE McGUIRE: Right, right.

22 MR. WEBER: For the record, Your Honor, the
23 objections in the margin were outside the scope of
24 designated testimony and it's also hearsay, and two the
25 of the questions were leading, and I made an

1 appropriate form objection as was required by the FTC
2 rules at the time.

3 JUDGE McGUIRE: Let's save some time. Let's go
4 through it, and then I'll entertain the objections per
5 question. I don't want to come back on this again on
6 Monday and find out whether this has already been in
7 the record or not.

8 MR. WEBER: Okay.

9 MR. PERRY: All right.

10 JUDGE McGUIRE: Let's just hear each question
11 and I'll rule as we go.

12 (Whereupon, the transcript citations were read
13 into the record in open court.)

14 MR. WEBER: The question on page 294 that we
15 objected to as outside the scope and hearsay is --

16 JUDGE McGUIRE: How is it hearsay?

17 MR. WEBER: It's hearsay because Mr. Karp is
18 not in court and he is not a party opponent to them
19 when they are offering it. So, it would be hearsay.
20 The document is hearsay.

21 MR. PERRY: Your Honor, there was no objection
22 made at the deposition to the mere identification of
23 the document, and certainly under Rule 3.33, there
24 needed to be one, so --

25 JUDGE McGUIRE: All right, overruled.

1 (Whereupon, the transcript citations were read
2 into the record in open court.)

3 MR. PERRY: May we request that RX-217 be put
4 up on the screen?

5 JUDGE McGUIRE: All right, let me -- just so I
6 haven't screwed this up, when you said it's outside the
7 scope and hearsay, that's your objection, right?

8 MR. WEBER: Yes, Your Honor.

9 JUDGE McGUIRE: Then I just overruled that
10 objection, but yet you're going into the next question.
11 Is that what we're doing here?

12 MR. WEBER: I think since Your Honor overruled
13 it, we're reading it into the record.

14 JUDGE McGUIRE: Okay -- oh, right. It's really
15 getting late. I'm sorry.

16 MR. PERRY: It is. And moreover, I have to say
17 it's raining as well.

18 JUDGE McGUIRE: Well, all right, I just want to
19 be sure that I know what I'm doing.

20 MR. PERRY: And it's the witness' birthday,
21 but --

22 THE WITNESS: It's my birthday.

23 JUDGE McGUIRE: Oh, my goodness.

24 (Discussion off the record.)

25 MR. WEBER: I am going to read this in, right?

1 I want to make sure I've got this right. The question
2 is at 294, line 2.

3 (Whereupon, the transcript citations were read
4 into the record in open court.)

5 MR. WEBER: Then the question that I have an
6 objection to is, "As best you can recall, did you
7 capture in these notes the -- accurately the substance
8 of the conversation or the --"

9 JUDGE McGUIRE: Sustained -- oh, I thought we
10 were talking about the new objection.

11 MR. WEBER: It is a new -- the objection is
12 going to be leading, Your Honor, when we get to it.

13 (Whereupon, the transcript citations were read
14 into the record in open court.)

15 MR. WEBER: I preserved a form objection. So,
16 the objection is leading.

17 JUDGE McGUIRE: And that's sustained.

18 MR. PERRY: Your Honor, I appreciate that. I
19 don't think that just saying "objection to the form of
20 the question" preserves the objection.

21 JUDGE McGUIRE: No, it is leading at this
22 point, so I am sustaining it on that basis.

23 MR. PERRY: I appreciate that.

24 JUDGE McGUIRE: All right.

25 MR. WEBER: The next question and answer, we

1 have the same objection, outside the scope and hearsay
2 objection. This is page 295, lines 3 through 18, if
3 you want to look at it, Your Honor. There's also a
4 form objection, but I'm going to just stick to the
5 outside the scope and hearsay at this point.

6 JUDGE McGUIRE: All right, Mr. Perry, the same
7 response on the scope question?

8 MR. PERRY: Well --

9 JUDGE McGUIRE: Or is this a new outside the
10 scope issue?

11 MR. PERRY: Your Honor, I'm not sure what the
12 outside the scope bit is since he's already said there
13 was discussion of this in Infineon. I don't -- in the
14 Infineon deposition. If certainly that was him or --
15 you know, obviously Infineon, I hope, but counsel for
16 Infineon who put this document in front of the witness,
17 and so there has already been a designation by someone,
18 so it's not outside the scope. I just don't remember
19 who did those earlier designations. So, I don't
20 believe it's outside the scope.

21 JUDGE McGUIRE: All right. Do you also have an
22 objection on hearsay?

23 MR. WEBER: Yes, Your Honor.

24 JUDGE McGUIRE: I'm going to uphold it on the
25 hearsay ground.

1 MR. WEBER: Then the next question and answer,
2 we actually have three objections, outside the scope,
3 hearsay and lack of foundation, and this is the
4 question at page -- line 20 of page 295, and the answer
5 continues to page 296, line 17.

6 JUDGE McGUIRE: I'll also uphold that objection
7 on hearsay grounds.

8 MR. WEBER: Next we have another document that
9 was marked by Mr. Stone, and we have I think the same
10 objection, hearsay and outside the scope. The document
11 is marked at page 296, line 19, but the designated
12 testimony that we object to starts at page 297, line 17
13 and continues through page 298, line 25, at the bottom
14 of 298.

15 JUDGE McGUIRE: All right, you are saying that
16 is, what, hearsay?

17 MR. WEBER: And also outside the scope of
18 anything we've designated. He is just marking an
19 exhibit and trying to get some testimony on it. It's
20 nothing that was used in our designations.

21 JUDGE McGUIRE: Did you want to respond?

22 MR. PERRY: Your Honor, I think it's
23 appropriate for the witness to be able to identify the
24 document. He identified it as his notes.

25 MR. WEBER: Your Honor, they have Mr. -- I'm

1 sorry.

2 JUDGE McGUIRE: Go ahead, Mr. Perry.

3 MR. PERRY: And since he was present for this
4 and he's talking about his understanding of what
5 happened at this meeting, we've heard a lot of
6 testimony over the past eight weeks elicited by
7 complaint counsel about people's understanding of what
8 was being said at meetings, and if the rule had been we
9 couldn't do that, we would all be home by now.

10 MR. WEBER: Your Honor, may I respond?

11 JUDGE McGUIRE: Yes.

12 MR. WEBER: They have Mr. Karp on their witness
13 list. If they want to get his understanding of these
14 documents in evidence, they can call him in their case
15 in chief.

16 MR. PERRY: Well, but when witnesses were on
17 the stand, they were allowed to be asked these
18 questions, so the objection he's making has been
19 overruled before, so I don't -- it's -- the fact that
20 he's on the witness list doesn't mean anything.

21 JUDGE McGUIRE: All right, overruled.

22 MR. WEBER: Okay, Your Honor, we will then
23 start reading from page 296, lines 19 through 21, and I
24 don't know if you know what RX this is. We'll be happy
25 to put it up on the screen for you.

1 MR. PERRY: 307, please.

2 MR. WEBER: RX-307.

3 (Whereupon, the transcript citations were read
4 into the record in open court.)

5 MR. WEBER: Now we get to the rest of the
6 designation on this document, which is at page 297,
7 line 17, through page 298, line 25, then we go on to a
8 different document after that.

9 (Whereupon, the transcript citations were read
10 into the record in open court.)

11 MR. WEBER: Now we move on to the next
12 document --

13 MR. PERRY: We would move Exhibit RX-307 into
14 evidence.

15 MR. WEBER: It's hearsay, Your Honor. It's a
16 hearsay document.

17 MR. PERRY: Excuse me.

18 (Counsel conferring.)

19 MR. WEBER: Okay, counsel has reminded me of
20 something. We will not object to this document at this
21 time.

22 JUDGE McGUIRE: Entered, entered.

23 (RX Exhibit Number 307 was admitted into
24 evidence.)

25 MR. WEBER: Now we go to one we don't have an

1 objection, and this one I believe is RX-1220, if we can
2 pull that up on the screen. Is that right, 1220?

3 MR. PERRY: 388? RX-388.

4 MR. WEBER: This sure isn't it. Okay, RX-388,
5 let's see if that's it. Oh, I'm a document ahead,
6 okay. By the way, this is lines -- page 299, line 7,
7 through page 301, line 4 we're reading from, Your
8 Honor.

9 (Whereupon, the transcript citations were read
10 into the record in open court.)

11 MR. WEBER: Now we move on to another document
12 we haven't objected to -- do you know the RX number?

13 MR. PERRY: RX-411.

14 MR. WEBER: 411. So, we will be reading from
15 page 301, line 2, through 302, line 1.

16 (Whereupon, the transcript citations were read
17 into the record in open court.)

18 MR. WEBER: Next we have --

19 MR. PERRY: We would move into evidence RX-411.

20 MR. WEBER: No objection, Your Honor.

21 JUDGE McGUIRE: Entered.

22 (RX Exhibit Number 411 was admitted into
23 evidence.)

24 MR. WEBER: Next we have RX-437. Okay, we are
25 going to be reading from page 303, lines 13 through 25.

1 (Whereupon, the transcript citations were read
2 into the record in open court.)

3 MR. WEBER: Now we're moving on to Exhibit 39,
4 which I think I've got right, is RX-1220 -- no?

5 MR. PERRY: 499.

6 MR. WEBER: 499. 1220's coming up, Your Honor.

7 RX-499, put that on the screen. We'll be
8 reading from page 304, line 11, through page 30 -- we
9 actually have an objection at 308, so I'll read --

10 MR. PERRY: I'll withdraw 308.

11 MR. WEBER: Okay, so we'll read to 308, line 1,
12 which is I think the answer from 307.

13 (Whereupon, the transcript citations were read
14 into the record in open court.)

15 MR. WEBER: Okay, if we can pause for a minute,
16 we need to get the exhibit on the screen.

17 MR. PERRY: RX-2153 is what we're talking about
18 on page 305 of the transcript.

19 MR. WEBER: Okay, 2153.

20 MR. PERRY: That's the handout.

21 MR. WEBER: Okay. Why don't we try page 13,
22 see if that's it.

23 MR. PERRY: It's actually fine if you can just
24 put the first page up. Let's move through it.

25 MR. WEBER: Okay. We are going to continue

1 reading at 305, line -- I actually don't know where we
2 stopped. Line 23?

3 MR. PERRY: Go for it.

4 (Whereupon, the transcript citations were read
5 into the record in open court.)

6 MR. WEBER: That takes us to page 308, line 1.
7 I think the next question and answer have been
8 withdrawn, but we will continue at page 308, line 12,
9 excuse me, through 309, line 22 on the same topic.

10 (Whereupon, the transcript citations were read
11 into the record in open court.)

12 MR. PERRY: We can withdraw the rest on that
13 page as cumulative. That's page 309.

14 MR. WEBER: And finally, we will read from 310,
15 lines 7 through 19, and this is I believe RX-1220, and
16 this is our designation, if we can put that on the
17 screen.

18 MR. PERRY: And by the way, when I was speaking
19 of page 309, we withdrew our designations on page 309,
20 lines 14 through 22.

21 JUDGE McGUIRE: Noted.

22 MR. WEBER: Moving ahead to page 310, lines 7
23 through 19.

24 (Whereupon, the transcript citations were read
25 into the record in open court.)

1 MR. WEBER: Finally, Your Honor, there is just
2 a couple more questions and answers that I asked at the
3 end when Mr. Stone was finishing on some of the subject
4 matter he covered. So, we will be reading from page
5 311, line 22, through 312, line 20, and that will be
6 the last designation for today.

7 (Whereupon, the transcript citations were read
8 into the record in open court.)

9 MR. WEBER: So, we are through with that
10 transcript. We have the Micron transcript, which is on
11 video, to go, and we'll try to queue that up for you on
12 Monday.

13 JUDGE McGUIRE: Okay, very good.

14 This hearing will be adjourned until 9:30 on
15 Monday. Everybody have a good weekend.

16 Off the record.

17 (Whereupon, at 4:30 p.m., the hearing was
18 adjourned.)

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1 C E R T I F I C A T I O N O F R E P O R T E R

2 DOCKET NUMBER: 9302

3 CASE TITLE: RAMBUS, INC.

4 DATE: JUNE 27, 2003

5

6 I HEREBY CERTIFY that the transcript contained
7 herein is a full and accurate transcript of the notes
8 taken by me at the hearing on the above cause before
9 the FEDERAL TRADE COMMISSION to the best of my
10 knowledge and belief.

11

12 DATED: 6/30/03

13

14

15 SUSANNE BERGLING, RMR

16

17 C E R T I F I C A T I O N O F P R O O F R E A D E R

18

19 I HEREBY CERTIFY that I proofread the
20 transcript for accuracy in spelling, hyphenation,
21 punctuation and format.

22

23

24 DIANE QUADE

25