

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
TYLER DIVISION

COMMONWEALTH SCIENTIFIC AND)
INDUSTRIAL RESEARCH)
ORGANISATION, INC.) DOCKET NO. 6:06cv324

-vs-)

BUFFALO TECHNOLOGY, INC.,) Tyler, Texas
ET AL) April 14, 2009
8:50 a.m.

MICROSOFT CORPORATION, ET AL)
DOCKET NO. 6:06cv549

-vs-)

COMMONWEALTH SCIENTIFIC AND)
INDUSTRIAL RESEARCH)
ORGANISATION, INC.)

COMMONWEALTH SCIENTIFIC AND)
INDUSTRIAL RESEARCH)
ORGANISATION, INC.) DOCKET NO. 6:06cv550

-vs-)

TOSHIBA AMERICA, ET AL)

INTEL CORPORATION, ET AL)
DOCKET NO. 6:06cv551

-vs-)

COMMONWEALTH SCIENTIFIC AND)
INDUSTRIAL RESEARCH)
ORGANISATION, INC.)

TRANSCRIPT OF TRIAL
BEFORE THE HONORABLE LEONARD DAVIS,
UNITED STATES DISTRICT JUDGE, AND A JURY,

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P R O C E E D I N G S

THE COURT: All right. I understand the parties may have a matter or two before we bring the jury in.

MR. VAN NEST: That's correct, Your Honor. Good morning.

THE COURT: Good morning.

MR. VAN NEST: I just have two matters. One is just at point of clarification that has to do with witness scheduling. We're about to begin our validity case today and then, of course, CSIRO will have an opportunity to put on a response to that.

I have one or possibly two witnesses that I think are just rebuttal to whatever they do on invalidity. And I don't want to be in a situation where -- where I don't get any rebuttal on validity.

It's not clear from the opening exactly how much they're going to do on some of these issues. I don't want to present witnesses in my case-in-chief that really aren't responding to anything that CSIRO is planning to present.

So I just want to be sure that under the Court's understanding if I have true rebuttal to their invalidity response, I'll have an opportunity to present that after they've presented their opposition?

1 MR. FURNISS: That was not my
2 understanding, Your Honor. I thought we were going to
3 go plaintiff, defendant, plaintiff, but if it's true
4 rebuttal. Now, both of the witnesses that I've
5 identified relate to a witness who is in fact coming.

6 THE COURT: I'm sorry, what?

7 MR. FURNISS: They relate to a witness
8 who is going to be here and is on his way here, so I
9 don't think there's an ambiguity about whether Dr. Bantz
10 is going to testify or not.

11 MR. VAN NEST: My problem, Your Honor, is
12 I'm not sure how much Dr. Bantz, that's their witness,
13 is going to do or exactly what he's going to do. He has
14 filed a report. But it's not clear from the openings
15 how much he's going to do. And I don't want to put
16 witnesses on in my case now that are sort of irrelevant
17 until Dr. Bantz has testified.

18 It's true rebuttal, but I just didn't
19 want to surprise the Court.

20 THE COURT: If it's rebuttal, I'll allow
21 it. If it's not, I won't.

22 MR. VAN NEST: Fair enough.

23 The other question, Your Honor, has to do
24 with trial time. After Friday when the defendant
25 stipulated on infringement, we cut our list down, as you

1 noted. But it was down substantially above the 16 hours
2 that Your Honor has now allowed. That was on -- just on
3 our direct evidence.

4 So last night the CIG group met and I
5 asked everybody to help pare down the list and we have
6 done what we could. My concern is that with our elapsed
7 time and the time that we expect, we're going to be
8 running within an hour or two of that 16-hour limit
9 without any cross-exam of their case.

10 And what I'm concerned about is they've
11 got seven witnesses listed on their invalidity response,
12 six of them are significant, one of them is very --
13 fairly short. And I am uncomfortable with the current
14 state of affairs. Not that it couldn't change, but I'm
15 very worried that with the witness plan we have, even
16 cutting everybody, except our preliminary invalidity
17 expert, to 30 minutes or less, with one exception, I'm
18 running right up to it.

19 So my question was -- and I don't think
20 we need an answer immediately. But I would request that
21 Your Honor add three hours to each side's presentation,
22 which would still allow us to keep your commitment to
23 the jury, which I agree is important. If we added three
24 hours to each side, then we would have -- we would have
25 within that the time we need to do the

1 cross-examinations we need and present our defense
2 fully. We would still, I think, be concluding evidence
3 by the end of the day Monday and have the jury out of
4 here by the middle of the week.

5 THE COURT: Response?

6 MR. FURNISS: We're happy with the 16
7 hours, Your Honor.

8 THE COURT: Well, what I based that on,
9 though, Mr. Van Nest, was you had originally estimated
10 30.5 hours and then you cut that to 19.5. And -- or you
11 cut that to 19. And that was a 40 percent increase.

12 So I thought I was being fairly
13 charitable by just cutting it a third or 33 percent from
14 what I had given you previously.

15 MR. VAN NEST: I understand, Your Honor.
16 The problem is, that that estimate we had with the 19,
17 we still left ourselves four or five hours under the cap
18 for cross-examination. And then when Your Honor dropped
19 it down to 16 -- I mean, percentages work in a bigger
20 world, but there's a minimum to which I can cut a
21 witness that I'm putting on to make him understandable.
22 I've cut them all except for one or two to 30 minutes or
23 less now. And all I'm asking --

24 If CSIRO doesn't need the time, that's
25 fine. I understand that. But we do need some time to

1 cross-examine their case.

2 And given the stakes for these companies
3 and the scope of the evidence, I just think it's very
4 difficult.

5 THE COURT: All right. I'll give both
6 sides 18 hours. Can you live with that?

7 MR. VAN NEST: We will try to do that,
8 Your Honor. Thank you. Absolutely.

9 MR. FURNISS: Thank you, Your Honor.

10 THE COURT: All right. I would caution
11 you, though, as you know, juries get tired of hearing
12 the same thing. So I hope that it's all relevant and
13 new and fresh testimony.

14 MR. VAN NEST: We'll try to make sure
15 that happens, Your Honor.

16 THE COURT: All right. What else?

17 MR. MIKE JONES: Your Honor, we have one
18 agreed request that we would like to make. And we have
19 worked out the exhibit problems we believe and have done
20 it in writing, and we're wondering if we could submit in
21 writing the agreed exhibits in order, number one, to
22 save time of reading them, and then also it is so
23 confusing that when they're read and they're checked and
24 people are going through lists it's hard to do that.

25 So I know that's not Your Honor's usual

1 practice.

2 THE COURT: Do you have that today?

3 MR. MIKE JONES: We do.

4 MS. DERIEUX: We do.

5 THE COURT: Could I see it, please?

6 MR. MIKE JONES: Certainly.

7 THE COURT: The problem I run into on
8 that is that invariably -- I mean, there's just
9 something about someone speaking what the exhibits are
10 that oftentimes raises an objection or not an objection
11 and it's clear to everybody on the record what's coming
12 in.

13 But if you have a stipulation that's
14 equally clear and signed by both sides, I'm not opposed
15 to it.

16 MS. DERIEUX: What we might need to do is
17 prepare our written document and have the signatures
18 collected and get it to Your Honor at the first break.

19 MR. GILCHRIST: We thought we were going
20 to read them in, Your Honor, and I just found out it's
21 in handwriting. So we don't have a typed list for you.

22 THE COURT: What about this morning, does
23 the plaintiff have they exhibits they need for the first
24 witnesses until the first break already in or do you
25 need to introduce them in?

1 MR. GILCHRIST: We have them in from
2 yesterday, Your Honor. We probably will make it to the
3 first break. If not, I can represent the only two are
4 exhibits that they've agreed to. I could read them in
5 now, I think.

6 THE COURT: All right. Well, see if you
7 can get the stipulation to me by the first break and
8 we'll look at it then.

9 MR. MIKE JONES: Thank you, Your Honor.

10 THE COURT: What's next? Anything else?

11 MS. ANDERSON: Your Honor, yesterday when
12 we read in exhibits for witnesses we would like to move
13 in, we listed Exhibit 812, but the parties agreed that
14 was only for the bench trial, so we would like to
15 withdraw that officially.

16 THE COURT: All right. 812 withdrawn
17 from the jury, just for the bench trial.

18 MS. ANDERSON: Thank you, Your Honor.

19 THE COURT: Anything further? All right.
20 You may bring the jury in.

21 (The jury entered the courtroom.)

22 THE COURT: All right. Please be seated.

23 Good morning, Ladies and Gentlemen of the
24 Jury. Welcome back. I hope you had a good night's
25 sleep and a safe trip in this morning and everybody's

1 bright-eyed and ready to go.

2 So we'll continue with the evidence now.

3 And, Mr. Furniss, who will be your next witness?

4 MR. GILCHRIST: Thank you, Your Honor.

5 CSIRO calls Steve Saltzman as a witness.

6 THE COURT: All right. Steve Saltzman.

7 All right. Mr. Gilchrist, you may

8 proceed.

9 MR. GILCHRIST: Thank you, Your Honor.

10 May I approach the witness and hand him a binder?

11 THE COURT: Yes, you may.

12 STEVE SALTZMAN,

13 Having been duly sworn, testified as follows:

14 DIRECT EXAMINATION

15 BY MR. GILCHRIST:

16 Q Mr. Saltzman, you and I haven't met, have we?

17 A No.

18 Q My name a Greg Gilchrist, and I represent
19 CSIRO in this matter, okay?

20 A Yes.

21 Q Okay. Pleased to meet you.

22 We've allowed our witnesses to introduce
23 themselves and tell us a little about themselves. Why
24 don't you do that. It's only fair.

25 A Okay. My name is Steve Saltzman. I'm

1 Director of Strategic Investments at Intel Capital. I
2 started out -- with Intel creating the wireless network
3 business at Intel.

4 I live in Portland, Oregon, married with two
5 children, ages 11 and 14.

6 Q Where did you go to college?

7 A University of Oregon.

8 Q What degrees do you have?

9 A Didn't graduate.

10 Q So now -- Mr. Saltzman, you started your first
11 job at Intel in 1987; is that right?

12 A Yes.

13 Q And then -- and then what was your job at that
14 point in time?

15 A I was a product manager. I managed a lot
16 of --

17 THE COURT: Mr. Gilchrist, if you and the
18 witness could both adjust your microphones a little bit.
19 I think the court reporters are having a little trouble
20 hearing you.

21 MR. GILCHRIST: We're too low, right?

22 THE COURT: Yes. You need to be a little
23 louder.

24 MR. GILCHRIST: That's not usually a
25 problem, Your Honor. I'll try to do better.

1 A I was a product manager in a start-up group
2 with Intel managing a line of memory boards.

3 Q (By Mr. Gilchrist) And then you left Intel; is
4 that right?

5 A Yes. After a few years, I started two
6 software companies.

7 Q Okay. What were those?

8 A The first was called Now Software. It became
9 the leader in Macintosh -- the largest Macintosh-only
10 software publishing company in the world.

11 Q You were the CEO of Now, right?

12 A Yes. I was the CEO of Now. Then I left and
13 started a company called Active Arts that was a
14 children's educational software company.

15 Q And you were the CEO of that as well?

16 A Yes.

17 Q And you came back to Intel in 1998; is that
18 correct?

19 A Yes.

20 Q And the job you came back to was to work with
21 the wireless networking business you described earlier
22 on a bluetooth networking product; is that right?

23 A Yes. I was originally hired to create a
24 bluetooth networking business. And then after a month,
25 figured out that bluetooth wasn't really a networking

1 technology and not really the business we wanted to be
2 in. So we changed the focus to a different wireless
3 technology called 802.11.

4 Q Thank you for that. Bluetooth was a pretty
5 lousy technology for wireless LANs, wasn't it?

6 A It wasn't designed for wireless LANs. It's
7 great for what it was designed for, which is to connect
8 a headset to a cell phone. But, yeah, when you try to
9 use it for things it wasn't designed to do, it wasn't
10 really a good fit.

11 Q It was a very short-range product, didn't go
12 very far; isn't that right?

13 A That's correct.

14 Q And that's why you told Intel to stop spending
15 their time on bluetooth for wireless LANs?

16 A That was one of the reasons.

17 Q Okay. What were the other reasons?

18 A Well, it -- bluetooth was really trying to
19 replace the infrared port on laptops from a PC
20 perspective, and that was a very inexpensive chip, those
21 infrared chips. So we figured out that it was only
22 going to come really popular when it became as cheap as
23 the infrared chips it was trying to replace. And so it
24 was going to be hard to make a lot of money selling
25 really, really cheap chips.

1 Q So you recommended they stop spending time on
2 bluetooth and move to 802.11-based wireless LANs; is
3 that right?

4 A Yes. That's correct.

5 Q And you spent the whole -- or most of 1999
6 putting together a business plan focusing on 802.11
7 wireless LAN products; is that right?

8 A Yes.

9 Q I assume you spent a lot of time during that
10 year that you were putting that business plan together
11 learning about those standards, right?

12 A Yes.

13 Q All right. Now, let's just quickly go through
14 those standards. I know that the Ladies and Gentlemen
15 of the Jury and His Honor have heard this in the last
16 couple of days. But you looked at what had happened
17 before and what was going on in the marketplace in 1999
18 when you became responsible for the wireless networking
19 group's 802.11 projects, right?

20 A Yes.

21 Q And what was there at that point in time --
22 what was there at that point in time was two 802.11
23 standards that had been adopted in 1997, right?

24 A Yes, and a number of other extensions to those
25 standards that were in the process of ratification.

1 Q Okay. And the ones that already had been
2 adopted were both single-carrier non-OFDM-based systems,
3 correct?

4 A Yes.

5 Q You know what OFDM is, right?

6 A Yes.

7 Q That's what we've been talking about as
8 multicarrier or -- the modulation scheme that's in the
9 CSIRO patent, right?

10 A Yes.

11 Q All right. So what was on the books already
12 at the IEEE was a standard that was 802.11fh, right?

13 A Yes. That was one of them.

14 Q And that was the -- the "fh" stood for
15 frequency hopping?

16 A Correct.

17 Q And that system went at about 1 to 2 megabits
18 per second?

19 A Yes.

20 Q Did you also learn -- I'm sorry. Were you
21 finished?

22 A Yeah. It was just 1 megabit per second.

23 Q One megabit per second. And that 802.11fh
24 standard, that had been in the works from 1992, correct?

25 A I'm not sure exactly when it started. But it

1 had been around for quite awhile.

2 Q And then it was finally ratified by the
3 engineers at the IEEE in 1997, right?

4 A Yes.

5 Q And at the same time, they also ratified a
6 standard called 802.11ds, right?

7 A Correct.

8 Q And that was another 1-megabit-per-second
9 system?

10 A That one could also go to 2 megabits per
11 second.

12 Q So I had them mixed up. The "ds" was 1 to 2
13 megabits per second?

14 A Yes.

15 Q And that's a direct sequence technology,
16 correct?

17 A Yes.

18 Q Also a single-carrier system, right?

19 A Yes.

20 Q All right. Now, you mentioned that the 802.11
21 committee had some things in operation in 1999, right?

22 A Yes.

23 Q In fact, they closed the standard setting for
24 the 802.11fh, the frequency hopping, and the "ds", the
25 direct sequence, and they immediately started looking

1 for something that was faster, didn't they?

2 A Well, they looked for things that could be
3 more extensible, so they ultimately went to extend the
4 "ds" version of 802.11.

5 Q Okay. And then they opened up two standard
6 settings efforts, one was for 802.11b, right?

7 A Uh-huh.

8 Q And I'm sorry. If you would say yes.

9 A Oh, I'm sorry. Yes.

10 Q So they opened up a standard setting for
11 802.11b we've heard about, right?

12 A Yes.

13 Q And they also opened one up for 802.11a?

14 A Yes.

15 Q And the different engineers that had been
16 working on those task groups got together to try to
17 figure out what was the best technology for those two
18 standards; is that right?

19 A Yes.

20 Q All right. So what ultimately came to pass
21 was 802.11b turned into a direct sequence system, right?

22 A That's correct.

23 Q It was an extension of the "ds" part of the
24 earlier standard?

25 A Yes, that's correct.

1 Q And that system was set to go at 11 megabits
2 per second; is that right?

3 A The standard or required mode was 11 megabits
4 per second. It had an optional mode that could go 22
5 megabits per second.

6 Q And that optional mode was something called
7 PBCC, correct?

8 A Yes.

9 Q And we'll talk about that in a little bit.
10 But the 11 megabits per second was a direct sequence
11 technology, correct?

12 A Yes.

13 Q And that's a single carrier, right?

14 A Yes.

15 Q And nobody here thinks that any of the .11b
16 products infringed as we heard yesterday. Is that your
17 understanding?

18 A That's my understanding, yes.

19 Q And then the other standard that was being
20 established in 1999, when you started work on an 802.11
21 wireless LAN, that was the 802.11a standard, right?

22 A That's correct.

23 Q And that ultimately was ratified using OFDM
24 technology, correct?

25 A Yes.

1 Q And that standard was how fast?

2 A 54 megabits per second.

3 Q Okay. So roughly four or five times as the
4 .11b standard, correct?

5 A Yes.

6 Q And we all agree now, don't we, that the .11a
7 products, at least those that are made by Intel, your
8 employer, those all infringe, right?

9 A I'm not aware. My understanding about this
10 trial is whether the patent is valid or not.

11 Q So you don't know one way or the other whether
12 or not Intel has conceded that the .11a products that it
13 makes infringe?

14 A I haven't been involved in all of the trial
15 strategy.

16 Q Now, so you put together your plan, and
17 eventually you got some money from Intel to develop a
18 wireless networking business framed around the 802.11
19 standards, right?

20 A Yes.

21 Q And I'd like to look at the timeframe,
22 particularly as it relates to you, I think, between 1999
23 and 2002. And I have a little graph here that I think
24 will help us go through it, all right?

25 A Okay.

1 Q I hope it's in your binder. If not, it will
2 show up on the screen there.

3 Now, if you see on the left-hand column there,
4 one of the things you were doing in 1999 and through the
5 period of 1999 through 2002, is you were looking for
6 802.11 businesses that were already in the business that
7 you might acquire or make an investment in as part of
8 Intel; is that right?

9 A Yes.

10 Q And one of the companies that you looked at
11 was Radiata, right?

12 A Yes.

13 Q And Radiata was a company that was responsible
14 or was trying to design a chipset that would perform the
15 technology that was in the 802.11a standard that was
16 under discussion, right?

17 A That's correct.

18 Q And you knew that that's the only thing that
19 Radiata was doing, right?

20 A Yes. That's what we discovered when we
21 started talking to them.

22 Q Okay. Now, Alantro, Alantro was a company
23 that was trying to develop another technology, and I
24 think you mentioned what was called PBCC, right?

25 A Yes.

1 Q And you looked at Alantro and considered
2 making a business -- excuse me -- an investment in
3 Alantro; is that right?

4 A Yes. We met with them a couple of times to
5 investigate with them.

6 Q And eventually you didn't make any investment
7 in Alantro; is that right?

8 A That's correct.

9 Q Alantro was acquired by TI; is that right?

10 A Yes.

11 Q Do you know how much they acquired Alantro
12 for?

13 A I believe it was 300 million, around there.

14 Q Now, Breezecom, were they a chip maker or were
15 they a company that was actually selling products?

16 A Breezecom sold wireless networking cards and
17 accessing points and wireless bridges and they had a
18 team trying to develop their own chips.

19 Q Okay. Any silicon or chips that they were
20 actually using in their products, those were made by
21 somebody else?

22 A The products they were shipping were using
23 chips from another company, yes.

24 Q And what was Aeronet?

25 A Aeronet was also a company making wireless

1 networking cards and access points and wireless bridges
2 and they also had part of the chipset for wireless LANs
3 that they had licensed and were continuing to develop.

4 Q And Aeronet was eventually acquired, too,
5 right?

6 A Yes, they were acquired by Cisco.

7 Q And how much did Cisco pay for Aeronet?

8 A I don't recall. I think it was around that
9 same figure, 290, 300 million, something like that.

10 Q Okay. Now, Intel made some investments in
11 this area as well, right?

12 A Yes.

13 Q And you were involved in some of those
14 investments exploring them, looking at them, making sure
15 that they made sense, right?

16 A Yes.

17 Q Now, and you had a little bit of an
18 involvement in Xircom, right? That's the one that's at
19 the top of the list there.

20 A Well, with Xircom I was involved when we
21 acquired Xircom, but I wasn't working at Intel when we
22 had originally invested in them and then exited that
23 investment.

24 Q So at the point in time when Intel acquired
25 them, while you were there they didn't have any share

1 holdings of Xircom, they just went and bought the whole
2 company?

3 A Correct.

4 Q And Xircom had a business in wired networks as
5 well, right?

6 A Their main business was in wired networking.
7 They also had a division doing wireless wide area
8 networking, so cellular technologies, not the LAN stuff.

9 Q But they also had a view access point, bridge
10 products that they were selling in the wireless area,
11 right?

12 A Not at the time we acquired them.

13 Q That became one of the milestones or missions
14 that you put them on once Intel acquired them?

15 A Correct.

16 Q Had they had those products under development
17 before you bought them?

18 A They had one networking card and one access
19 point that they had started development on, yes.

20 Q Was that one of the things that Intel was
21 interested in and one of the reasons why they acquired
22 Xircom?

23 A No, they only had a handful of people -- out
24 of 1,900 employees when we acquired them, they only had
25 a handful of people working on those.

1 The three big drivers were first we had lost
2 our manufacturing facility in Puerto Rico, so we were
3 looking for a new manufacturing facility and they had
4 what we believed was a good low-cost manufacturing
5 facility.

6 Q Where was their manufacturing facility?

7 A Penang, Malaysia.

8 The second was we had a business arrangement
9 with them where we sold them wired networking chips,
10 they built mobile wired networking cards, which we then
11 bought back from them and we sold and essentially
12 thought if we owned them, that we would get out of
13 having to buy that stuff from them. That's just making
14 them for ourselves at that point.

15 And then the third was to get into the
16 cellular wireless technology, the wireless wide area
17 technology.

18 Q And Symbol was more of a company that was
19 focused just on wireless at that time, right?

20 A Well, Symbol's main business was wire-code
21 scanners, but we did a deal with them that I initiated
22 that focused on their wireless LAN division.

23 Q Your investment in Symbol focused on wireless?

24 A Yes, a hundred percent.

25 Q And you didn't buy the company, you just made

1 an investment in Symbol, correct?

2 A That's correct.

3 Q And how much money is that?

4 A A hundred million dollars.

5 Q And then you acquired a couple of companies at
6 least. Let me ask that before I turn to Cometa and
7 Nomadix. This is just a partial list, isn't it, of the
8 things that Intel had going on at that time?

9 A In 1999 Intel acquired a number of companies,
10 not in the wireless phase, but in optical networking and
11 wired networking and storage and a variety of things.

12 Q But in terms of wireless, this is still just a
13 partial list, isn't it, of the things that you looked at
14 and the things that you invested in?

15 A In 1999?

16 Q To 2002.

17 A So the bulk of our wireless LAN investments
18 took place really in 2003 and 2004 and 2005. But yes,
19 if you look at our portfolio today, there are several
20 other companies in the wireless LAN space doing software
21 and other complimentary products.

22 Q All right. It's a big business with Intel,
23 the wireless business, right?

24 A Yes.

25 Q Okay. Cometa, what does Cometa do?

1 A Cometa was a company that was created to
2 create public hotspots all over the country, so you
3 could go to hotels or coffee shops or whatever and be
4 able to use your laptop to access the internet
5 wirelessly.

6 Q And you bought them. And how much did you pay
7 for that?

8 A Intel didn't buy Cometa, we were the lead
9 investor.

10 Q How much did you invest in that?

11 A I didn't actually work on that deal, but I
12 remember it was a large amount. I think it was like
13 \$60 million.

14 Q And that wasn't to buy the company, that was
15 just to have a investment?

16 A That was just to be a minority investor.

17 Q And that company went out of business?

18 A Correct.

19 Q What about Nomadix, what were they?

20 A Nomadix builds access points designed for
21 public hotspots. And their specialty is they include
22 software. So if you wanted to charge for wireless
23 access, that billing system could integrate into another
24 billing system, for example a hotel, they could charge
25 you for the wireless access and have it show up on your

1 hotel bill.

2 Q So literally if I go stay -- I have a nice
3 hotel room here in Tyler and they may charge me for my
4 wireless internet service, and this is all integrated
5 between access point and the charging system, is that
6 how you're talking about it?

7 A Yes, actually the access point and then some
8 application software that would integrate with whatever
9 accounting and billing system the hotel uses.

10 Q And how much money did you pay for Nomadix?

11 A We never bought Nomadix, we were just an
12 investor.

13 Q I assumed again. How much money did you
14 invest in Nomadix?

15 A You know, I didn't work on the deal so I'm not
16 sure. I think it was just a few million dollars.

17 Q Now, were you here during the opening
18 statements?

19 A No.

20 Q Okay. I'll just represent to you that Mr. Van
21 Nest made a comment that Intel had been responsible or
22 at least suggested to my ears that Intel had been
23 responsible for about 40,000 hotspots. Is that fair?

24 A That sounds about like the right number.

25 Q What was the context in which Intel was

1 investing in these hotspots?

2 A Intel put together a team of engineers who
3 went literally all over the world to make sure that
4 these hotspots that were out there worked well enough,
5 were secure so people could be confident, that their
6 e-mail wouldn't be intercepted when they were using
7 them, that they had enough bandwidth, so it was a good
8 user experience.

9 And so we created this program the Centrino
10 Certified Hot Spot Program. So when you went to one of
11 these hotspots, there would typically be a plaque on the
12 wall with a Centrino logo that said Centrino Certified
13 Hotspot, and that was a way for consumers to know that,
14 okay, this one has been checked out, it's easy to get on
15 to, it's secure and there's enough bandwidth I'm not
16 going to get frustrated trying to use it.

17 Q And you mentioned Centrino there. And
18 Centrino was going on during this 1999 to 2002 time
19 frame, right?

20 A Well, Centrino was actually launched in March
21 of 2003, but the planning was before that.

22 Q I was talking about going on within Intel.
23 That was certainly a big topic of discussion within
24 Intel during that time frame, correct?

25 A Yes, that's correct.

1 Q And Centrino -- actually could you pull up
2 DD061 for us.

3 This is a slide Mr. Van Nest showed yesterday.
4 On the left there's an Intel and a Centrino logo. Do
5 you see that?

6 A Yes, I do.

7 Q That's one of the branding elements that Intel
8 uses for its Centrino project, correct?

9 A Correct.

10 Q And the brand signifies, does it not, a
11 combination of three different products that Intel makes
12 and sells as a platform to people like Dell and Toshiba
13 to use in their laptop products; is that right?

14 A That's correct.

15 Q And those are the microprocessor -- the
16 Pentium M would be an example of that, correct?

17 A Yes.

18 Q And then there's -- is there a graphics
19 chipset that makes the wonders of the computer show up
20 on the screen?

21 A Well, it's kind of more integrated now, so
22 there's a supporting chip that includes graphics and
23 some other functions.

24 Q And then the last piece of it is a wireless
25 chipset, right?

1 A Initially, yes.

2 Q I'm digging around in my pockets because I
3 didn't want to lose this. And we've seen a couple of
4 these. This is, I believe, I hope you can recognize it
5 from there, I think Mr. Van Nest held this up and then
6 yesterday Dr. Monsen held this up.

7 Do you recognize this as something that looks
8 like -- and I'll represent to you that it is -- an Intel
9 wireless card that goes into a laptop?

10 A From this distance, I'm sure that I could rely
11 on your word.

12 Q And this is one of the things that became an
13 important part of the Centrino brand and the Centrino
14 effort; isn't that right?

15 A The initial Centrino launching included
16 wireless as part of it.

17 Q In fact, wasn't it partly your idea to include
18 wireless as part of the Centrino platform?

19 A Yes. At the time I was running this new
20 wireless LAN business within Intel and we had a small
21 team and a small budget, so I was looking for other
22 parts of the company where I could piggy-back on their
23 more established businesses.

24 Q And one of the reasons that you thought that
25 this would be a great thing to put in the Centrino brand

1 was that you had been having great experiences using
2 wireless LAN technology in your office and in your home,
3 right, personally?

4 A Yes, I'm a big fan of wireless technology.

5 Q And you thought that if Intel put these cards
6 into the Centrino platform, it would really help
7 Centrino take off, right?

8 A Yeah, that was what I had to spend the year
9 convincing people. They looked that there was no demand
10 out there right at the time. Laptops weren't shipping
11 and PCOMs didn't want us to include this stuff. But we
12 had to make the leap of faith saying, hey, if we could
13 make it easy and secure being able to access the
14 internet without being tied to a cable is a neat thing
15 and people would enjoy that.

16 Q So you lobbied with Intel pretty hard to get
17 wireless a part of Centrino, right?

18 A Yes, I did.

19 Q And you ultimately were very successful in
20 doing that, correct?

21 A Yes.

22 Q Let me ask you to pull up Exhibit 1590.

23 This initiative of putting wireless into the
24 Centrino platform, that rose right to the top of Intel,
25 didn't it?

1 A I'm not sure what you mean by the question by
2 rising to the top of Intel?

3 Q Let me ask you to look at the second page of
4 this exhibit. Do you have it there in front of you? I
5 think it's going to come up on the screen. It's that
6 8411 at the bottom of the page.

7 Do you see that?

8 A Yes, I do.

9 Q And look at the -- look at the last part of
10 the first paragraph that shows up on that page, if you
11 would. Do you see that? And it says here that the
12 opportunity here is more than just a Baniyas
13 introduction. And by the way, Baniyas was a code word
14 within Intel for Centrino, right?

15 A Baniyas was the code name for the Pentium M
16 processor.

17 Q Okay. So that was the code name for the
18 processor that ultimately became part of the Centrino
19 package?

20 A Correct.

21 Q All right. And then it goes on -- by the way,
22 this e-mail is an e-mail from Craig Barrett, right?

23 A Yes.

24 Q And Craig Barrett was who at this time?

25 A Craig Barrett was the CEO of Intel.

1 Q That's what I meant by "right to the top."

2 A Oh, okay.

3 Q It says, "It is the opportunity to drive
4 broadband WWAN and WLAN capability and in the process
5 create interest and command for our leadership products.
6 I think it is clear that our job one for the next year
7 is to make this wireless transition happen. If we have
8 any opportunity to drive demand for our products to sell
9 new high end technology into the market and to drive up
10 our stock price in the process, this is it."

11 Do you see that?

12 A Yes, I do.

13 Q And you shared that, didn't you?

14 A Yes, I believe all the wireless technologies
15 that he's pointing out here would be beneficial for
16 people wanting to be mobile.

17 Q And Mr. Barrett was making these remarks, was
18 he not, in the aftermath of what you guys called SLRP
19 meetings, right?

20 A Yes.

21 Q And those are strategic leadership something
22 planning, right?

23 A Strategic long-range planning.

24 Q Long-range planning. Okay.

25 Let me go down a little further on this page,

1 and it says -- you can see the paragraph that starts "I
2 think"?

3 A Yes.

4 Q Pull that up for us so the jury can see it.

5 There's a line there where Mr. Barrett
6 reported that two initiatives, "WWAN and WLAN will have
7 the most direct impact on our financial performance and
8 determine our future as a high tech leadership of the
9 company." Isn't that what he said?

10 A Yes, that's what it says.

11 Q And Mr. Barrett put Mr. Ottolini in charge of
12 driving the wireless part of this initiative, the
13 wireless LAN part, right?

14 A Yes.

15 Q And Mr. Ottolini then was the chief operating
16 officer of the company?

17 A That's correct.

18 Q So your idea of putting wireless in the
19 Centrino brand, your name was attached to a pretty big
20 initiative at Intel by then, right?

21 A Yes.

22 Q Now, let me ask you -- you came to the
23 conclusion, did you not, that Intel's path forward with
24 these wireless LAN efforts should be with 802.11a; isn't
25 that right?

1 A That's correct.

2 Q In fact, let's look at Exhibits 1610. What is
3 this document, Mr. Saltzman.

4 A This is an e-mail thread following up from a
5 meeting we had with Dell about our wireless products and
6 their wireless plans.

7 Q You meet with your customers a lot, right?

8 A Yes.

9 Q Try to figure out what they want, what they
10 think is best?

11 A Absolutely.

12 Q Okay. Now, at that point in time Intel had
13 been buying some wireless cards -- or excuse me, the
14 chips that go in the wireless cards from Texas
15 Instruments, right?

16 A In 2001 we were using chips from Intersil.

17 Q Okay. And did they have a PBCC technology
18 that was available?

19 A No, they did not.

20 Q Now, let me just point you to the top
21 paragraph there. It says, "Two slight clarifications."
22 Do you see that?

23 A Yes, I do.

24 Q And it says that Dell made it clear that they
25 don't want us to enable the PBCC features in Trenton.

1 Okay? Do you see that?

2 A Yes, I do.

3 Q Trenton was going to be a wireless card that
4 Intel was planning to sell, correct?

5 A Yes.

6 Q And was the -- the chipset that was going to
7 be used in Trenton was something that you were going to
8 get from Texas Instruments?

9 A Indirectly. It was part of our joint
10 development program with Symbol Technologies. And
11 Symbol had a license to the PBCC technology from
12 Alantro.

13 Q Okay. So you had an agreement with Symbol,
14 and Symbol was going to be able to get you this PBCC
15 technology. You took it to Dell, and they didn't want
16 it; is that fair?

17 A That's correct.

18 Q In fact, they said that introducing or
19 enabling the PBCC features would be as dumb as HomeRF.
20 Do you see that?

21 A Yes, I do.

22 Q And HomeRF, that was something that Intel had
23 also been working on for a number of years, right?

24 A Yes.

25 Q And that was a single-carrier system?

1 A Yes.

2 Q Dell didn't want the PBCC or the HomeRF?

3 A Yes. Dell's concern was that PBCC wasn't
4 going to be broadly embraced as a standard. It had been
5 an option of the standard that only Alantro and TI had
6 supported. And they were afraid of putting investment
7 behind something that wasn't going to be broadly adopted
8 by the industry.

9 Q Okay. Now, and you were probably afraid of
10 that, too, weren't you?

11 A Yes.

12 Q Okay. Let's look at Exhibit 1619. Should be
13 next in your folder.

14 Do you recognize this document, sir?

15 A Yes, I do.

16 Q And what is it?

17 A This was a presentation I gave to the crowd of
18 IT executives at HP World, which is a trade show that
19 Hewlett-Packard puts on for a lot of their biggest
20 customers.

21 Q And how many people?

22 A I don't know the actual attendance. In the
23 thousands of people at the overall conference. The
24 session where I was speaking was probably a hundred
25 people.

1 Q All right. Let me ask you -- because I forgot
2 to ask you this, and I shouldn't have.

3 You spent hundreds of millions of dollars
4 promoting Centrino, right?

5 A Yes.

6 Q And you told anybody at the HP World that you
7 did, didn't you?

8 A Yes. In 2002, even though wireless LANs had
9 been out there for a long time and 802.11 had been
10 ratified for a long time, they still weren't used very
11 often in corporations. And we were -- the big push here
12 was to say there are a lot of reasons why it may not
13 have made sense for you to use wireless LANs in the
14 past, but those reasons no longer apply; you know,
15 there's now a standard people have rallied behind,
16 802.11b, the costs have come down, the security's
17 improved, so jump on in, the water's fine.

18 Q Okay. In fact, look at the page that has 1465
19 on the bottom there, if you would.

20 This is one of the slides you showed to the
21 folks at the HP World, right?

22 A Yes.

23 Q And it says, "If any one technology has
24 emerged the past few years that will be explosive in its
25 impact, it's 802.11," right?

1 A Yes.

2 Q And you attributed that statement to Bill
3 Gates, right?

4 A Correct.

5 Q He's the founder of Microsoft?

6 A Yes.

7 Q You agreed with that statement, right?

8 A Yes. I was a big cheerleader for all of the
9 wireless stuff at this point.

10 Q Now, look at Page 1477, which is further back
11 in the -- the HP World materials. Do you have that?

12 A Yes, I do.

13 Q And you mentioned that one of the drivers of
14 the effort that you were making with Centrino was to
15 tell people to jump in, the water's fine, because it's
16 now going to be a good product for business, right?

17 A Yes.

18 Q And in your report to HP World, you compared
19 802.11a and 802.11b, and you said "802.11a is the
20 wireless networking technology fast enough to take care
21 of business," right?

22 A Yes.

23 Q And you felt that was right, too, right?

24 A Yes. It certainly was faster than "b", and
25 all else being equal, it's usually better.

1 Q Go to the next page as well. This was another
2 comparison that you made, wasn't it, about 802.11a and
3 802.11b?

4 A Yes.

5 Q You told people at HP World that 802.11a was
6 going to be fast enough to create standalone wireless
7 networks, right?

8 A That's correct.

9 Q And you said at the bottom there, the last
10 bulletpoint, it says "Supports higher performance
11 applications," right?

12 A Yes.

13 Q Those are things like streaming video and fast
14 applications that require lots and lots of data to be
15 downloaded; is that right?

16 A That's correct.

17 Q So let me ask you now to look at something
18 else that we saw during the opening. I think it's
19 DT066. Do you see that?

20 A Yes, I do.

21 Q And what we have there, I believe -- I'll
22 represent to you since you weren't here -- you can read
23 it -- is a bar graph showing the different sales of
24 802.11b products. Does that look about right to you,
25 based on what you know?

1 A Those look like about the right magnitude.

2 Q And those were 802.11b only products, right?

3 A Yes.

4 Q Okay. Now, I showed you the wireless card
5 that goes in the back of the laptops that Intel makes,
6 right?

7 A Uh-huh, yes.

8 Q And on those cards, there's one chip -- and
9 I'll just show the jury -- it's this little black one
10 right here. You can see it from there, can't you? I'm
11 pointing to it. That's what's called the physical
12 layer, right, the baseband chip?

13 A Actually I think that's the MAC -- the media
14 access control. The shielded one I think would be
15 the --

16 Q Okay. Well, these little -- these little
17 black things are the silicon chips that go in to make
18 all of this happen in these small packages; isn't that
19 right?

20 A That's correct.

21 Q And silicon chips, those are Intel bread and
22 butter, right?

23 A Yes. We're a chip company.

24 Q And I think Mr. Van Nest told us you invented
25 chips, right?

1 A The microprocessor.

2 Q Okay. And so the physical layer is the part
3 of the wireless card that does the OFDM modulation and
4 the interleaving and the forward error correction,
5 right?

6 A That's correct.

7 Q Okay. Now, if I'm holding this up, you can
8 tell me, can't you, that this is not an 802.11b product,
9 can't you?

10 A Somebody with better eyesight and perhaps more
11 familiar with currently shipping products could.

12 Q If I tell you this has Intel silicon in it,
13 you know it's not a "b" product, don't you?

14 A A "b" only product?

15 Q Yes.

16 A Correct. I think everything we're shipping
17 today is multistandard.

18 Q Doesn't matter when it was made, does it? If
19 it's Intel silicon, it's not a "b" only product, is it?

20 A I think the only -- the "b" silicon we did
21 with Symbol, the baseband was stamped at TI, even though
22 it was a Symbol design. Then the radio was from a third
23 party, Phillips.

24 Q So Intel, with all of its capacity to make
25 chips, never made, never designed a baseband chip that

1 goes into these wireless cards that was "b" only, right?

2 A Correct. We were late to the market. So by
3 the time we could develop our first products, the market
4 had moved onto multiple standards of 802.11, everything
5 backwardly compatible with 802.11b.

6 Q Okay. So these "b" only products that show up
7 on this -- on this chart that Mr. Van Nest showed us
8 yesterday, there's not one a one of these products in
9 here that's an Intel wireless card that has Intel
10 silicon in it; is that fair?

11 A Well, actually in the 2003, '4, '5 time
12 period, the majority would have been Intel cards, but
13 not using Intel basebands or radios. It would have been
14 an Intel MAC chip in 2003.

15 Q Okay. As I said, none of these products that
16 are on the chart that Mr. Van Nest showed us have the
17 Intel silicon in them that makes the OFDM and the
18 802.11b products work, right? None of them.

19 A I'm sorry. I'm trying to understand your
20 question. I'm a little confused by the phrasing.

21 You're asking about just the phy portion of
22 the 802.11b?

23 Q Let's go back. Because I was speaking pretty
24 quickly. The phy portion is where the modulation and
25 the interleaving and the forward error correction occur

1 in the Intel chips, correct?

2 A That's correct.

3 Q And it's where the modulation occurs in the
4 single-carrier chips as well?

5 A Correct.

6 Q All right. So my question is, is whether any
7 of these products that are shown on the chart that we
8 saw yesterday, whether any of them, any of the wireless
9 cards were made with Intel silicon in terms of the
10 physical layer of the chip?

11 A In terms of the physical layer, no. In terms
12 of the other layers, there -- there were other chips
13 that we did make that were, yes.

14 Q So a lot of people, apparently -- we think
15 these numbers are about right -- a lot of people decided
16 that 802.11b was perfectly good, right?

17 A Yes.

18 Q Mr. Van Nest told us that 802.11b drove the
19 wireless business.

20 A Absolutely.

21 Q And it drove it without Intel, because Intel
22 wasn't making any 802.11b wireless cards, "b"-only?

23 A That's not accurate at all. We actually
24 shipped more 802.11b wireless cards than anybody in the
25 world starting in 2003. We were using our MAC with a

1 Texas Instruments baseband and a Phillips radio. So it
2 wasn't all of our silicon; included some of our silicon.
3 But Intel shipped hundreds of millions of 802.11b-only
4 cards.

5 Q You were trying to develop a physical layer
6 out of Intel silicon, correct?

7 A Yes.

8 Q And you were trying to develop only
9 802.11a-compliant technology during this timeframe?

10 A During which timeframe?

11 Q During the run-up to the launch of Centrino.

12 A In the run-up to Centrino, we had originally
13 focused on "a" only and gotten feedback from the market
14 that if something wasn't backwardly compatible with
15 802.11b, they weren't going to buy it. So our focus
16 then became what we called dual-band, so "a" and "b" at
17 the same time.

18 Q So you weren't going to make any "b"-only
19 products with Intel silicon, you were going to design
20 the product that you were going to sell to at least
21 support 802.11a?

22 A Absolutely.

23 Q Because that was the one that was fast enough
24 for business, right?

25 A Well, the biggest benefit for the 802.11a is

1 it's in a different frequency. So if you ever use a
2 wireless device, and you find that your cell phone --
3 sometimes you'll walk in a certain area and you get
4 interference and lose the signal. The 802.11b stuff
5 worked at 2.4 gigahertz, which is the same frequency
6 used by garage door openers, baby monitors -- even your
7 microwave oven can bleed out into that frequency, so you
8 lose a signal when somebody is popping popcorn.

9 Five gigahertz is up there where there's not
10 many other products that are using that band. So it's
11 seen as clean spectrum. In fact, one our competitors
12 used to give out bumper stickers that said "The air is
13 cleaner at 5 gigahertz."

14 Q And, therefore, you thought during this
15 timeframe that you were about to launch Centrino, that
16 it was very important for Intel's core business, the
17 802.11a, correct, for the reasons you just gave, with
18 the backward compatibility of the dual-band product,
19 right?

20 A Right. We knew if we came into 802.11b --
21 that's how we launched Centrino and it became a huge
22 success. But we knew that for our own chips, we were
23 late to the market. So rather than continuing to play
24 catch-up, let's add new capabilities and, you know, try
25 to make a market for our own chips as well.

1 Q Let's -- there's a lot of stuff missing on
2 this chart, isn't there, in terms of sales?

3 A In terms of other flavors of 802.11?

4 Q Yes.

5 A Yes. 802.11a, "g" and draft "n".

6 Q The only products that Intel sold for years
7 supported 802.11a and 802.11g, right?

8 A Yes.

9 Q All of those are the products that we've
10 agreed now infringed CSIRO's patent, correct?

11 A Again, I'm not aware of that part of it, the
12 trial.

13 Q Let me again turn you back to 1999. That's
14 when you were looking at Radiata, correct?

15 A We actually had two separate investigations of
16 Radiata.

17 Q Two separate. Didn't this sort of go on
18 continuously from 1999 to 2000?

19 A No. In 1999, we were looking for ways to
20 jump-start our wireless networking business. So we were
21 looking for potential acquisitions or people to partner
22 up with to help that effort. And Radiata didn't make
23 the cut, and we ended up focusing on a deal with Symbol
24 Technologies. And that became the foundation for
25 long-term product blend. But we knew that it was going

1 to take us several years to get the silicon we were
2 developing that Symbol Technologies developed, and in
3 the interim, we still wanted to ship networking cards
4 and access points.

5 So at 2.4 gigahertz, we bought chips from a
6 company called Intersil, and we needed to decide who are
7 we going to buy 5 gigahertz chips from. Intersil's 5
8 gigahertz chips were as far out as ours were. So we had
9 a new investigation of Radiata to potentially become
10 their customer for a year or two until our own chips
11 were going to be ready.

12 Q Okay. Well, let's look at Exhibit 1595.
13 Should be in your binder.

14 A Okay.

15 Q As far as you know, this is the first report
16 that was made within Intel with conversations with
17 Radiata?

18 A Yes. I believe this is the first I had heard
19 of them.

20 Q And who is Harry Laswell?

21 A Harry Laswell was the investment director at
22 Intel Capital.

23 Q And Intel Capital is where the money comes
24 from when you're making these --

25 A Correct. It's Intel's venture capital arm.

1 Q And right in the middle of the page, if you
2 can see that there, it starts with, "they have all of
3 the blocks of this." And I think when they're talking
4 about "this," they're talking about a 5-gigahertz
5 baseband chipset. Do you see that?

6 A Yes, I do.

7 Q It says it's already implemented in CMOS
8 chips. Already -- what is CMOS?

9 A CMOS is a type of chip, complementary
10 metal-oxide silicon. That's just a chemical process
11 used to create the chip.

12 Q And it reports that these chips that they're
13 talking about were "down as Ph.D. projects at Macquarie
14 University or at the Australian government research lab,
15 CSIRO, and have all of the IP rights, both patent and
16 know-how, to this earlier work." Do you see that?

17 A Yes, I do.

18 Q Did you look at the patent after you saw that
19 email?

20 A No, I didn't.

21 Q This is still, I think, in your -- in your
22 first look-see at Radiata.

23 If you could turn to Exhibit 3017. And I'd
24 ask you to look first at the last page of it, which I
25 think starts an email chain that you started. It's

1 actually -- I think it may run from the next to last, on
2 to the last page.

3 Do you see that?

4 A Yes, I do.

5 Q All right. And this is an email from Gil
6 Frostig to you that runs onto the last page?

7 A Yes.

8 Q And then you respond to it and you say, "Let's
9 have somebody prepare a list of questions for Radiata,"
10 right?

11 A Yes.

12 Q Okay. Now, one of the things that Mr. Frostig
13 reported to you was that he had a phone conversation
14 with Radiata, correct?

15 A Yes, I believe so.

16 Q Let's look at the top of the last page of that
17 exhibit.

18 Okay. Do you see there where it says that --
19 he had talked to Radiata that day?

20 A Yes.

21 Q And it says they "Spun out of a 7-year
22 university project to create 5 gigahertz CMOS radios."
23 That 5 gigahertz CMOS radio, that's an 802.11 product as
24 you understand, right?

25 A In this case it was. It wouldn't have to be.

1 There were other companies doing different standards at
2 5 gigahertz.

3 Q But you knew when was talking about Radiata,
4 it was an 802.11a radio, right?

5 A Yes.

6 Q And then it says, "From what Lansford,
7 Glendinning, Laswell and myself have been able to
8 determine, they seem ahead of everyone else on 802.11a
9 and HiperLAN2."

10 Do you see that?

11 A Yes, I do.

12 Q And HiperLAN2 was the European counterpart to
13 802.11a, right?

14 A Yes, it was.

15 Q So if I have it right then, even though it
16 took seven years for CSIRO and then Radiata to work on
17 this, here in -- what is it -- June 4th, 1999, they're
18 still way ahead of everybody?

19 A Yes. That's what Gil believes.

20 Q So somebody went ahead and prepared the
21 questionnaire, right, that you had asked for -- that's
22 the front part of this exhibit?

23 A I think most of these were Gil's questions.

24 Q So Gil put together this list in response to
25 your email?

1 A Yes.

2 Q Look at number 6, which is on Page 6405. Let
3 me pull that up.

4 Do you see where it says number 6 and it says,
5 "What part of their chip is licensed from another party?
6 Royalties?"

7 Do you see that?

8 A Yes.

9 Q That was a question that Mr. Frostig prepared
10 for CSIRO to answer, right?

11 A Yes.

12 Q Let's look at -- let's look at exhibits --
13 Exhibit 3012. It's probably a little further back in
14 your binder.

15 Do you have that exhibit?

16 A Yes, I do.

17 Q And look at the page that ends -- sort of the
18 last page of the exhibit, Page 6371.

19 Do you see that?

20 A Yes, I do.

21 Q Okay. Now, look up there at the top there
22 where it says "Miscellaneous." That's CSIRO's response,
23 right -- excuse me -- Radiata's response?

24 A Yes.

25 Q And would you read that, how Radiata responded

1 to the question about whether there were any -- any
2 royalties that would be required if you were to buy
3 Radiata.

4 Just under --

5 A Actually what they answered was different than
6 what Gil asked. This says, "The coded OFDM technology
7 is licensed from CSIRO." What Gil asked is what
8 royalties would be bearing. For example, they have a
9 Spark core. Would there be an ongoing royalty because
10 we're using a Spark core in the product? What they have
11 told us when we were investigating them is if we bought
12 them or bought from them, we wouldn't be paying a
13 royalty because they had a license.

14 Q Okay. You already knew that they had a
15 license from CSIRO for CSIRO's patent?

16 A Yes, they -- when we met with all of these
17 companies, part of the standard pitch would be what
18 patents do you have or have you applied for.

19 Q Let's look at -- let's look at Exhibit 1596.
20 Do you see that?

21 A Yes.

22 Q Okay. Now, this is an email string that --
23 where the people that are looking at Radiata are
24 conversing about the answers that CSIRO gave to the
25 questions, correct?

1 A Yes.

2 Q Let's look down at the bottom at
3 Mr. Lansford's email both to you and Mr. Frostig and to
4 Mr. Laswell.

5 Do you see -- we can highlight it where it
6 says, "I was surprised to see that the OFDM technology
7 is licensed from CSIRO." Do you see that?

8 A Yes, I do.

9 Q And then -- and then one email up, you look at
10 that, Mr. Laswell responds, right?

11 A Yes.

12 Q And his answer is, "But there's no surprise to
13 me that the OFDM stuff is licensed from CSIRO. All of
14 the fundamental" -- I think that's misspelled, but
15 that's fundamental, right?

16 A Yes.

17 Q "All of the fundamental technology was
18 developed at CSIRO or at Macquarie University." That's
19 his response, correct?

20 A Yes.

21 Q And you saw those emails, right?

22 A Yes.

23 Q Did you get ahold of the patent at that point?

24 A No, because they already told us they had spun
25 out of CSIRO. All the of the Radiata employees were

1 CSIRO employees. So we already knew that they had to
2 get a license to take all of the work they had developed
3 at CSIRO to make it into an independent company.

4 Q So you knew that there was a patent that they
5 felt they needed to have in order to produce 802.11a
6 chips, that they needed to have a license for it?

7 A Well, we knew that they had to have a license
8 to take technology developed at the Australia government
9 research lab and turn it into a private company. And
10 they also claimed they had a patent that was valuable
11 for 802.11. But the reason Jim had said "I was
12 surprised to see it was licensed from CSIRO" was the
13 reason all of us were surprised in 1999 that somebody
14 would be licensing OFDM, because the technology is
15 almost as old as I am.

16 Q Did you look at the patent?

17 A No.

18 Q Then in August of 1999 -- let's look at
19 Exhibit 1601. Do you see that?

20 A Yes, I do.

21 Q This is a more lengthy report. Can you tell
22 us who the gentleman is who prepared this?

23 A Shmuel Ravid and Henry Yang.

24 Q Who were they in the process of looking at
25 Radiata?

1 A They're two Intel engineers with wireless
2 backgrounds who were helping lead the technical
3 investigation of all of these different companies we
4 were evaluating.

5 Q Look at Page 6395, if you would, which is two
6 or three pages into it.

7 Do you see where it says "Value to Intel"?

8 A Yes, I do.

9 Q Messrs. Ravid and Yang report there, do they
10 not, that "Radiata is one full year ahead of us if we
11 were to start the activity today"?

12 Do you see that?

13 A Yes.

14 Q And they also say that "Some other value for
15 Intel might be realized, including some of the
16 intellectual rights originally held by CSIRO," right?

17 A Yes.

18 Q Now, look at Page 6394, which is the
19 immediately prior page.

20 Do you see that?

21 A Yes, I do.

22 Q The first full bulletpoint up near the top.

23 A Yes.

24 Q Messrs Ravid and Yang report -- they're
25 referring to Radiata, right?

1 A Correct.

2 Q "They have a nonexclusive loyalty" -- you
3 assume that means royalty?

4 A Yes, I would assume.

5 Q "Arrangement with CSIRO on CSIRO's COFDM
6 patent. The loyalty is the lesser of 5 percent chip
7 price for 100,000 units or 3 percent of chip price for
8 over 3 million units." Do you see that?

9 A Yes.

10 Q And then they says CSIRO is considering
11 granting nonexclusive licensing to IEEE for 802.11. Do
12 you see that?

13 A Yes, I do.

14 Q Okay. You knew from your work with the 802.11
15 standard setting what that was referring to was that
16 CSIRO was -- was thinking about claiming that its patent
17 was essential to the standard; isn't that right?

18 A Actually I read that differently. But you
19 would have to ask CSIRO what they meant.

20 Q And then it says -- and then it says that "We
21 believe that Radiata does not have any exclusive right
22 to the COFDM technology," right?

23 A Yes. That's what it says.

24 Q That's because CSIRO had licensed the product,
25 right?

1 A Yes.

2 Q Now, after you got this report, another report
3 about CSIRO's COFDM patent, did you look for the patent?
4 Did you ask anybody to look for the patent?

5 A No. As we were investigating all these
6 companies, you know, every company we met with, and we
7 met with literally dozens of companies, they would all
8 say, "Oh, by the way, we filed for all these great
9 patents." So the only way we could even have the time
10 to look at them is if it was somebody we actually
11 thought we wanted to do a deal with, and Radiata never
12 got that far in the evaluation process, they got
13 eliminated earlier than that, so we never actually
14 evaluated the patents.

15 Q By March of 2000 they were back in the
16 running, right?

17 A To be an interim buyer of 5 gigahertz silicon,
18 correct.

19 Q Let's look quickly at Exhibit 1478. That's an
20 e-mail dated March 2000. That's from Duncan Kitchin,
21 right?

22 A Yes.

23 Q And Mr. Kitchin was a technical guy at Intel
24 that was responsible for helping out with the wireless
25 networks?

1 A Yes.

2 Q And the third bullet from the bottom he
3 reports about a conversation with Dave Skellern from
4 Radiata. Do you see that?

5 A Yes.

6 Q And he says that their, Radiata, solution is
7 the most impressive I have seen from anybody by some
8 way, right?

9 A Yes.

10 Q Now, look at Exhibits 1479. Do you see that?

11 A Yes, I do.

12 Q This is yet another report of an inquiry of
13 Radiata about a potential investment or acquisition,
14 right?

15 A No, this was the meeting for them in 2000.
16 This was after we had signed the deal with Symbol. This
17 was about being an interim supplier until we could
18 develop or own 5 gigahertz chips.

19 Q Okay. Well, if you could look at the second
20 bullet point. Do you see that?

21 A Yes, I do.

22 Q There's a reference there to a Jackpot. Do
23 you see that?

24 A Yes.

25 Q Jackpot was the 802.11a chip development that

1 was going on at Intel, right?

2 A Yes, that was the code name for it.

3 Q All right. And look at the second page. This
4 is Mr. Haass's memo about a potential deal with Radiata,
5 right?

6 A Yes.

7 Q Look at the second page, the third bullet. Do
8 you see there where Mr. Haass is reporting to you,
9 licensed with CSIRO, COFDM patent. Do you see that?

10 A Yes.

11 Q He says, "They believe this is a necessary
12 patent for anybody doing COFDM." Do you see that?

13 A Yes.

14 Q Then he says, "Need to explore this, COFDM for
15 wireless LAN block us," right?

16 A That's what it says, yes.

17 Q So you understood that what he was asking was
18 could this patent that was being reported to us from
19 Radiata that belongs to CSIRO, could it block us with
20 Jackpot Centrino, that's the question he was asking,
21 wasn't it?

22 A Yes, he was asking is it really a necessary
23 patent.

24 Q Did you get the patent then?

25 A No. One of our engineers had already been

1 shipping products for years with previous employers that
2 used OFDM. It had been around for decades.

3 MR. GILCHRIST: Excuse me, Your Honor, I
4 have to move to strike this. I think it's inconsistent
5 with one of the answers we've got.

6 THE COURT: All right. Restate your
7 question, please.

8 Q (By Mr. Gilchrist) You didn't get the patent,
9 did you?

10 A No.

11 Q You didn't ask anybody to get the patent?

12 A No.

13 Q One of your colleagues was asking if the
14 patent might block Centrino and the Jackpot effort,
15 right?

16 A Correct. And the experts in the company who
17 had already shipped products based on OFDM with previous
18 employers explain that a new patent with OFDM doesn't
19 seem credible.

20 MR. GILCHRIST: Your Honor, I move to
21 strike. This is not consistent with what we've been
22 told in interrogatory answers.

23 THE COURT: All right. Sustained as
24 nonresponsive.

25 Q (By Mr. Gilchrist) You've been told that all

1 the fundamental technology was being developed at CSIRO,
2 right?

3 A That all of Radiata's technology with CSIRO,
4 yes.

5 Q You were told about a COFDM patent with CSIRO,
6 right?

7 A Yes.

8 Q You were told it might block all of your
9 efforts with 802.11a, right?

10 A We were told Radiata believed that it might,
11 yes.

12 Q And you didn't look at the patent?

13 A Correct.

14 MR. GILCHRIST: Thank you, Your Honor.

15 THE COURT: All right. Cross-examination
16 -- or direct examination, Mr. Jones.

17 MR. MIKE JONES: Thank you, Your Honor.

18 CROSS-EXAMINATION

19 BY MR. MIKE JONES

20 Q May it please the Court.

21 I would like to go, if we could, to slide 3.
22 This is PTX Exhibit 1479. And these are some Radiata
23 meeting notes that we have talked about just a second
24 ago.

25 Now, these meeting notes were dated what date,

1 Mr. Saltzman?

2 A August 7, 2000.

3 Q And this is a meeting you actually attended,
4 right, sir?

5 A Yes.

6 Q And you were there when this meeting occurred;
7 is that correct, sir?

8 A Yes, I was.

9 Q And it talks about something code name
10 Jackpot. How do you get the name Jackpot?

11 A Well, all of the wireless LAN products, we
12 pick code names based on geographic locations in North
13 America. So to be fun, when we started the
14 investigation, it was area 51, and after that, all the
15 early products, we found places in Nevada like Sparks
16 and Jackpot that were around the alleged area 51 in
17 Nevada.

18 Q Now, it says here that they believe this is a
19 necessary patent for anybody doing COFDM. Now, would
20 they use the word "they" there, who are they referring
21 to? Is that Intel?

22 A No, that's the Radiata employees.

23 Q Now, is there a connection or a relationship
24 between Radiata employees and CSIRO?

25 A Yes, all of Radiata's founders worked at CSIRO

1 and spent years developing their products there before
2 they spun out into Radiata.

3 Q So when they use the word "they" here, it's
4 saying that Radiata and ex-CSIRO employees believe that
5 this is a necessary patent for anyone doing COFDM,
6 right?

7 A Correct.

8 Q And we've seen in a prior e-mail where Intel
9 employees had written that we do not believe they have
10 exclusive rights concerning COFDM, right, sir?

11 A Yes.

12 Q Okay. Now, so it's Radiata that believes
13 that. Now, why did you not go at this time and look at
14 this particular patent, sir?

15 A Well, mostly because OFDM was so old, our
16 engineers didn't think it was credible there could be a
17 new patent issued on it.

18 As I tried to mention earlier, we had
19 engineers who had developed OFDM products for previous
20 employers shipping commercially for years before, so
21 it's been around a long time.

22 Q Now, was it abnormal, normal, usual, unusual
23 for these companies that y'all were talking to about
24 partnering with on developing this technology to say
25 they had patents or they were licensed to patents?

1 A It was pretty much standard procedure when we
2 met with the company, whether it be a supplier or a
3 potential investment or acquisition, to say here's our
4 team, here's our products, by the way, here are the
5 patents we either have or have applied for.

6 Q And what would y'all at Intel do when people
7 told you about patents or either license to patent, did
8 y'all investigate each and every one of them?

9 A We wouldn't have had enough staff to even
10 begin to investigate all of them. So we didn't
11 investigate any patents until we saw there was a company
12 we might actually want to do business with, to see if in
13 fact they had a patent that was actually valid.

14 Q So it wouldn't be possible to do that with all
15 the people you were talking to, right, sir?

16 A No.

17 Q Now, the date of this e-mail, the date of this
18 e-mail we've established is August the 7th, 2000,
19 correct, sir?

20 A Yes.

21 Q Now, at that point in time were the 802.11a
22 and "b" standards already in existence?

23 A Yes, they had been ratified for over a year at
24 that point.

25 Q They came out in 1999, right?

1 A Yes.

2 Q And you had started working with Symbol on
3 your "a" chips and your "b" chips in February 2000, I
4 believe; is that right?

5 A Correct, about six months before this memo.

6 Q So at this point in time you're already in the
7 middle of your work developing your Centrino platform
8 products in your joint efforts with Symbol; is that
9 true?

10 A Yes.

11 Q So that's all going on, correct, sir?

12 A Pardon?

13 Q That's all going on?

14 A Yes, that's correct.

15 Q Now, while we're going through e-mails, I
16 would like to also talk to you about another one. Would
17 you turn in your packet to Exhibit 1590, which is the
18 e-mail which you discussed with Mr. Gilchrist from Craig
19 Barrett. Do you recall that?

20 A Yes, sir. I've just got to find it again.

21 Q I'm sorry for making you jump around. I
22 apologize.

23 A Okay. I found it.

24 Q Mr. Gilchrist and I should get better
25 coordinated. At least I picked up on the one he ended

1 with.

2 Now, if you'll look at page 8411, it talks
3 about that there's a tremendous opportunity there to
4 drive broadband, right, sir?

5 A Yes.

6 Q But he refers to more than WLAN. Now, WLAN
7 would be 802.11 technology, right?

8 A Yes.

9 Q But he also refers to something else, WWAN.
10 What's that?

11 A That's wireless wide area networking, so
12 that's the cellular technologies.

13 Q So this big opportunity that he is talking
14 about and that Mr. Gilchrist referred to, that's more
15 than just 802.11 or WLAN, correct, sir?

16 A Correct, because wireless is much more
17 broadly.

18 Q Let's go to another e-mail we were talking
19 about. If we could, could we go to slide 4, please.
20 And slide 4, this is the e-mail string with Mr. Laswell,
21 Mr. Lansford and yourself, that's around June and July
22 of 1999, right?

23 A Yes.

24 Q Okay. And in this e-mail Mr. Lansford says he
25 was surprised to see that the OFDM technology was

1 licensed from CSIRO. Were you surprised, also?

2 A Yes, I was.

3 Q And why were you surprised, sir?

4 A Again, the technology had been around a long
5 time. We had engineers who had already developed OFDM
6 products and shipped them commercially for years, so it
7 just seemed strange there would be new patents on
8 something that's been around for decades.

9 Q Now, if we go up a little further, we see that
10 Mr. Laswell. Is it Laswell?

11 A Laswell.

12 Q Okay. I'll try to get that right.

13 Mr. Laswell says that it's no surprise to him
14 because the technology had been developed at CSIRO.
15 Now, why would he say that?

16 A So he knew --

17 MR. GILCHRIST: Your Honor, I'm going to
18 object to this. This calls for speculation.

19 THE COURT: Sustained.

20 Q (By Mr. Mike Jones) Again, was there a
21 relationship -- what was the relationship between CSIRO
22 and Radiata?

23 A Radiata actually began -- the founders all
24 began their development work at CSIRO and then
25 negotiated with the Australian government to take that

1 stuff they developed at CSIRO and spin it out into a
2 private corporation.

3 Q And he also says they hold licenses to it all,
4 and then he puts in parenthesis that we've got
5 highlighted there, "they claim."

6 Again, who is the "they" that's making the
7 claim?

8 A Radiata.

9 Q I would like to next go to Plaintiff's Exhibit
10 1478, sir, if we could. And slide 5.

11 Now, this is the e-mail from Duncan Kitchin
12 that you talked about in which he says in the e-mail, "I
13 had a long meeting with Dave Skellern to discuss what
14 they have for 5 gigahertz PHYs." Do you see that?

15 A Yes, I do.

16 Q Now, 5 gigahertz PHYs, is that all you need to
17 practice 802.11a or is there more?

18 A No, it's sort of like if you're building a
19 car, it's like the transmission, but you still need to
20 get a motor, a steering wheel, tires, doors, windshield
21 wipers and all the rest.

22 Q What else do you need to practice 802.11a
23 besides 5 gigahertz PHYs?

24 A Well, the engineers kind of break networking
25 products into layers. They have a standard model they

1 call seven layers. And so the PHY is what they call
2 layer one. So you basically need the stuff in the other
3 six layers, so you need the medium access control chip,
4 you need antennas, filters, you need driver software so
5 your computer knows how to configure the board, you need
6 application software to be able to access hotspots and
7 so on.

8 Q So he's only -- when he talks about there,
9 he's only talking about part of what you need in order
10 to practice 802.11a, right, sir?

11 A That's correct.

12 Q Thank you, sir.

13 Now, the next slide I would like to turn our
14 attention and talk a little bit about the discussions
15 that went on with Radiata. I believe we've already
16 established this just to make sure. Was Radiata the
17 only company that Intel talked to about wireless
18 connectivity technology?

19 A No, we met with literally dozens of companies.

20 Q And we've seen a slide, we'll go to it in just
21 a moment, that H010 slide the plaintiffs have shown,
22 that does not contain all of the people you talked to
23 about this, right?

24 A No, not at all.

25 Q That's just part of them.

1 Now, who were some of the people that y'all
2 talked to besides Radiata about wireless connectivity?

3 A Well, we pretty much looked at everybody who
4 was active in the 802.11 standards body and tried to at
5 least set up a phone conversation with them and wound up
6 having meetings or multiple meetings. So it would have
7 been silicon companies like Atheros, Intersil, Lucent,
8 it was system companies doing networking cards and
9 access points like Symbol and Aeronet, startups like
10 ShareWave, RadioLAN, Proxim. We met with lots of
11 different companies.

12 Q Now, did you personally have involvement in
13 the Radiata discussions?

14 A In some of them, yes.

15 Q Did you ever see the '069 patent?

16 A No, I didn't.

17 Q Did the Radiata discussions ever enter a very
18 serious stage?

19 A No, we never got -- essentially what we were
20 looking for, they only had a small piece of the puzzle
21 and we were trying to look for more of a one-stop shop
22 which is why we did the deal with Symbol Technologies.

23 Q Why did they not get to that very serious
24 stage? What were the problems?

25 A Well, they had a file that looked very good,

1 but it was only a small piece of what we needed to
2 actually build a product line. So we ended up doing a
3 deal with Symbol Technologies where they had the other
4 chips that we needed, they had the antenna expertise,
5 the certification expertise, the software expertise, the
6 customer integration expertise. Like I said, we were
7 looking for kind of more of a one-stop shop to help us
8 jump start our efforts.

9 Q Can we go to slide 1, please, sir. Thank you
10 so much.

11 Now, this is from Plaintiff's Exhibit 1601
12 that Mr. Gilchrist just showed us part of, but there's
13 another part that he didn't show us.

14 If you'll go on page 6396 of that exhibit,
15 you'll see that there's a section entitled "Risks to
16 Intel." Is that correct, sir?

17 A Yes.

18 Q And in this particular session, it talks about
19 the risks that are identified to Intel by the people
20 that went to Australia and visited Radiata, correct,
21 sir?

22 A Correct.

23 Q And this is their report of that meeting; is
24 that correct, sir?

25 A Yes, it is.

1 Q Now, they say here -- and let's look at the
2 middle one first. In this report they say here that it
3 is clear that some of the required functions needed to
4 support a fully-released product are missing.

5 Is that correct?

6 A Yes.

7 Q Now, you were involved in these discussions,
8 right, sir?

9 A I wasn't at that meeting.

10 Q You weren't at that meeting, but you were
11 involved in the meeting of the discussions between
12 Radiata and Intel about possibly working together,
13 right?

14 A Yes, sir.

15 Q And did y'all find that to be the case as you
16 went through those investigations?

17 A Yes, we did.

18 Q And what was missing?

19 A Again, they had the one element, the PHY, but
20 they didn't have the medium access controller, they
21 didn't have the antenna technology, the expertise, the
22 certification teams, the driver-level software teams,
23 the application software teams, and the experience of
24 working with the customers they integrated into their
25 computers.

1 Q Now, it also says here in this same exhibit
2 that Mr. Gilchrist just showed us that the main risk for
3 Intel is will Radiata get to a producible
4 well-engineered product.

5 It says that, doesn't it?

6 A Yes, it does.

7 Q Did Radiata ever get to a producible
8 well-engineered product?

9 A Well, they produced a product, but it was not
10 competitive, so Cisco shipped -- it shipped about a year
11 late and Cisco withdrew it from the market pretty
12 quickly. So I guess that that would not qualify as
13 well-engineered.

14 The issue that is kind of a constant dream
15 from the technical leaders that we had investigating
16 them was none of these guys from CSIRO had ever built a
17 commercial product before, they were all professors and
18 Ph.D. students. So it's the danger of going from the
19 theory of what a chip should be to actually producing
20 something that could be manufactured reliably at a low
21 cost.

22 Q If we could, could we go to slide H010, which
23 I think was shown to us in opening and also shown to us
24 earlier today.

25 Now, this is not all of the people at Intel

1 nor is it all the people that they had discussions with,
2 right, sir?

3 A Correct.

4 Q But these are the ones that are on this
5 particular slide?

6 A Yes.

7 Q Okay. Let me ask you this: Has Alantro made
8 products?

9 A Yes.

10 Q Does Breezecom make products?

11 A Yes.

12 Q Does Aeronet make products?

13 A Yes.

14 Q Does Xircom make products?

15 A Yes.

16 Q Does Symbol make products?

17 A Yes.

18 Q Does Cometa make products?

19 A Yes.

20 Q Does Nomadix make products?

21 A Nomadix, yes.

22 Q Nomadix, sorry. Thanks for helping me with my
23 pronunciations. I butcher it.

24 What about Centrino. Now, Centrino, that's a
25 brand name for certain products at Intel, right?

1 A Correct.

2 Q So those are not Radiata products, right?

3 A No, it's a platform brand.

4 Q But when we look at Radiata, we see that they
5 have not made well-engineered products that were
6 successful, right, sir?

7 A Correct.

8 Q Do you know what Cisco ultimate did with
9 regard to its investment with Radiata?

10 A Yes.

11 Q What did they do?

12 A They shut down the silicon effort, started
13 buying chips from a company called Atheros and took a
14 large write down of their acquisition.

15 Q Thank you, sir.

16 I would like to next turn your attention to --
17 may I get something from the table, Your Honor?

18 THE COURT: Yes, you may.

19 MR. MIKE JONES: Thank you.

20 Q (By Mr. Mike Jones) I would like to next turn
21 your attention, if I could, to Intel's work with laptop
22 computers. Now, Mr. Van Nest was kind enough to show us
23 yesterday some old bulky laptops that you would see in
24 the '90s. You're familiar with them, they are big and
25 bulky?

1 A Yes.

2 Q And today we have light ones and thin ones
3 like this, right?

4 A Yes.

5 Q Now, in the '90s, did Intel make a conscious
6 decision that they wanted to do research and development
7 in order to be able to produce laptop computers that
8 were better, that were lighter and perform better like
9 this one can?

10 A Yes. We realized instead of taking the chip
11 design to work in a desktop computer that would always
12 be plugged in, we needed to completely redesign it so it
13 could consume a lot less power, operate more efficiently
14 so you could get, you know, long battery life, you could
15 get thin sizes and lightweight because you wouldn't need
16 to put things like fans in them to cool them off.

17 Q Now, what's Intel's core business?

18 A Microprocessors.

19 Q And what are microprocessors? How do they
20 relate to this laptop computer?

21 A And I think of them as really the brains and
22 the heart of the computer. It really controls every
23 other function of the computer.

24 Q I know this is a stupid question, but does
25 Intel have any expertise with regard to microprocessors

1 or CPUs?

2 A Well, we like to think so. Intel actually
3 invented microprocessors in the 1970s and we're the
4 world leader in microprocessor sales.

5 Q Now, what needed to be changed? What needed
6 to be improved about microprocessors from the '90s in
7 order to get to this particular laptop that we've got
8 here in my hand, what needed to be done?

9 A One of the most important things was working
10 on how efficiently they could convert the electricity
11 used to power them into the information processing.

12 So it's sort of like a light bulb. When
13 electricity goes into a light bulb, it either becomes
14 light or it becomes heat.

15 In a microprocessor, electricity either
16 becomes information processing or it becomes heat. So
17 if you're really efficient, you don't generate a lot of
18 heat. If you do like the old ones, you put them on your
19 lap and it gets your attention, it gets hot. But by
20 being more efficient, it could run cooler, you didn't
21 have to put a bulky and expensive fan in there to cool
22 them off, you've got a nice sleek design that's easier
23 to carry around. And it's important to be able to do
24 this without sacrificing the performance.

25 Q Now, did Intel, over the course of numerous

1 years with many, many people working on it, develop an
2 improved chip that solved these problems?

3 A Yes, we did.

4 Q And I think we've heard that chip referred to
5 by a couple different names. Was the code name first
6 Bantias?

7 A Bantias was the code name which initially
8 shipped as Pentium M.

9 Q And has that CPU or that microprocessor that
10 has enabled laptops to be better and solve the problems
11 you discussed, has it been successful?

12 A Oh, it's been a huge success for us. I mean,
13 now more laptops are sold than desktops every year,
14 where before that whole Centrino thing, it was maybe 10,
15 15 percent of laptops were -- of PCs were laptops.

16 Q Now, I would like to next turn your attention
17 to Intel's work with regard to wireless connectivity.
18 Now, when you first came onboard, you told us that y'all
19 were investigating many types of wireless technology,
20 right, sir?

21 A Yes.

22 Q And we've already talked about bluetooth,
23 we've already talked about HomeRF, but it didn't stop
24 there, did it? I mean, were there others that y'all
25 looked at?

1 A Yes, we did.

2 Q Did you ultimately zero in on 802.11
3 technology?

4 A Yes.

5 Q And with regard to 802.11 technology, did you
6 partner up with somebody else to develop wirelessly kind
7 of connected products?

8 A Yes, we formed a multi-year deal with a
9 company called Symbol Technologies.

10 Q And why did you choose Symbol? Well, let me
11 ask you this as a predecessor to the question. Were you
12 actually involved in those negotiations?

13 A Yes.

14 Q Were you part of the discussion?

15 A Yes, I led the investigations and led the
16 negotiation.

17 Q And why did you choose Symbol? You told us
18 why y'all didn't do a deal with Radiata, why did you
19 choose Symbol to partner up with?

20 A There are several reasons. First, Symbol was
21 leader in wireless networking already. They had deep
22 expertise in technology at the chip level, the software
23 level, the system level. Geographically this division
24 of Symbol had offices near some of our offices, so
25 logistically it would be a lot easier to collaborate on

1 product development. And a lot of the top executives of
2 this division were actually ex-Intel employees, so we
3 figured when we screwed up and lapsed into our Intel
4 jargon, these guys would at least know what we were
5 trying to say.

6 Q Now, did you and Symbol ultimately come up
7 with a product that complied with 802.11a only?

8 A No.

9 Q Did Intel ultimately come up with a product
10 that met 802.11a standards only?

11 A Yes, we did.

12 Q And did it work with Symbol on 802.11a
13 products?

14 A Well, we -- the product that was developed
15 from the former Xircom team was 802.11a only, and it
16 would work with any 802.11a product.

17 Q So it was the Xircom team and you that worked
18 on the 802.11a-only product?

19 A Correct.

20 Q And did you actually come up, build a product
21 and ultimately sell a product that met the 802.11a-only
22 standards?

23 A Yes, we did.

24 Q Was that product a success?

25 A Unfortunately, no.

1 Q And why was it not a success?

2 A Because nobody wanted to buy a product that
3 wouldn't interoperate with 802.11b which was what
4 everybody was using.

5 Q Now, we saw a bunch of your statements that
6 you've given before the time y'all actually produced the
7 product and sold it, right?

8 A Right.

9 Q And it's pretty high with 802.11a, right?

10 A Yes.

11 Q Were you right or wrong?

12 A The customers had a different view than I did.

13 Q I understand. Okay. Never admit you're
14 wrong.

15 A I was wrong, sir.

16 Q Let's turn to 802.11b. With regard to
17 802.11b, did you work in partnership with Symbol to
18 develop your 802.11b chip?

19 A Yes, we did.

20 Q And did you start beginning your work and
21 designing that chip when that agreement started? I
22 believe the agreement was entered into in February of
23 2000?

24 A Yes.

25 Q How long was it between y'all started that

1 work until you ultimately launched your 802.11b-only
2 products under the Centrino platform?

3 A It took over three years.

4 Q And why did it take so long?

5 A Well, that's kind of what it takes to develop
6 that kind of a product. You start with the standard,
7 which kind of gives you a list of requirements of things
8 it needs to do, but it doesn't give you the recipe of
9 how to make it do that. So you got to interpret the
10 standard, then you got to talk to customers to
11 understand how they want to use the product and what
12 does the standard not contemplate that I need to add to
13 the product.

14 And after you do this design, you start
15 building the first version of the product, then you got
16 to test it and say, okay, does everything work like it's
17 supposed to, and it pretty much never does the first
18 time around. So then you go back and debug that, create
19 a new version, retest it.

20 And when you get everything finally to a
21 version where it looks like everything functions the way
22 it should in a plain vanilla laptop, then you got to go
23 put it in what we call real world compatibility testing.
24 So in the real world people have all kinds of different
25 software and things loaded on their laptops and you have

1 to see, okay, now does it break when you try to use it
2 in the laptops the way people normally have them
3 configured. So you go through another cycle of
4 debugging and fixing.

5 Of the magnitude when we launched Centrino,
6 there were 300 person years of engineering just in the
7 validation testing on Centrino.

8 Q Thank you, sir.

9 Now, we've heard Mr. Gilchrist refer to the
10 hotspot program where Intel went out and put in places
11 you could use wireless connectivity with laptops. Do
12 you remember that?

13 A Yes, I do.

14 Q Was that built around the 802.11b Centrino
15 products?

16 A Yes, it was.

17 Q Was this launch successful?

18 A It was tremendously successful. Before the
19 Centrino launch, only about ten percent of all laptops
20 shipped with WiFi pre-installed, and within the first
21 year of Centrino about 60 percent of all laptops in the
22 world shipped with WiFi pre-installed. So it's been
23 called the fastest broadband option.

24 Q How about the 802.11b products compare to the
25 802.11a products?

1 A The "a" only products?

2 Q Yes.

3 A Night and day. 802.11b was where the momentum
4 was, that's what the industry was rallying behind. And
5 the "a" only product, people kind of looked at that like
6 Beta versus VHS.

7 MR. MIKE JONES: I pass the witness, Your
8 Honor.

9 THE COURT: Redirect?

10 MR. GILCHRIST: Thank you, Your Honor.
11 If I could quickly confer with counsel about something.

12 THE COURT: Yes, uh-huh.

13 MR. GILCHRIST: May we approach?

14 THE COURT: Yes, you may.

15 (At the bench).

16 MR. GILCHRIST: Our agreement is that
17 we're -- when we put things on our may-use exhibit list,
18 we'll only use them for impeachment or refreshing
19 recollection. This was originally a disclosed exhibit
20 for today, but they objected to it because it has a
21 bunch of responsive information in the answer that are
22 excluded by your motion in limine.

23 All I propose to do is to read the
24 question and ask the witness to read the answer and then
25 to tell me that there's nothing in there about engineers

1 having told him that they had worked on COFDM products
2 years before and then to move to strike the testimony
3 that he gave now for the third time it was elicited.

4 THE COURT: Was this in an interrogatory
5 answer you say?

6 MR. GILCHRIST: Yes. It's number 20.

7 THE COURT: Which part do you propose to
8 read?

9 MR. GILCHRIST: Just the question, Your
10 Honor. I was going to ask the witness to read it and
11 then tell me whether there was anything in there about
12 engineers telling them that OFDM had been around for a
13 long time.

14 MR. MIKE JONES: Your Honor, my objection
15 to that, besides disclosure issue, would be the fact
16 that that's improper impeachment. This witness did not
17 sign those answers to interrogatories.

18 MS. ANDERSON: Then they simply can't
19 refresh his recollection.

20 THE COURT: Wait a minute, one at a time,
21 please.

22 MS. ANDERSON: They can't refresh his
23 recollection. He didn't write them. There are lots of
24 lawyer objections to the meaning of the terms in the
25 question which will make no sense to this witness on the

1 stand. All it will do is serve to confuse and embarrass
2 him.

3 THE COURT: I think it's legitimate
4 cross. Overruled.

5 MS. ANDERSON: Thank you, Your Honor.
6 (End of bench conference).

7 MR. GILCHRIST: Your Honor, I appreciate
8 the offer, but I think I should return this.

9 MR. MIKE JONES: Thank you.

10 REDIRECT EXAMINATION

11 BY MR. GILCHRIST

12 Q Mr. Saltzman, I'm not going to ask that the
13 exhibit go up again. We've looked at it a couple times
14 already.

15 But Mr. Jones asked you some questions about
16 the two big initiatives that were going on with regard
17 to wireless that the CEO and the COO were talking about
18 after the strategic long-range planning meeting.

19 Do you remember that testimony?

20 A Yes, I do.

21 Q And part of it was WLAN and part of it was
22 WWAN, right?

23 A Correct.

24 Q You refer to Centrino as an exceedingly
25 successful program, correct?

1 A Yes.

2 Q That was very important to Intel's business?

3 A Yes.

4 Q It fulfilled the promise that Mr. Barrett set
5 out that it could help invigorate Intel's position as a
6 leadership company in the high-tech industry, right?

7 A Yes.

8 Q There's no WWAN in Centrino, is there?

9 A It's not part of the default platform.
10 Because of the regulatory environment, every country is
11 different and the service providers are unique. It's
12 licensed spectrum not like WiFi that's unlicensed, it's
13 an after-market product that people add depending on
14 which carrier they want to subscribe from.

15 Q It's not in Centrino, right?

16 A Correct.

17 Q Cisco bought Radiata, right?

18 A Yes.

19 Q How much did they pay for it?

20 A I believe it was around 300 million.

21 Q And you've described it as a company that
22 basically had a few good engineers, no customers, no
23 experience developing relationships with customers, only
24 a PHY layer, right, for the 802.11a product?

25 A Yes.

1 Q But they still got bought for \$300 million
2 from Cisco, right?

3 A Yes.

4 Q Now, I'm going to ask you to look at, if you
5 would -- first what I'm going to do is I'm going to
6 identify the exhibit. It's Exhibit 3534 and it's
7 interrogatory number 20. And this is an interrogatory
8 that CSIRO sent to Intel and I would like to read it for
9 you.

10 It says: Describe in detail all facts that
11 support -- all facts that support and relate to any
12 contention by you and your infringement of the '069
13 patent they found was not willful, including but not
14 limited to the identification of all documents that
15 refers to, relate to, support any contention and the
16 identification of any witness knowledgeable as to such
17 facts and the relevant information known to each such
18 witness.

19 So that's the question that's going to be
20 asked, tell us everything that you know, all the people
21 that know it about whether or not Intel's infringement
22 was willful, all right?

23 A Okay.

24 Q Now, what I'm going to have to do, with His
25 Honor's permission, is approach and let you read the

1 answer but I would ask you not to read it out loud,
2 okay?

3 A Okay.

4 MR. GILCHRIST: May I, Your Honor?

5 THE COURT: Yes.

6 A (Witness complies.)

7 Okay. I've read it.

8 Q Thank you, Mr. Saltzman.

9 Now, was there anything in that interrogatory
10 response about anything that Intel knew about whether or
11 not it was not willful in infringing the patent, was
12 there anything that in that response to referred to
13 engineers who had known about OFDM in prior years and
14 shipped products using OFDM in prior years? Was there
15 anything in that answer that said that?

16 A No. I didn't see that, no.

17 MR. GILCHRIST: Your Honor, I once again
18 move to strike that testimony he gave before about to
19 that effect.

20 MR. MIKE JONES: Your Honor, may I
21 approach the bench?

22 THE COURT: Yes.

23 (Bench conference.)

24 THE COURT: Speak into the microphone.

25 MR. MIKE JONES: Your Honor, I would just

1 direct your attention, if I could -- could I hand
2 something to Your Honor?

3 THE COURT: Sure.

4 MR. MIKE JONES: We obviously say the
5 patent is invalid. We also refer to Dr. Wicker's report
6 in that. We further refer to the fact that the Buffalo
7 opinion states it's invalid as part of our defense to
8 willfulness, because we think it's invalid.

9 Now we've opened the door to walk down
10 what we have in there. All of these reports are going
11 to say exactly what this man has said. These are
12 engineers -- Dr. Wicker is a -- is a, you know,
13 well-qualified expert engineer who we refer to who has
14 said it's old technology just like this --

15 MS. ANDERSON: Excuse me, Your Honor.
16 May I add one point as well?

17 In the Wicker report, it's identified in
18 his response right off the bat. He lays out the history
19 of OFDM, how it's been around forever. It's exactly
20 what the witness was --

21 THE COURT: This witness didn't testify
22 as to what experts think or -- he testified that
23 engineers told him that OFDM was old technology, and
24 there's nothing in this answer that refers to that, is
25 there?

1 MS. ANDERSON: Not Intel engineers. But
2 Dr. Wicker who has studied the testimony of all of the
3 witnesses in this case, all of the Intel engineers who
4 were examined, the testimony from --

5 THE COURT: Okay. I'm not going to
6 strike the testimony. I think it just goes to the
7 weight. I think you can impeach him with it. But
8 his -- I'll allow his testimony. It's just inconsistent
9 with this. But I'm not going to tie every witness's
10 hands just based on an interrogatory, as far as striking
11 the testimony.

12 MS. ANDERSON: Thank you, Your Honor.

13 (End of bench conference.)

14 Q (By Mr. Gilchrist) Mr. Saltzman, I think there
15 was a Mac notebook that Mr. Jones has, very light, very
16 thin. Is that an Intel product?

17 A Well, it's an Apple product using Intel chips.

18 Q That's relatively new, right?

19 A Yes.

20 Q It's pretty, it's light, got a nice screen.
21 You understand that CSIRO is not claiming a patent on
22 any of those things, right?

23 A Yes.

24 Q Only on pretty much the phy layer that's on
25 the Intel chipset is what is claimed to be infringing.

1 Is that your --

2 A That's my understanding, yes.

3 Q And you don't see any problem with research
4 scientists owning patents, do you?

5 A Not at all.

6 Q You understand that Intel has to respect
7 patents that are owned by research scientists?

8 A Yes. Intel respects all patents. We're large
9 patent owners ourselves.

10 Q And I don't know if you were here for it.
11 Your Honor says that you have to respect patents that
12 belong to Australian government organizations. You
13 agree with that, too, don't you?

14 A Absolutely.

15 Q And we've agreed, I think, that Intel's
16 chipsets infringe the CSIRO patent, right?

17 A Again, I wasn't involved in the earlier part
18 of the trial, but I understand that's a --

19 Q That's a fair point. But you were told by one
20 of your colleagues -- it wasn't just the ordinary due
21 diligence that you do on acquisition. You were told by
22 one of your colleagues that they thought that what they
23 were hearing from Radiata about the CSIRO patent might
24 block the Centrino effort. You heard that in the memo
25 we looked at, didn't you?

1 A What Clark asked was the question saying that
2 Radiata believes this could be a blocking patent and
3 raised the question is this something we need to check
4 out.

5 Q He said could this block us, didn't he?

6 A Yes, he did.

7 Q And you never found out, did you?

8 A We believe we had an answer from our
9 engineers, yes.

10 MR. GILCHRIST: Thank you, Your Honor.

11 Pass the witness.

12 THE COURT: Any recross?

13 MR. MIKE JONES: No, Your Honor.

14 THE COURT: All right. This witness may
15 stand down. We're going to take our morning break at
16 this time. We'll be in recess until 11 o'clock. Please
17 remember my instructions.

18 (The jury left the courtroom.)

19 (Recess.)

20 THE COURT: Mr. Jones.

21 MR. MIKE JONES: Your Honor, I would
22 request that Mr. Saltzman be excused and finally
23 excused. And I believe Mr. Gilchrist is agreeable with
24 that request.

25 MR. GILCHRIST: No objection.

1 THE COURT: All right. He is so
2 released.

3 Who will be your next witness?

4 MR. GILCHRIST: Your Honor, we have a set
5 of deposition video clips to play right now.

6 So the first witness we're going to call
7 is -- is another Intel witness, Barry Davis, who is the
8 Director of Strategic Planning and Marketing of Intel's
9 Wireless Networking Group. His video is going to talk a
10 little bit about the IEEE.

11 It's a series of videos. They're all
12 relatively short, except the last one.

13 THE COURT: Okay. What do all of these
14 video clips -- do they pertain to different people from
15 different defendants? Is that --

16 MR. GILCHRIST: There is, for the most
17 part, one clip for each defendant. The testimony is
18 essentially about their learning of the patent and what
19 they did in response, Your Honor.

20 THE COURT: Okay. All right. And I
21 understand some of these are in Japanese; is that
22 correct?

23 MR. GILCHRIST: There is one or two in
24 Japanese.

25 THE COURT: When do we get to those?

1 MR. GILCHRIST: Those are at the end.

2 THE COURT: Let me know when we get to
3 those, and I'll have an instruction for the jury.

4 MR. GILCHRIST: Very well, Your Honor.

5 THE COURT: All right. Now, you may --
6 is there cross-examination included in these clips by
7 the defendants?

8 MR. GILCHRIST: Your Honor, we agreed to
9 include all of the designations from the defendants in
10 our clips, and with respect -- except for eight minutes
11 in the last one, we've agreed that it will all be
12 charged to the plaintiffs.

13 THE COURT: Okay. So how much time in
14 all of these clips will be charged to the plaintiffs, do
15 you know, or can you give me -- for this one?

16 MR. GILCHRIST: I believe it's going to
17 be 47 minutes or so to the plaintiffs and about eight
18 minutes to the defendants.

19 THE COURT: All right. And who is the
20 first witness?

21 MR. GILCHRIST: Barry Davis, Director of
22 Strategic Planning and Marketing at Intel's Wireless
23 Networking Group.

24 THE COURT: All right. This runs for how
25 long?

1 MR. GILCHRIST: Two minutes and 27
2 seconds.

3 THE COURT: Two minutes and 27?

4 MR. GILCHRIST: Yes.

5 THE COURT: All right. Very well.

6 MR. GILCHRIST: Thank you, Your Honor.

7 (Video deposition of Barry Davis:)

8 "QUESTION: Good morning, Mr. Davis.

9 "ANSWER: Morning.

10 "QUESTION: So during the, from, in the '94
11 period, from the time you started at Intel?

12 "ANSWER: I started Intel in 1987 with Phoenix
13 and lived there for ten years to 1997.

14 "QUESTION: And what was your position in the
15 Wireless Networking Group?

16 "ANSWER: I was, in 2000 -- well, part of
17 2003.

18 "QUESTION: Well, start at the beginning and
19 go through the year then.

20 "ANSWER: Beginning of 2003 I was in charge of
21 strategic planning, strategic marketing for the, for
22 Wireless Networking Group, which was just WiFi. By mid
23 2003, I had relocated back to Portland, Oregon, where I
24 was now in charge of planning for WNG, which included
25 WiFi products as well as WiMAX products.

1 "QUESTION: Okay. You mentioned the IEEE.
2 You had been, for some period of years, involved in
3 participating for Intel in the IEEE; is that right?

4 "ANSWER: Yes, I had. Yes, I had.

5 "QUESTION: Do you recall when Intel first
6 became involved with the IEEE standard-setting process
7 as regards to 802.11?

8 "ANSWER: I don't recall.

9 "QUESTION: Okay. Was Intel involved in the
10 determination of the 802.11b standard?

11 "ANSWER: I don't know.

12 "QUESTION: 802.11a?

13 "ANSWER: I don't know.

14 "QUESTION: 802.11g?

15 "ANSWER: Yes.

16 "QUESTION: Okay. And what respect with
17 802.11g?

18 "ANSWER: We were an active participant.
19 I should say I was an active participant in the
20 development of the 802.11g standards process. As an
21 individual, not as -- as an individual working in the
22 standard-setting body, because that's the rules for the
23 IEEE, I helped develop that standard for the industry.

24 "QUESTION: Okay. When you say you helped
25 develop the standard -- the 802.11g standard for the

1 industry, what exactly did you do? What was your
2 involvement?

3 "ANSWER: Oh, I commented on technology
4 developments, on strategy, on, I help try and drive a
5 consensus for what I believe was the right solution for
6 that technology based on my own personal beliefs and
7 understanding.

8 "QUESTION: What did you think was the right
9 solution?

10 "ANSWER: For 802.11g?

11 "QUESTION: Uh-huh.

12 "ANSWER: At the time I thought OFDM was the
13 right solution.

14 "QUESTION: And why was that?

15 "ANSWER: Because it was closer to 802.11a and
16 it was something that I, my company, was currently
17 building."

18 THE COURT: All right.

19 MR. GILCHRIST: Thank you, Your Honor. I
20 should have mentioned before, but we also have in the
21 middle of these some interrogatories that we're going to
22 read.

23 THE COURT: All right.

24 MR. GILCHRIST: They're all stipulated.
25 Can I do it from the podium?

1 THE COURT: Yes, uh-huh. And let me
2 explain to the jury, Ladies and Gentlemen of the Jury,
3 interrogatories are written questions that a party in a
4 lawsuit, during the pretrial part, can submit to the
5 other side, and the other side submits sworn answers
6 back in response to those interrogatories. They're just
7 questions, but they're directed from one party to
8 another.

9 You may proceed.

10 MR. GILCHRIST: Thank you, Your Honor.

11 So the first one is an interrogatory to
12 D-Link Systems, Inc.

13 The question is: "Identify all steps you
14 took" -- excuse me -- "Identify all steps you undertook
15 to determine that you were not violating CSIRO's rights
16 by making, using, offering to sell or selling within the
17 United States, or importing into the United States,
18 products that infringed or induced infringement of the
19 '069 patent."

20 And the response to the interrogatory is:
21 "CSIRO sent its notices of '069 patent claims only to
22 D-Link Corporation in Taiwan. D-Link Systems did not
23 receive any notice from CSIRO of its claims regarding
24 its '069 patent until it was served with CSIRO's
25 complaint in early 2007."

1 And now, Your Honor, we have a clip of
2 A.J. Wang. He's the Senior Vice President, Chief
3 Technology Officer of D-Link Systems, Inc.

4 THE COURT: All right. How long is this
5 clip?

6 MR. GILCHRIST: Six minutes, Your Honor.

7 THE COURT: All right. Thank you.

8 (Video deposition of A.J. Wang:)

9 "QUESTION: Good morning. Mr. -- is it
10 Mr. 'Wang' or Mr. 'Wang', how is it pronounced?

11 "ANSWER: Wang.

12 "QUESTION: Sorry?

13 "ANSWER: 'Wang' or 'Wang' is fine.

14 "QUESTION: Well, I'd like to -- to say it how
15 you say it, so if you could tell me, I'd appreciate it.

16 "ANSWER: "Wang."

17 "QUESTION: Where are you employed, sir?

18 "ANSWER: D-Link Systems.

19 "QUESTION: How long have you been employed at
20 D-Link Systems?

21 "ANSWER: This is my seventh year.

22 "QUESTION: What is your job title?

23 "ANSWER: Senior vice president, CTO.

24 "QUESTION: CTO stands for chief technology
25 officer?

1 "ANSWER: Correct.

2 "QUESTION: How long have you held that job?

3 "ANSWER: Four -- for about four to five
4 years.

5 "QUESTION: Have you reviewed the CSIRO patent
6 that's at issue in this lawsuit?

7 "ANSWER: I've looked at it.

8 "QUESTION: Is that the '069 patent, as you
9 understood it?

10 "ANSWER: Yes.

11 "QUESTION: Okay. Can you describe what the
12 relationship is between the various D-Link entities, as
13 you understand it?

14 "ANSWER: D-Link Systems Incorporated is the
15 USA entity. There is a D-Link Corporation, what we
16 normally term as headquarters, in Taiwan.

17 "QUESTION: When did you first become aware of
18 any work done by D-Link Systems on an 802.11a product?

19 "ANSWER: Sometime in 2002, 2003.

20 "QUESTION: Are you a member of the IEEE?

21 "ANSWER: Yes.

22 "QUESTION: Have you served on any --

23 "MR. PALMATIER: 'You' meaning, you, A. J
24 Wang, 'you' meaning D-Link Systems?

25 "MR. GILCHRIST: Right. Well, I don't think

1 D-Link Systems can join the IEEE.

2 "QUESTION: But you personally can join,
3 right -- is that how you understood my question?

4 "ANSWER: Both D-Link system or an individual
5 can join.

6 "QUESTION: Okay. Did you -- did both of you
7 join?

8 "ANSWER: The company joined.

9 "QUESTION: Okay. Have you joined,
10 individually, personally, to your counsel's point?

11 "ANSWER: No.

12 "QUESTION: So when you were answering my
13 question before, you meant D-Link Systems had joined?

14 "ANSWER: D-Link Systems has joined and I am
15 the person who joined.

16 "QUESTION: But you are the person who joined?

17 "ANSWER: You have to be assigned person.

18 "QUESTION: When was the first time you heard
19 of my client, CSIRO?

20 "ANSWER: Sometime in June, earlier, I'd say
21 June '05.

22 "QUESTION: Okay. Did you ever hear that
23 ACSIRO or CSIRO were involved in a dispute against a
24 Buffalo?

25 "ANSWER: I had read it on the internet.

1 "QUESTION: When did you do that?

2 "ANSWER: I don't remember the exact timing; I
3 know it was before you serve us.

4 "QUESTION: Have you had any discussions with
5 vendors or chip makers about attempts to design around
6 the CSIRO patent?

7 "ANSWER: No.

8 "QUESTION: Has anyone at a chip maker told
9 you that they tried to design around the CSIRO patent?

10 "ANSWER: No.

11 "QUESTION: Did you ever have any discussions
12 about changing the product lines within D-Link on
13 account of the CSIRO patent?

14 "ANSWER: No.

15 "QUESTION: So you understand that -- well,
16 strike that.

17 "Did you consider Buffalo a competitor of
18 D-Link, however small?

19 "ANSWER: It's a player in the market.

20 "QUESTION: Okay. So you knew that from when
21 you heard about the CSIRO or ACSIRO lawsuit against
22 Buffalo, you knew that CSIRO had pressed claims against
23 a competitor who sold the same kind products that D-Link
24 sold, correct?

25 "ANSWER: Yes.

1 "QUESTION: And at that point, did you
2 consider, given your role as being responsible for
3 licenses, approaching CSIRO to ask them under what terms
4 D-Link might license the '069 patent?

5 "ANSWER: No.

6 "QUESTION: In fact, you didn't even read the
7 patent, right, you waited until after the lawsuit was
8 filed against D-Link to read the patent?

9 "ANSWER: Correct.

10 "QUESTION: Did you ever visit the IEEE
11 website?

12 "ANSWER: Sometimes.

13 "QUESTION: Did you ever look at the IEEE
14 website to determine whether or not there were claimed
15 patents that were reading on the standards that were
16 being discussed in the committee?

17 "ANSWER: I have not.

18 "QUESTION: Did you ever look at the IEEE
19 website to see whether the patent holders who might have
20 standards -- who might have patents reading on the
21 802.11 proposed standards had given any assurances to
22 the IEEE?

23 "ANSWER: I have not.

24 "QUESTION: Is there anything stopping you
25 from concluding one way or the other whether there is --

1 whether D-Link practices the patent with its products?

2 "ANSWER: Personally, I can't form an
3 opinion."

4 THE COURT: All right. Who will be next?

5 "QUESTION: Are you aware that --

6 MR. GILCHRIST: Thank you, Your Honor.

7 Next is an interrogatory directed to Toshiba America
8 Information Systems, Inc.

9 THE COURT: All right.

10 (Conversation with IT assistant.)

11 MR. GILCHRIST: Your Honor, I'm sorry.

12 Apparently there is another section of this witness.

13 THE COURT: All right.

14 MR. GILCHRIST: Only a few seconds.a?

15 "QUESTION: Are you aware that D-Link Corp.
16 got a letter regarding the '069 patent in 2003?

17 "ANSWER: Yes.

18 "QUESTION: Are you aware that that letter
19 talked about D-Link Systems' products?

20 "ANSWER: I'm aware the letter was sent to
21 D-Link Corporation."

22 MR. GILCHRIST: Okay.

23 THE COURT: All right.

24 MR. GILCHRIST: Thank you, Your Honor.

25 The next is an interrogatory directed to

1 Toshiba America Information Systems, Inc.

2 "Identify all steps you undertook to
3 determine whether or not you were violating CSIRO's
4 rights by making, using, offering to sell or selling
5 within the United States, or importing into the United
6 States, products that infringed or induced infringement
7 of the '069 patent."

8 The answer: "Prior to filing this
9 lawsuit, plaintiff's allegations of infringement and
10 offers to license the patent-in-suit were all directed
11 to Toshiba Corporation. Toshiba America Information
12 Systems, Inc., is an indirect subsidiary of Toshiba
13 Corporation. It is Toshiba America Information Systems'
14 regular and customary practice to rely upon Toshiba
15 Corporation to assess allegations of patent infringement
16 raised against products supplied by Toshiba Corporation
17 and sold by TAIS.

18 "TAIS followed that regular practice in
19 this case. In particular, TAIS relied upon Toshiba
20 Corporation to assess plaintiff's allegations that a
21 license under the patent-in-suit was required to market
22 the accused products.

23 "Toshiba Corporation never informed TAIS
24 that TAIS's ongoing activities infringed any valid claim
25 of plaintiff's patent and that plaintiff allegation of

1 infringement was sufficiently meritorious to warrant
2 discussion with TAIS or that Toshiba Corporation
3 required further information from TAIS to assess
4 plaintiff's allegation of infringement.

5 "Toshiba Corporation receives numerous
6 licensing inquiries from various parties around the
7 world, and Toshiba Corporation ordinarily does not
8 inform TAIS when it concludes that a licensing inquiry
9 is last...

10 "Accordingly, based upon this regular and
11 customary business practice, TAIS had no reason to
12 believe that plaintiff's allegations had any merit or
13 required any further investigation."

14 And then we have a clip from James
15 Rohrer. Mr. Rohrer is the Toshiba America Information
16 System's, Inc., corporate representative on the topics
17 of steps TAIS undertook to determine that Toshiba was
18 not violating CSIRO's rights by making, using, offering
19 to sell or selling in the United States or importing
20 into the United States products that infringed or
21 induced infringement of the '069 patent.

22 THE COURT: How long is this video?

23 MR. GILCHRIST: This video is two minutes
24 and 41 seconds.

25 THE COURT: Okay.

1 (Video deposition of Jim Rohrer:)

2 "QUESTION: Good morning, Mr. Rohrer. Is that

3 the correct pronunciation of your last name?

4 "ANSWER: That's good, yes.

5 "QUESTION: Can you please state and spell

6 your name for me.

7 "ANSWER: Jim Rohrer, R-O-H-R-E-R.

8 "QUESTION: Can you tell me who your current

9 employer is.

10 "ANSWER: It's Toshiba America Information

11 Systems, Inc.

12 "QUESTION: And what's your position there?

13 "ANSWER: I'm a technical communications

14 manager.

15 "QUESTION: Is that a part of any particular

16 group?

17 "ANSWER: It's a part of our customer service

18 and support group.

19 "QUESTION: Do you have an understanding as to

20 what the term 'accused product' means?

21 "ANSWER: Yes.

22 "QUESTION: Can you tell me what that

23 understanding is?

24 "ANSWER: It's products that we've sold that

25 use this technology.

1 "QUESTION: When you say 'this technology,'
2 what are you referring to?

3 "ANSWER: The referenced 802.11(a); (g) and
4 (n) wireless technology.

5 "QUESTION: Do you know when TAIS first became
6 aware of the '069 patent?

7 "ANSWER: I believe it was in June of '04.

8 "QUESTION: Did TAIS take any action in
9 response to getting notice of the '069 patent?

10 "ANSWER: Any action at all?

11 "QUESTION: Yes.

12 "ANSWER: I believe the action was to provide
13 information to Toshiba Corporation.

14 "QUESTION: Has TAIS received any
15 nonprivileged opinions about the validity of the '069
16 patent?

17 "ANSWER: No, I don't believe so.

18 "QUESTION: Has TAIS received any
19 nonprivileged opinions on whether the accused products
20 infringed the '069 patent?

21 "ANSWER: Would you repeat that, please.

22 "QUESTION: Sure. Has TAIS received any
23 nonprivileged opinions on whether the accused products
24 infringed the '069 patent?

25 "ANSWER: Not that I'm aware of, no.

1 "QUESTION: And if anyone were to be aware of
2 those opinions you would be it, correct?

3 "ANSWER: I believe I would be aware if there
4 were such, yes."

5 MR. GILCHRIST: Thank you, Your Honor.

6 The next is an interrogatory responded to
7 by 3Com Corporation.

8 Question: "Identify all steps you
9 undertook to determine that you were not violating
10 CSIRO's rights by making, using, offering to sell or
11 selling within the United States, or importing into the
12 United States, products that infringed or induced
13 infringement of the '069 patent."

14 And the answer: "CSIRO initially
15 contacted 3Com regarding its '069 patent by letter dated
16 January 27, 2004. 3Com had incomplete knowledge of
17 802.11a and 802.11g functionally within its wireless
18 products worked as 3Com does not manufacture its
19 wireless products and is not a chip manufacturer and
20 lacks expertise in the manufacturing of wireless
21 integrated circuits.

22 "Upon receipt of CSIRO's letter, 3Com
23 promptly notified its wireless products suppliers and
24 the ASIC chipset suppliers for those products of CSIRO's
25 infringement claims."

1 And then the clip is Alan Miano, 3Com
2 Corporation's corporate representative on the topic of
3 steps 3Com undertook to determine that Toshiba was not
4 violating CSIRO's rights by making, using, offering for
5 sell or selling within the United States, or importing
6 into the United States, products that infringed or
7 induced infringement of the '069 patent.

8 Mr. Miano is a former product line
9 manager for 3Com.

10 THE COURT: Okay. Let me explain to the
11 jury here, as I explained the interrogatories a moment
12 ago, prior to a trial, a party may notice another party
13 for what's called a 30(b)(6) deposition. That's just a
14 rule number. But it's a deposition where you designate
15 a particular area that you wish for the corporation,
16 the -- the other corporation to identify a witness to
17 testify about that particular area. And that's what
18 these -- all of these witnesses so far have been and
19 what this one is. And what Mr. Gilchrist is reading is
20 what the request was to the corporation asking them to
21 produce the witness with knowledge of that area that he
22 just read to you, and then these are the witnesses that
23 were produced. So just a little bit of background to
24 maybe help you understand this better.

25 MR. GILCHRIST: Thank you, Your Honor.

1 This clip is a minute-and-a-half.

2 THE COURT: All right.

3 (Video deposition of Alan Miano:)

4 "QUESTION: Good morning, Mr. Miano.

5 "ANSWER: Good morning.

6 "QUESTION: Can you please state your title at
7 3Com on the record, please.

8 "ANSWER: Okay. When I was at 3Com, it was
9 3Com product line manager.

10 "QUESTION: I'm going to hand you what's being
11 marked as Exhibit 3124. And then let me know if this is
12 what you understand to be the first communication
13 between CSIRO and 3Com with regards to the '069 patent.

14 "ANSWER: Correct. This is what I understand
15 is the first official communication between CSIRO and
16 3Com.

17 "QUESTION: After receiving this letter, other
18 than negotiations and discussions with CSIRO, which
19 we'll get into a little bit more detail a little later
20 in the deposition, what did 3Com do in response to
21 CSIRO's letter?

22 "ANSWER: Starting in February, a few days
23 after the letter was received, 3Com sent letters to its
24 ODM suppliers and silicon partners notifying them of
25 the -- this letter..."

1 MR. GILCHRIST: Next is an interrogatory
2 directed to SMC Networks, Inc.

3 Question: "Identify all steps you
4 undertook to determine that you're not violating CSIRO's
5 rights by making, using, offering to sell or selling in
6 the United States, or importing into the United States,
7 products that infringed or induced infringement of the
8 '069 patent."

9 The answer: "CSIRO initially contacted
10 us regarding its '069 patent by letter dated April 11,
11 2003. SMC had incomplete knowledge regarding how the
12 802.11a and the 802.11g functionally within those
13 products worked, as SMC is not a chip manufacturer,
14 lacks integrated circuit expertise.

15 "Upon receipt of the letter, SMC promptly
16 notified Accton Technology Corporation, its parent
17 company and primary supplier. Upon notification to
18 Accton of SMC's receipt of CSIRO's letter, Accton, on
19 behalf of itself and SMC, promptly and then repeatedly
20 notified its wireless chipset suppliers of CSIRO's
21 infringement claims."

22 And the deposition testimony will come
23 from Iain Kenney. Mr. Kenney is SMC Corporation's
24 representative on the topic of steps SMC took to
25 determine that Toshiba (sic) was not violating CSIRO's

1 rights by making, using, offering to sell or selling
2 within the United States, or importing into the United
3 States, products that infringed or induced infringement
4 of the '069 patent. Mr. Kenney is SMC's director of
5 product marketing.

6 This clip will last approximately a
7 minute-and-a-half, Your Honor.

8 THE COURT: Okay.

9 (Video deposition of Iain Kenney:)

10 "QUESTION: Good morning, Mr. Kenney.

11 "ANSWER: Good morning.

12 "QUESTION: Mr. Kenney, you're the director of
13 product marketing for SMC Networks; is that correct?

14 "ANSWER: Yes, that is correct.

15 "QUESTION: Have you seen this document
16 before?

17 "ANSWER: I have not seen this document
18 before, no.

19 "QUESTION: Can you tell me what this document
20 is?

21 "ANSWER: This document appears to be a letter
22 to a previous CEO of SMC requesting a meeting to discuss
23 licensing of CSIRO's '069 patent.

24 "QUESTION: So it's likely that SMC became
25 aware of the '069 patent at least as early as April 11th

1 of 2003, correct?

2 "ANSWER: Yes, absolutely, based on the date
3 of this letter.

4 "QUESTION: Did SMC do anything in response to
5 this letter?

6 "ANSWER: I believe, based on the
7 interrogatory responses which we have submitted, that
8 this letter was passed to our parent company, Accton
9 Technology, and that they undertook discussions on
10 behalf of SMC as we are a subsidiary -- essentially a
11 sales and marketing subsidiary of a much larger company
12 in the form of Accton Technology."

13 MR. GILCHRIST: All right. The next is
14 an interrogatory directed to Accton Technology
15 Corporation.

16 "Identify all steps you undertook to
17 determine that you were not violating CSIRO's rights by
18 making, using, offering to sell or selling within the
19 United States, or importing into the United States,
20 products that infringed or induced infringement of the
21 '069 patent."

22 The answer from Accton: "CSIRO initially
23 contacted Accton regarding its '069 patent by letter
24 dated April 11, 2003. Accton had incomplete knowledge
25 regarding how the 802.11a and 802.11g functionally

1 within those products worked, as Accton is not a chip
2 manufacturer and lacks integrated circuit expertise.

3 "Upon receipt of CSIRO's letter, Accton
4 promptly and then repeatedly notified its wireless
5 chipset suppliers of CSIRO's infringement claims."

6 And the testimony will come from Jack
7 Weaver -- I believe Mr. Weaver stood up the other day --
8 Accton Technology Corporation's representative on the
9 topic of steps Accton took to determine that Toshiba
10 (sic) was not violating CSIRO's rights by making, using,
11 offering to sell or selling within the United States, or
12 importing into the United States, products that
13 infringed or induced infringement of the '069 patent.
14 Mr. Weaver is Accton's general manager.

15 This clip will last two minutes.

16 (Video deposition of Jack Weaver:)

17 "QUESTION: Good morning, Mr. Weaver. I'm
18 going to start by asking you to please state your full
19 name and spell it out for the record.

20 "ANSWER: Jack C. Weaver, J-A-C-K, C.,
21 W-E-A-V-E-R.

22 "QUESTION: And what company do you work for?

23 "ANSWER: Accton.

24 "QUESTION: And where is Accton located?

25 "ANSWER: Hsinchu, Taiwan.

1 "QUESTION: And yet your business address is
2 in North Carolina; is that correct?

3 "ANSWER: That's correct.

4 "QUESTION: So are you working for an Accton
5 subsidiary?

6 "ANSWER: No, no. My organization is called
7 Accton Americas. I'm the only person there.

8 "QUESTION: Okay. And what does Accton
9 Americas do on behalf of Accton Taiwan?

10 "ANSWER: I manage all of their legal
11 activities in the U.S., which includes things like this
12 case, hiring attorneys. I interface between our U.S.
13 attorneys and the legal department and the executive in
14 Taiwan and help them on other things like contracts and
15 general consulting.

16 "QUESTION: And what is your title at Accton
17 Americas?

18 "ANSWER: General manager.

19 "QUESTION: And is that different from general
20 counsel?

21 "ANSWER: I think general counsel is a lawyer.

22 "QUESTION: Okay. Are you a lawyer?

23 "ANSWER: No, I am not.

24 "QUESTION: Is this the letter that you were
25 referring to early on in the deposition when I asked

1 when it was that Accton got notice of the '069 patent?

2 "ANSWER: Correct.

3 "QUESTION: Did Accton engage in any analysis,
4 any nonprivileged analysis, regarding the validity or
5 invalidity of the '069 patent?

6 "ANSWER: No. Any activity along those lines
7 would have been through or for attorneys.

8 "QUESTION: I have the same question with
9 regard to enforceability and unenforceability. So my
10 question is, has Accton engaged in any analysis,
11 nonprivileged analysis, relating to the enforceability
12 and/or unenforceability of the '069 patent?

13 "ANSWER: No.

14 "QUESTION: Okay."

15 MR. WILCOX: Excuse me, Your Honor. May
16 I say something to counsel?

17 THE COURT: Yes.

18 (Counsel confer.)

19 MR. GILCHRIST: When this got typed up,
20 there was a cut-and-paste error. I've apparently been
21 referring to Toshiba many times in these topics.

22 The next will -- let me see if I have an
23 interrogatory first.

24 This is just a video clip. And this one
25 relates to Netgear -- Netgear and its corporate

1 representative on the topic of steps Netgear undertook
2 to determine that Netgear was not violating CSIRO's
3 rights by making using, offering to sell or selling
4 within the United States, or importing into the United
5 States, products that infringed or induced infringement
6 of the '069 patent.

7 Mr. Olson is the senior vice present of
8 engineering.

9 THE COURT: How long is that video?

10 MR. GILCHRIST: Seven minutes, five
11 seconds, Your Honor.

12 (Video deposition of Charles Olson:)

13 "QUESTION: Good morning, Mr. -- Olson?

14 "ANSWER: Yes.

15 "QUESTION: Can you please state your full
16 name for the record.

17 "ANSWER: Sure. It's Charles Thomas Olson.

18 "QUESTION: And are you prepared today to
19 testify on behalf of Netgear as to topics 23 through 26
20 of this notice?

21 "ANSWER: Well, based on our outside counsel's
22 explanation of these topics, I am prepared to represent
23 Netgear.

24 "QUESTION: Okay. Excellent. And Mr. Olson,
25 can you please state your current occupation.

1 "ANSWER: Sure. I'm currently the senior vice
2 president of engineering for Netgear.

3 "QUESTION: So you attended some meetings
4 where CSIRO was present and also outside counsel for
5 Netgear?

6 "ANSWER: Correct.

7 "QUESTION: Okay. Which meetings were those?

8 "ANSWER: You know, that was a long time ago
9 and I don't recall.

10 "QUESTION: Okay. Now, can you tell me when
11 Netgear first had knowledge of the '069 patent?

12 "ANSWER: I believe the first we had knowledge
13 of the '069 -- Netgear had knowledge of the '069 patent
14 was when a letter was sent from CSIRO to Patrick Lo
15 indicating that there was an '069 patent.

16 "QUESTION: Okay.

17 "ANSWER: I'm sorry. That was in April of
18 2003.

19 "QUESTION: I'm marking the next exhibit,
20 3418, which I believe is the letter that you just spoke
21 of dated April 11th, 2003.

22 And is this the letter that you referenced
23 earlier with respect to Netgear's first knowledge of the
24 '069 patent?

25 "ANSWER: Yes. I believe this was the first

1 that I'm aware of that Netgear was contacted by CSIRO
2 and knew of, yes.

3 "QUESTION: And I believe you testified that
4 you may have attended those meetings, one or more of
5 those meetings, but you don't recall the specifics?

6 "ANSWER: I recall numerous examples of the
7 prior art and indicating that the -- the '069 patent was
8 not valid.

9 "QUESTION: You said -- you just stated that
10 at one of those meetings, Netgear presented prior art
11 references that Netgear claims invalidates the '069
12 patent; is that correct?

13 "ANSWER: Yes.

14 "QUESTION: Did you say anything -- do you
15 recall saying anything at that meeting?

16 "ANSWER: No.

17 "QUESTION: During the presentation or to
18 CSIRO or anybody besides your counsel?

19 "ANSWER: I don't recall saying anything. But
20 that was a long time ago.

21 "QUESTION: Do you recall why you attended
22 that presentation?

23 "ANSWER: That was at the request of Netgear's
24 outside counsel, that someone from -- an executive from
25 Netgear be present at those meetings.

1 "QUESTION: Okay. Were you have the only
2 executive present at that meeting?

3 "ANSWER: The -- it's possible that Mark
4 Merrill, our chief technology officer, was also
5 present --

6 "QUESTION: Okay.

7 "ANSWER: -- at one or more of those meetings
8 that I was at.

9 "QUESTION: Okay.

10 "ANSWER: It's also possible that he was -- we
11 were at different meetings.

12 "QUESTION: Okay. Now, so again, at these one
13 or more meetings that you attended where there was a
14 presentation given, can you tell me anything at all
15 about what was presented to CSIRO with respect to the
16 validity of the '069 patent?

17 "ANSWER: Well, you know, in reviewing the
18 slide set and what I recall from being in the meeting --

19 "QUESTION: Okay.

20 "ANSWER: -- I remember there were numerous
21 examples of prior art.

22 "QUESTION: Okay. Numerous examples, does
23 that mean more than ten?

24 "ANSWER: I think there were, you know,
25 probably more than four.

1 "QUESTION: Okay. So more than four, that's
2 numerous?

3 "ANSWER: Yes.

4 "QUESTION: Okay. So for these numerous prior
5 art documents that were presented or that were
6 discussed, can you tell me the names of any of them
7 sitting here today?

8 "ANSWER: Renault (sic) is one. Kathryn, I
9 think, was another; and there was another one that
10 started with a P, but, you know, I can't remember.

11 "QUESTION: And can you tell me anything about
12 why Netgear believed in that presentation that those
13 references rendered the '069 patent invalid in any way?

14 "ANSWER: It was so long ago, I don't recall
15 the specifics.

16 "QUESTION: Has Netgear reviewed or considered
17 any of those same references since that meeting?

18 "ANSWER: I don't recall doing anything with
19 those references, me personally.

20 "QUESTION: Do you know anybody within Netgear
21 that has looked at those references since that meeting?

22 "ANSWER: Not to my knowledge.

23 "QUESTION: Let me hand you what has been
24 marked as Exhibit 3422. So this is an email dated
25 February 25th, 2004, from Jennifer Ochs to Dennis

1 Redfern. And there are some attachments to this email,
2 and then the email says, 'Pursuant to your request,
3 attached are some of the prior art references we are
4 concerned about. We will see you on Friday at 10:00.
5 Regards, Jennifer.'

6 "So does this refresh your recollection at all
7 as to whether there was a meeting that took place on
8 Friday, presumably February 27th, 2004, at 10:00 a.m.
9 between CSIRO and Netgear?

10 "ANSWER: It doesn't -- you know, it doesn't
11 refresh my memory in terms of knowing that we had a
12 meeting specifically on that day.

13 "QUESTION: Does this refresh your
14 recollection at all as to what prior art references were
15 discussed at any meetings between CSIRO and Netgear?

16 "ANSWER: Well, I see, you know, the two that
17 I mentioned before. I guess it's called Rault,
18 R-A-U-L-T, and then Kathryn. And, you know, I do
19 remember those in the presentations."

20 MR. GILCHRIST: Next is an interrogatory
21 to Belkin International.

22 Interrogatory: Identify all steps you
23 took to determine that you were not violating CSIRO's
24 rights by making, using, offering to sell or selling
25 within the United States, or importing into the United

1 States, products that infringed or induce infringement
2 the '069 patent."

3 Response: "Belkin understands this
4 interrogatory to be directed to its --

5 THE COURT: Speak up a little bit,
6 Counsel. I can't hear you.

7 MR. GILCHRIST: Sorry. "Prior to
8 December 22nd, 2006. Belkin" -- excuse me.

9 "On August 29, 2003, and September 1,
10 2003, CSIRO wrote to Belkin. In those letters, CSIRO
11 reported to introduce CSIRO to Belkin, including
12 pointing Belkin to CSIRO's website at www.csiro.au, and
13 suggested that Belkin take a license to the '069 patent
14 for its F5-D7330, F5-D7230-4, F5-7130, F5-D7130,
15 F5-D7010 and F5-D7000 products.

16 "Also CSIRO included a claim chart
17 purporting to apply elements of the '069 patent to
18 products manufactured to comply with IEEE standard
19 802.11g."

20 And the deposition clip is Nandan Kalle,
21 Belkin Corporation's corporate representative on the
22 topic of steps Belkin undertook to determine that Belkin
23 was not violating CSIRO's rights by making, using,
24 offering to sell or selling within the United States, or
25 importing into the United States, products that

1 infringed or induced infringement of the '069 patent.

2 Mr. Kalle is business unit manager for
3 the networking business unit at Belkin.

4 The clip is a minute 24, Your Honor.

5 THE COURT: All right.

6 (Video deposition of Nandan Kalle:)

7 "QUESTION: Good morning, Mr. Kalle.

8 Thank you again for coming for the second time.

9 Mr. Kalle, before I get into Exhibit
10 2848, can you tell me again what your current position
11 is at Belkin?

12 "ANSWER: I oversee the networking category
13 for Belkin.

14 "QUESTION: And is that a business division?

15 "ANSWER: It's a business unit.

16 "QUESTION: Is there a name for that business
17 unit?

18 "ANSWER: The networking business unit.

19 "QUESTION: And do you have an official title?

20 "ANSWER: Business unit manager.

21 "QUESTION: When did Belkin first become aware
22 of the '069 patent?

23 "ANSWER: I believe it was 2003.

24 "QUESTION: And do you recall how Belkin
25 became aware of the '069 patent?

1 "ANSWER: CSIRO made an initial communication,
2 introduction to Belkin.

3 "QUESTION: Exhibit 2862 is an August 29,
4 2003, letter from Denis Redfern to Mr. Chet Pipkin,
5 President and CEO of the Belkin Corporation. Do you see
6 that?

7 "ANSWER: Yes.

8 "QUESTION: Who is Chet Pipkin? Is he the
9 CEO?

10 "ANSWER: Yes.

11 "QUESTION: Have you ever seen Exhibit 2862
12 before?

13 "ANSWER: No.

14 "QUESTION: But you're aware -- you're aware
15 that CSIRO contacted Belkin sometime in 2003 informing
16 it of the '069 patent, right?

17 "ANSWER: Yes."

18 THE COURT: All right. Who will be next?

19 MR. GILCHRIST: Thank you, Your Honor.
20 Actually we now have two clips. I believe both of these
21 are the Japanese witnesses that we spoke of before.

22 THE COURT: All right. Let me just
23 advise Members of the Jury with regard to these portions
24 of video depositions of the two witnesses from Japan,
25 both of them testified through interpreters at their

1 depositions. And in order to save time, what the
2 attorneys have agreed to do is the Japanese language
3 interpretations of the questions would be edited out for
4 a few seconds. So you'll hear a few seconds of the
5 Japanese, then you'll hear the English translation.
6 Thus the video will often skip to the witness's answers
7 before the question has been completely interpreted into
8 Japanese.

9 MR. GILCHRIST: Thank you, Your Honor.
10 The first witness is either -- Buffalo witnesses. The
11 first witness is Hiroshi Katano, group leader
12 Intellectual Property Group at Buffalo, Inc. And I
13 think it's about a seven-minute clip, Your Honor. Yes.

14 (Video deposition of Hiroshi Katano:)

15 "QUESTION: Please state and spell your
16 name for the record.

17 "ANSWER: My name is Hiroshi Katano,
18 H-I-R-O-S-H-I, K-A-T-A-N-O.

19 "QUESTION: Do you understand that you
20 are appearing as Buffalo's corporate representative?

21 "ANSWER: I understand that I'm -- I'm
22 supposed to represent the company within the range of my
23 responsibilities.

24 "QUESTION: What is your job title at
25 Buffalo?

1 "ANSWER: Group leader.

2 "QUESTION: Group leader of what?

3 "ANSWER: Intellectual property group.

4 "QUESTION: You work for Buffalo, Inc.,
5 as opposed to Buffalo USA, correct?

6 "ANSWER: You're right.

7 "QUESTION: How long have you worked for
8 Buffalo, Inc.?

9 "ANSWER: Ten years.

10 "QUESTION: When did Buffalo become aware
11 of the '069 patent?

12 "ANSWER: We -- Buffalo became aware of
13 the patent around the same time when the document was
14 sent by CSIRO to the Buffalo USA by CSIRO.

15 "QUESTION: When you say that Buffalo
16 became aware of the patent around the same time, was the
17 letter from CSIRO to Buffalo that you are referring to,
18 is that what made Buffalo aware of the existence of the
19 '069 the patent?

20 "ANSWER: Yes.

21 "QUESTION: I am going to show you what's
22 been marked as Exhibit Number 44, which is a letter to
23 Ms. Campbell.

24 Is Exhibit 44 the letter that first
25 appraised Buffalo of the existence of the '069 patent?

1 "ANSWER: As long as -- to the best of my
2 understanding, this is it.

3 "QUESTION: Who at Buffalo was the first
4 person to become aware of the '069 patent?

5 "ANSWER: Which Buffalo are you referring
6 to?

7 "QUESTION: At this point either Buffalo,
8 Buffalo USA or Buffalo, Inc. Do you know who was the
9 first person to receive or, excuse me, to become aware
10 of the '069 patent?

11 "ANSWER: I don't know about the USA.
12 Concerning Buffalo, Inc., it was myself.

13 "QUESTION: And you were made aware of it
14 when Buffalo USA forwarded you Exhibit 44, correct?

15 "ANSWER: Yes, that's correct.

16 "QUESTION: Do you know when you received
17 Exhibit 44?

18 "ANSWER: No, I don't.

19 "QUESTION: Do you have any reason to
20 believe it was not in September of 2003?

21 "ANSWER: Since I don't have any
22 recollection, I don't even know when in September it
23 would have been.

24 "QUESTION: What did you do after you
25 received Exhibit 44 with respect to Exhibit 44?

1 "ANSWER: I forwarded this document to
2 Broadcom.

3 "QUESTION: And do you know when you
4 forwarded this document to Broadcom?

5 "ANSWER: I remember immediately after I
6 received the document, but I don't remember any farther
7 than that.

8 "QUESTION: Thank you. The question that
9 elicited this interruption was about why you didn't ask
10 anyone at Buffalo Technologies, Buffalo USA, when it
11 first became aware of the '069 patent. Why didn't you
12 ask anyone at Buffalo USA?

13 "ANSWER: Since I recalled that I
14 received the letter, copy of the letter immediately
15 after that date on the document, so I didn't bother to
16 ask any further question.

17 "QUESTION: When you refer to immediately
18 after the date on that document, are you referring to
19 the document that is Exhibit 44 and the date that is
20 written there, September 1, 2003, which is then crossed
21 out and appears to have a handwritten September 4, 2003?

22 "ANSWER: I don't remember whether it was
23 September 1st or 4th, but I remember that Buffalo,
24 Inc., received the letter within a few days after that
25 stated date."

1 MR. GILCHRIST: Your Honor, I see that
2 it's getting close to the noon hour. I can tell you
3 that the next clip that we have is 20-minutes long. I
4 do have a couple more interrogatories I could read out
5 of order if you prefer I do that if you want to take a
6 lunch break before the last clip.

7 THE COURT: No, I think we'll take a
8 later lunch. Why don't you go ahead.

9 MR. GILCHRIST: Okay. Thank you, Your
10 Honor.

11 The next witness is also from Buffalo.
12 His name is Tokio Itsukaichi and he is the corporate
13 representative on the topic of Buffalo's defenses to
14 CSIRO's allegations of willful infringement. This clip
15 is 19 minutes and 53 seconds.

16 THE COURT: Okay.

17 (Video deposition of Tokio Itsukaichi:)

18 "INTERPRETER SELLAND: Naoko Selland,
19 serving as an official interpreter.

20 (The interpreter was sworn.)

21 (The witness was sworn.)

22 "QUESTION: Please state and spell your name
23 for the record.

24 "ANSWER: TI -- I'm sorry. T-O-K-I-O,

1 first name, T-O-K-I-O, I-T-S-U-K-A-C-H-I.

2 "QUESTION: Thank you.

3 "MR. CODDING: Isn't it K-A-I-C-H-I?

4 "THE WITNESS: Yes.

5 "QUESTION: Do you understand that you are
6 here today being deposed in the litigation between CSIRO
7 and your company, Buffalo?

8 "ANSWER: Yes, I do.

9 "QUESTION: You understand that even though
10 we're in a conference room today, your testimony is just
11 the same as if we were in the courtroom in the front of
12 a judge and jury?

13 "ANSWER: Yes, I do.

14 "QUESTION: And you understand that you have
15 just affirmed that you will testify truthfully in this
16 matter, correct?

17 "ANSWER: Yes, I do.

18 "QUESTION: Do you understand English,
19 Mr. Itsukaichi?

20 "ANSWER: To the certain extent, yes. To a
21 certain extent.

22 "QUESTION: Do you speak conversational
23 English?

24 "ANSWER: I think so.

25 "QUESTION: You don't feel competent to

1 testify in English; is that correct?

2 "ANSWER: No. No, I'm not.

3 "QUESTION: Showing you what's been marked for
4 identification as Exhibit 35, which is the Rule 30(b)(6)
5 notice in this case. I'd ask that you turn to page 3.

6 Have you seen Exhibit 35 before?

7 "ANSWER: Yes, I have.

8 "QUESTION: I understand you are here to
9 provide testimony regarding topic number 18,
10 specifically Buffalo's defenses to CSIRO's allegations
11 of willful infringe of the patent-in-suit; is that
12 correct.

13 "ANSWER: Yes, I know.

14 "QUESTION: After you learned that you were
15 going to be deposed in this case, what did you do to
16 prepare yourself for the deposition?

17 "ANSWER: I didn't do anything particular for
18 this deposition because since I enter -- I joined the
19 Buffalo, I have been involved in this matter especially,
20 so I didn't have to do anything particularly for this
21 case. I'm the only one who has been in charge of this
22 matter.

23 "QUESTION: You're not admitted to practice
24 before the Patent Bar in the United States, are you?

25 "ANSWER: No, I don't.

1 "QUESTION: You don't have a registration
2 number at the Patent and Trademark Office in the United
3 States?

4 "ANSWER: No, I -- I don't.

5 "QUESTION: Are you admitted to practice law
6 anywhere in the United States?

7 "ANSWER: No.

8 "QUESTION: Did you attend law school in the
9 United States?

10 "ANSWER: No.

11 "QUESTION: Are you a lawyer licensed to
12 practice anywhere?

13 "ANSWER: No.

14 "QUESTION: Have you ever rendered an opinion
15 that was used in Court in the United States?

16 "ANSWER: I don't think my opinion has ever
17 been directly used in the Court, but there might be some
18 cases whereby our attorneys we hired used my opinion as
19 a reference.

20 "QUESTION: Can you identify any cases where
21 your opinion may have been used as a reference?

22 "ANSWER: I don't know. I don't know, you
23 know, my opinions were changed or amended. So at this
24 point there is no way for me to tell how they were used
25 or what cases.

1 "QUESTION: Has your analysis of a patent ever
2 been tested in a court in the United States?

3 "ANSWER: In a accurate way -- in a accurate
4 way of meaning, no.

5 "QUESTION: You are not in the legal
6 department at Buffalo, are you?

7 "ANSWER: No.

8 "QUESTION: Have you ever been in the legal
9 department at Buffalo?

10 "ANSWER: No.

11 "QUESTION: In this case, you provided a
12 written opinion, correct?

13 "ANSWER: That's how you called a written
14 opinion?

15 "QUESTION: Maybe we should --

16 "ANSWER: Since I'm not an attorney, I don't
17 know if you can call that as my written opinion.

18 "QUESTION: Showing you what's been marked as
19 Exhibit 54, have you seen Exhibit 54 before?

20 "ANSWER: I don't think I have ever received
21 this before. You see, this content, I read these parts,
22 but I have never received a document in this form.

23 "QUESTION: The letters included in Exhibit 54
24 are letters written by you, correct?

25 "ANSWER: Seems to be so. It seems to be so,

1 because it seems like the exact copy of what I wrote.
2 Of course, I cannot tell for sure by comparing word by
3 word of what I wrote.

4 "QUESTION: My question is, before today, were
5 you aware that Buffalo intends to rely on your opinions
6 expressed in Exhibit 54 in its defense of CSIRO's
7 allegations of willful infringement?

8 "ANSWER: So are you asking if I was aware
9 that Buffalo was intending to use my opinion as a
10 defense or litigation of willful infringement?

11 "QUESTION: Yes.

12 "ANSWER: I wasn't aware of it, because when I
13 wrote this letter, it was just around the time when we
14 received the warning letter. There was no discussion
15 concerning if there is any willful infringement or not
16 when I wrote this -- my letter to Colwell, Attorney
17 Colwell -- Colwell.

18 "QUESTION: Today is the first time that you
19 understand that Buffalo intends to rely on the opinions
20 you expressed in Exhibit 54 in its defense of CSIRO's
21 allegations of willful infringement, correct?

22 "ANSWER: Yes, you're right.

23 "QUESTION: When did you join Buffalo?

24 "ANSWER: Two years ago. So it will be two
25 full years in this June.

1 "QUESTION: So you joined in June of 2004?

2 "ANSWER: You're right.

3 "QUESTION: How did you come to join Buffalo
4 in June of 2004?

5 "ANSWER: You know, I was helping one of my
6 friend's company, but it's not something that I could
7 work for for a long time. So I asked headhunting agent
8 to find me a job, because I was still willing to work,
9 and then -- still capable of -- I was really -- I was
10 willing to work, and then I was capable of working.

11 "QUESTION: Do you know why Buffalo hired you?

12 "ANSWER: Clearly, yes, I clearly know.

13 So as I said before, when I was hired, the
14 company already -- had already received the warning
15 letter from CSIRO, so Buffalo was in hot water because
16 there wasn't anybody who could handle it. So the
17 company was looking for -- looking for someone,
18 appropriate candidate who can handle that kind of
19 matter.

20 So the offer which my -- the headhunting
21 agent, I registered, offered, and the Buffalo's
22 requirements met.

23 "QUESTION: Were you hired specifically to
24 work on this case?

25 "ANSWER: Initially that was the reason. I'm

1 working for other works as well.

2 "QUESTION: Before June 2004, were you
3 familiar with the '069 patent?

4 "ANSWER: So you're asking before I entered --
5 I joined Buffalo?

6 "QUESTION: Yes.

7 "ANSWER: I wasn't -- I didn't know anything
8 about it.

9 "QUESTION: Your letters range from
10 approximately June 29, 2004, to October 28, 2004, and
11 all appear to be directed to Mr. Colwell; is that
12 correct?

13 "ANSWER: Yes, you're right. Because he and I
14 had these discussions.

15 "QUESTION: Mr. Colwell was the intended
16 audience of your letters, correct?

17 "ANSWER: Yes.

18 "QUESTION: You explained your letters to
19 Mr. Tsuzuki who is in charge of the -- what is
20 Mr. Tsuzuku's position?

21 "ANSWER: As I said before, before the IP
22 group was created, he was boss of Mr. Katano. So I
23 showed my letters to them.

24 "QUESTION: What was his position when you
25 showed Mr. Tsuzuki your -- your letters?

1 "ANSWER: I think he was the general manager
2 of quality assurance division.

3 "QUESTION: When did you show Mr. Tsuzuku and
4 Mr. Katano your letters?

5 "ANSWER: I don't know the exact date.

6 "QUESTION: Was it after your last letter
7 dated October -- October 28, 2004?

8 "ANSWER: I don't think it was the case. I
9 think right after I wrote each letter, I showed it to
10 them probably.

11 "QUESTION: When you explained the contents of
12 the letters to Mr. Katano and Mr. Tsuzuku, did they have
13 any questions?

14 "ANSWER: To my best recollection, they relied
15 on, they trusted my opinions and then they hardly gave
16 any questions.

17 "QUESTION: When you say they relied on your
18 opinions, how did they rely on your opinions?

19 "ANSWER: That was the very reason why I was
20 hired by Buffalo, as I said before. Through the
21 interview, they checked my eligibility and experience,
22 and they knew my experience in Clarion. So that's why,
23 by the time I joined the company, they trusted my
24 ability or -- they trusted me. That's why they hired
25 me.

1 "QUESTION: Who did you explain your letters
2 to in the legal department?

3 "ANSWER: In my recollection, it was
4 Mr. Tsuneoka, who appeared in Mr. Katano's testimony.

5 "QUESTION: Did your letters influence
6 Buffalo's decision to sell the accused products?

7 "ANSWER: Yes, I think it did.

8 "QUESTION: So you're aware that Buffalo made
9 a conscious decision that it could continue selling
10 these products in the face of the infringement suit,
11 correct?

12 "ANSWER: I'm not the one who can judge
13 whether the company is able to continue to sell the
14 products or not, but the only thing I said was the
15 company is not -- has not been infringing the patent,
16 any patents. And then I said that opinion to Mr. Katano
17 and Tsuzuku, and then they escalated that opinions
18 management. Then it became the management's decision.

19 "QUESTION: Do you know if anyone at Buffalo
20 actually made the decision that it could continue
21 selling these products in the face of the infringement
22 suit based on what you explained from your letters that
23 are in Exhibit 54?

24 "ANSWER: There is no way for me to tell that.

25 "QUESTION: There is no way for you --

1 "ANSWER: For me to know that. I don't know
2 at all.

3 "QUESTION: Do you know who at Buffalo has the
4 responsibility for determining whether to continue to
5 sell a product in the face of an infringement lawsuit?

6 "ANSWER: I think you already asked that
7 question, didn't you? I said I don't know."

8 MR. GILCHRIST: Thank you, Your Honor.
9 We're done with the video clips. I have some more
10 interrogatories answers to read, just a few.

11 THE COURT: All right.

12 MR. GILCHRIST: This interrogatory was
13 sent to Nintendo of America. This one says:

14 Identify all facts relating to your first
15 knowledge of the '069 patent including the date on which
16 you had first knowledge of the '069 patent, the
17 circumstances in which you first had knowledge of the
18 patent and the identity of the persons who first had
19 knowledge of the '069 patent.

20 And the answer is: In 2005, Nintendo of
21 America became aware of the Buffalo litigation which
22 involved the '069 patent.

23 And then one more answer from Nintendo of
24 America: Identify all steps you undertook to determine
25 that you were not violating CSIRO's rights by making,

1 using, offering to sell or selling within the United
2 States or reporting into the United States products that
3 infringed or induced infringement of the '069 patent.

4 And the answer from Nintendo is: CSIRO
5 did not directly notify Nintendo of America of the '069
6 patent until five days before the complaint was filed in
7 this action which happened to be the week before
8 Christmas. Nintendo of America never received an offer
9 or proposal to license '069 patent prior to being used.
10 CSIRO itself has knowledge that Nintendo of America
11 faced no palpable threat of litigation and had no reason
12 to believe that it was infringing the '069 patent till
13 five days before the claim was filed.

14 We have an interrogatory answer from
15 Dell. Question to Dell: Identify all facts relating to
16 your first knowledge of the '069 patent including the
17 date on which you had first knowledge of the '069
18 patent, the circumstances under which you first had
19 knowledge of the '069 patent, and the identity of the
20 persons who first had knowledge of the patent.

21 Response from Dell: On January 23, 2004,
22 Richard Xue sent a facsimile to Dell. In that
23 correspondence, Xue claimed that the '069 patent covered
24 the IEEE 802.11a and 802.11g standards. Anthony
25 Peterman, Esquire, in-house counsel for Dell, reviewed

1 the correspondence.

2 That's all, Your Honor.

3 THE COURT: All right. Thank you.

4 Who will be plaintiff's next witness?

5 MR. FURNISS: Plaintiff's case is
6 complete, Your Honor.

7 THE COURT: Plaintiff's rest?

8 MR. FURNISS: Yes, Your Honor.

9 THE COURT: All right. Ladies and
10 Gentlemen of the Jury, we're about to take our lunch
11 break. Let me just explain to you, this first part of
12 the case that you've heard yesterday and today was the
13 part where CSIRO has the burden of proof that I
14 explained to you earlier by clear and convincing
15 evidence to prove the infringement which has been
16 stipulated to, whether that was willful or not.

17 They have now rested their case.
18 Beginning this afternoon, the defendants will have their
19 opportunity to present evidence both against the willful
20 infringement, the position taken by the plaintiffs, and
21 with regard to their affirmative defense of invalidity
22 of the patent on which they have the burden of clear and
23 convincing evidence.

24 So that's where we are in the case. And
25 the plaintiff has rested on their part of the case. So

1 we're going to take our lunch break now and we're going
2 to be in recess until 1:30.

3 So have a nice lunch, enjoy yourselves,
4 relax, and remember my instructions. Don't discuss the
5 case among yourselves or with anyone else.

6 The jury is excused for lunch.

7 (The jury left the courtroom.)

8 THE COURT: Please be seated.

9 All right. A couple of matters I would
10 like to take up with the parties. First, we seem to be
11 getting filings during the course of trial, and I'm
12 going to just order you that before filing anything that
13 you need to orally request leave of the Court. And that
14 is just so I will know what's coming in rather than some
15 phantom filing showing up and I don't notice it for two
16 or three days.

17 I have received the filings, defendant
18 Accton and SMC's objection to CSIRO's amended list of
19 accused products and motion to strike, docket number
20 647, and received yesterday CSIRO's opposition in
21 response to that, docket 667.

22 The Court has reviewed that and the
23 defendants' motion to strike, docket 647, is denied for
24 the reason the Court finds that there's no prejudice and
25 the notice as to the accused products was partially

1 created by the defendants' late -- or supplementation of
2 interrogatories and they've been aware of all those
3 accused products since the depositions of the experts.

4 All right. Are there any other matters
5 that the Court can -- needs to take up outside the
6 presence of the jury?

7 MR. GILCHRIST: Your Honor, there is the
8 letter that was Plaintiff's Exhibit Number 86 that was
9 the discussion yesterday about whether we can reach an
10 agreement about redacting it. I had given it to counsel
11 yesterday.

12 It's our view that the letter should come
13 in. Let me explain what the letter is.

14 THE COURT: All right.

15 MR. GILCHRIST: The letter is a letter
16 from CSIRO to the IEEE identifying the '069 patent as
17 potentially essential to the standard. I believe that
18 Mr. Van Nest said -- I know there's a transcript
19 somewhere. Mr. Van Nest said yesterday that CSIRO
20 waited on the sidelines until after the standard had
21 been ratified to tell the IEEE of the '069 patent, so if
22 anything it relates to that. It's also our belief that
23 it relates clearly to willfulness.

24 And there will be a witness that will
25 come here and rebuttal willfulness this afternoon that I

1 think I would like to show this exhibit to.

2 THE COURT: All right.

3 MS. ANDERSON: Yes, Your Honor, as we
4 stated yesterday, we think it's objectionable for the
5 reasons we argued yesterday. We don't think redaction
6 cures it.

7 THE COURT: Have you redacted it?

8 MS. ANDERSON: No, we haven't. I mean,
9 the thrust of the letter is demanding a RAND assurance.

10 THE COURT: Is what?

11 MS. ANDERSON: Is demanding a RAND
12 assurance.

13 THE COURT: All right. Let me see the
14 letter, please.

15 And restate your objections, again,
16 please, Ms. Anderson.

17 MS. ANDERSON: Yes, Your Honor. It is
18 our understanding that all RAND issues, questions
19 related to CSIRO making a RAND commitment and what that
20 means and whether they've reached it has all been
21 segregated by the Court to the bench trial. And the
22 whole purpose of this exchange relates to RAND
23 commitments.

24 Now, I understood from Your Honor's
25 comments yesterday that you seem inclined to allow some

1 portion of this in or wanted to know if we wanted to
2 redact portions of it. I don't think that that really
3 addresses the issue.

4 So if Your Honor is inclined to overrule
5 the objection, then I just -- I guess the point is I
6 don't think redacting the letter cures the problem.

7 THE COURT: All right. Let me take a
8 look at it.

9 All right. I'll take this under
10 advisement.

11 Anything further?

12 MR. GILCHRIST: The only thing I would
13 say, Your Honor, is we have Defendants' Exhibit 87 which
14 is the letter to CSIRO to which that's a response. I
15 could give that to you as well.

16 THE COURT: All right. Yes.

17 Okay. Anything further?

18 MR. GILCHRIST: No thank you, Your Honor.

19 MR. VAN NEST: No, Your Honor.

20 THE COURT: Y'all have a good lunch.

21 We'll see you at 1:30.

22 (Recess.)

23 THE COURT: Please be seated.

24 All right. Mr. Van Nest, who will be
25 your first witness?

1 MR. VAN NEST: Your Honor, defense will
2 call Al Petrick.

3 MR. MIKE JONES: Your Honor, Mr. Petrick
4 has not been sworn.

5 THE COURT: All right. Do y'all have
6 other witnesses here who have not been sworn?

7 MR. MIKE JONES: I believe we have one
8 other, Your Honor. I'll get him right now.

9 THE COURT: Would you state your name,
10 please, sir.

11 THE WITNESS: Matthew Brandon Shoemake.

12 THE COURT: All right. If you'll raise
13 your right hands to be sworn.

14 (The witnesses were sworn.)

15 THE COURT: All right. You may be
16 seated.

17 And have you explained the Rule?

18 MR. VAN NEST: I have, Your Honor.

19 THE COURT: All right. Very well.

20 MR. MIKE JONES: May it please the Court.

21 AL PETRICK,
22 having been duly sworn, testified as follows:

23 DIRECT EXAMINATION

24 BY MR. MIKE JONES

25 Q Mr. Petrick, would you please state your name

1 for the record.

2 A My name is Albert A. Petrick.

3 Q And where do you reside, sir?

4 A In Orlando, Florida.

5 Q And since high school what education have you
6 undergone or received?

7 A My first degree was in Westbury, Pennsylvania,
8 a college called Luzerne County Community College, and I
9 received an associate's degree in electrical technology.

10 Q And after that, what education did you have?

11 A I moved on to Rochester, New York, and
12 achieved a bachelors of electrical engineering degree
13 from Rochester Institute of Technology.

14 Q And since you obtained that degree and
15 underwent that schooling, have you held any jobs in any
16 particular field of engineering?

17 A Actually in wireless communications.

18 Q What jobs have you had working in the field of
19 wireless communications?

20 A My first job was working for a company in
21 Orlando, Florida, called Martin Marietta, which I worked
22 as a systems engineer and design engineer for advanced
23 wireless communications systems that were basically a
24 highly classified top secret radio communication
25 systems.

1 Q What were your other employments in the field
2 of wireless communications, sir?

3 A I worked at a company called Harris
4 Semiconductor located in Melbourne, Florida, basically
5 in Central Florida.

6 Q What other companies?

7 A I worked at Lockheed Electronics after Martin
8 Marietta where I worked on various advanced top secret
9 radio communication systems.

10 Q Did you ultimately work at Harris
11 Semiconductor?

12 A Yes, I did.

13 Q And what years did you work at Harris
14 Semiconductor in the field of wireless technology?

15 A From 1994 to 1999.

16 Q Thank you, sir.

17 And I would like to zero your attention on a
18 couple of those employments. What do you do when you
19 were at Lockheed?

20 A At Lockheed I was an assistant engineer that
21 worked on wireless communications, radio modems, if you
22 will, that were highly classified requiring a top secret
23 clearance.

24 Q Are there any of those projects that you can
25 tell us about?

1 A A couple of the programs did use advanced
2 modulation techniques, namely like OFDM and things of
3 that sort.

4 Q And I would also like to zero in your
5 attention on your time at Harris. Sometimes I've
6 referred Harris referred to as Harris/Intersil. Is
7 there a connection between the two?

8 A Yes. In 1999 Harris Semiconductor changed its
9 name to Intersil.

10 Q I see.

11 Now, during your years at Harris -- I think
12 that was from '93 or 4 to '99; is that right?

13 A Yes.

14 Q During your years at Harris, what did you do
15 at Harris Semiconductor?

16 A My primary position there was to write
17 business plans for wireless communication systems, in
18 particular for chipsets to implement, for example,
19 wireless LAN technologies.

20 Q And again, looking at that time period that
21 you were at Harris from '93 to '99, at Harris did they
22 work on both multi-tone and single-tone solutions or
23 technologies to wireless connectivity?

24 A Yes, they did.

25 Q And were you involved in some of that?

1 A The single carrier.

2 Q And did they ever abandon, during your time
3 with them, single-tone technology with regard to
4 wireless communications?

5 A No.

6 Q Now, during that same time period -- I would
7 like to ask the same question about the industry.
8 During that time period, did the industry ever abandon
9 single-tone approaches to wireless connectivity?

10 A No, they did not.

11 Q Now, taken altogether in the companies you
12 just told us about, how many years have you spent
13 working on wireless products and wireless technology?

14 A 25 years.

15 Q Over that time, have you become familiar with
16 many patents in the area?

17 A Yes, I have.

18 Q And are there many patents in the area?

19 A Literally hundreds of patents.

20 Q Do you yourself have any patents on wireless
21 technology?

22 A I have five patents that I co-authored and
23 authored.

24 Q And did they relate to the 802.11 standard?

25 A Yes, they do.

1 Q Now, is the 802.11 technology the only kind of
2 wireless technology that is used by consumers?

3 A No, it's not. There are several alternatives
4 to select from, one of which is called bluetooth. It's
5 a technology that's used with your wireless headset to
6 talk to your cell phone.

7 Another technology is your cellular phone,
8 which allows both voice and data communications as you
9 walk in an office, in your home or in around an outdoor
10 environment.

11 And thirdly it's called WiMAX. And WiMAX is a
12 new technology that's used to compete against WiFi or
13 802.11 in outdoor communications.

14 Q Have you authored any publications concerning
15 the 802.11 technology?

16 A I have. I've authored several papers over the
17 years and two notable pieces of work that I co-authored,
18 one of which is a handbook. It's called the 802.11
19 Handbook or Designer's Companion. And you could
20 probably find that in just about every company on some
21 engineer's desk. They use that as a reference when
22 they're developing wireless LANs.

23 The second piece of work that I worked on was
24 the history of wireless LANs. It's basically a paper.

25 Q Now, did you coauthor that paper on the

1 history of wireless LANs?

2 A Yes, I did.

3 Q And who did you coauthor it with, sir?

4 A Kevin Negus.

5 Q And how did y'all go about writing that paper
6 together?

7 A We basically had an outline and then we would
8 divide up what pieces of work we were going to work and
9 write up on and then we would collectively send back and
10 forth that piece of work and proofread, if you will, and
11 approve it.

12 Q Now, which sections did you write and which
13 sections did Mr. Negus write?

14 A I primarily wrote the .11b, "g" and "n"
15 sections.

16 Q And he wrote the other sections of that work?

17 A Yes.

18 Q And then after you wrote a draft and you
19 exchanged them and you each approved it?

20 A Yes.

21 Q How did you come to make the assignments of
22 the various sections between the two of you?

23 A It was based on our experiences, our knowledge
24 base in the particular areas.

25 Q Is there any mention of CSIRO, Radiata, or the

1 '069 patent network?

2 A No.

3 Q Are the defendants compensating you for your
4 time here today?

5 A Yes, they are.

6 Q How are you being compensated?

7 A At an hourly rate of \$425 an hour.

8 Q Mr. Petrick, I would like to next turn your
9 attention to the IEEE. What is the IEEE? If we could
10 go to -- just tell me, what is the IEEE?

11 A The IEEE is an organization that is
12 represented by engineers. It's an open organization
13 represented by many engineers from all over the world.
14 There's over 300,000 engineers that belong to it. And
15 it's a form, if you will, that allows engineers to work
16 at their companies and get involved in writing technical
17 papers in journals, if you will, that are applicable to
18 various types of communications theory and applications,
19 and it also gets involved in the standard process;
20 namely, 802.11 IEEE.

21 Q Now, with regards to the 802.11 standard, is
22 the IEEE the organization that developed that standard
23 and approved it?

24 A Can you repeat that question?

25 Q Is the IEEE the organization that developed

1 the 802.11 standard and approved it?

2 A Yes.

3 Q And did you have any involvement with the work
4 in the IEEE of the 802.11 standard?

5 A Yes, I have.

6 MR. MIKE JONES: Now, if I could approach
7 the witness, Your Honor?

8 THE COURT: Yes, you may.

9 MR. MIKE JONES: This is one exhibit.
10 It's Exhibit 552. I believe there's no objection to it,
11 Your Honor. We would ask that it be admitted. It's the
12 802.11 standard.

13 THE COURT: Any objection?

14 MR. GILCHRIST: No, Your Honor.

15 THE COURT: Be admitted.

16 Q (By Mr. Mike Jones) If you would, could you
17 just identify that for me? Is that the 802.11 standard?

18 A Yes.

19 Q Thank you, sir.

20 Does any one person or one company develop or
21 create or draft that standard?

22 A No, it's a collection of work that's been
23 developed by many engineers that involve the IEEE
24 standards. Typically organizations may send 10 or 20
25 people that get actively involved, as we call the

1 shakers and movers, and then that's physically at the
2 meetings.

3 And then when they go back to their companies
4 that they work for, they may have several hundred
5 engineers getting involved in writing papers and
6 position papers for developing the standard.

7 So literally no one -- no one person or no one
8 company can claim ownership to this piece of work as
9 one.

10 Q Now, that exhibit there, all those papers
11 there, it is the original 802.11 standard, correct?

12 A Yes.

13 Q And there have been certain amendments, also,
14 that have been passed through that standard, correct?

15 A Yes.

16 Q And what are those?

17 A There are several. First there's 802.11b,
18 which is the 2.4 gigahertz, 11 megabit per second
19 standard; there's 802.11a which is 5 gigahertz, the 54
20 megabits per second standard; and the 802.11g, which is
21 54 megahertz and the 2.4 gigahertz frequency band.

22 Q If we can go to the first demonstrative. You
23 see here that the original standard came out in 1997,
24 right, sir?

25 A Yes.

1 Q And it was proposed by Lucent/Aeronet; is that
2 right?

3 A Yes.

4 Q And then we have the 802.11a standard comes
5 out in 1999, correct?

6 A Yes.

7 Q And who proposed it?

8 A Lucent.

9 Q And when we say proposed, individuals propose
10 these standards, right, sir?

11 A Yes.

12 Q And we've written down who they were employed
13 by, right, sir?

14 A Yes.

15 Q And then with regard to the "b", who proposed
16 it? The 802.11b, who proposed that?

17 A Harris.

18 Q And with regard to the 802.11g, who proposed
19 that?

20 A It would be Harris/Intersil.

21 Q Thank you, sir.

22 Then we come down to the 802.11n, it's still
23 pending, right?

24 A That's correct.

25 Q Thank you, sir.

1 What involvement did you have with regard to
2 the 802.11 standard making process?

3 A Well, when I started in 1994 through 1997 I
4 was just an active participant working for Harris
5 Semiconductor and I got very passionate about being part
6 of the standardization process, and I was appointed as
7 secretary in 1999 of the working group for a period of
8 about a year. And then for a period of almost eight
9 years I was vice chairman of the 802.11 working group
10 committee.

11 Q What was happening on the 802.11 committee at
12 the time you joined it?

13 A At the time I joined, which was in 1994, it
14 was working on its first 802.11 standard; namely, one
15 and two megabits per second data rates in the 2.4
16 gigahertz band. It was about 50 percent complete at
17 that time.

18 Q Do you recall whether CSIRO was a participant
19 in the committee at that time?

20 A They were not.

21 Q Did you take any leadership roles in your work
22 with the 802.11 standard committees?

23 A Yes, I have.

24 Q What have those roles been?

25 A They included being secretary and vice

1 chairman of the 802 group.

2 Q Now, how many IEEE meetings are there a year?

3 A There are six particular meetings.

4 Q And how long do they last?

5 A Typically a week long.

6 Q And over the course of your career, how many
7 have you attended?

8 A Approximately 60.

9 Q So you spent over a year of your life just
10 attending those meetings, right, sir?

11 A That's right.

12 Q Thank you.

13 I would like to next turn your attention to
14 the history of the 802.11 standard. When did the IEEE
15 start working on the 802.11 standards?

16 A In 1990.

17 Q And you started participating in 1994; is that
18 right, sir?

19 A Yes.

20 Q Now, how does technology come to be selected
21 for the standard? What process do you go through?

22 A Well, in the standards setting process, take
23 802.11, for example, basically they would do a call for
24 interest on a new technology or if they wanted to go to
25 higher data rates or new radio technology, and what they

1 would do is do a call for interest.

2 So they would say, okay, someone want to
3 develop a standard, it would set some goals in terms of
4 data rate, how this thing would operate and so forth.

5 Once they would set that group up, then they
6 would do a call for proposals. And this particular
7 group would do a call for proposals and those proposals
8 would be submitted for consideration as part of the
9 standardization process.

10 Q Thank you, sir.

11 Now, turning your attention to the first
12 802.11 standard, the one that came out in 1997, what
13 were the goals for that particular standard?

14 A There were several goals. The first goal was
15 to operate in the 2.4 gigahertz band, which is the same
16 frequency that your microwave in your home operates at
17 for cooking.

18 The second one is that you would operate at
19 one and two megabits per second, and the goal was to set
20 a set of specifications so that any one person, company
21 or entity could build products to.

22 Q How long did it take to develop that first
23 standard?

24 A That first standard took seven years.

25 Q Now, next I would like to turn your attention

1 to the development of the 802.11a standard. When did
2 they begin work on this?

3 A They began work at the finishing of the first
4 standard in 1997.

5 Q Was work on the 802.11b standard going on at
6 the same time that work went on with regard to the
7 802.11a standard?

8 A Yes.

9 Q How did the "a" and "b" relate to each other?

10 A They were different. 802.11b was a standard
11 that was in the 2.4 gigahertz band and it delivered data
12 rates that was equivalent to internet speeds, basically
13 ten times the rate of the existing standard. And it was
14 also specified with a goal to be backward compatible
15 with the legacy standards such as your cell phones were.

16 802.11a was totally different. It worked in
17 the 5 gigahertz band, it didn't talk to the 2.4
18 gigahertz radio, and it was always targeted for video
19 applications.

20 Q You used a term there, "backward compatible."
21 Exactly what does that mean?

22 A That means that if I bought a product that was
23 based on the 802.11 one megabit per second standard,
24 basically a router or a wireless LAN in your home, and
25 that new product came out with .11b, it basically says

1 that if I have a laptop that was .11b compliant and
2 worked at those data rates and then I brought it home,
3 it would know automatically to connect to that existing
4 old network.

5 Q Was the 802.11a standard backward compatible
6 with the previous standard?

7 A No, it was not.

8 Q Was that an advantage or disadvantage?

9 A It was a disadvantage. Because backward
10 compatibility was a key point.

11 Q Now, if we could go to demonstrative 2 which
12 comes from Defendants' Exhibit 124.

13 MR. MIKE JONES: Your Honor, I would like
14 to move to offer Defendants' Exhibit 124. I believe
15 there's no objection.

16 MR. GILCHRIST: No objection, Your Honor.

17 THE COURT: Be admitted.

18 MR. MIKE JONES: Thank you, Your Honor.

19 Q (By Mr. Mike Jones) Basically what is this
20 that we see here on demonstrative 2?

21 A These are a set of meeting minutes, a
22 collection of minutes which is called task group A or
23 dot-eleven A, and highlights the three presentations for
24 proposals that were presented as part of 802.11a for
25 consideration.

1 Q Now, the chairman has sent out a request for
2 proposals for the standard, right, sir?

3 A Yes.

4 Q And then people are responding, individual
5 group members, right, sir?

6 A That's correct.

7 Q And are these written position papers and then
8 talks that they give about them?

9 A They're actually presentations that explains
10 their approaches to solving the problem to meet those
11 goals and that standard, which would include various
12 modulation schemes, how you would deliver the goals of
13 let's say a data rate of 54 megabits per second.

14 Q What proposal was put forth by Lucent and NTT?

15 A The Lucent/NTT proposal was an OFDM-based
16 proposal.

17 Q And what do you mean by OFDM?

18 A It stands for Orthogonal Frequency Division
19 Multiplexing.

20 Q Thank you.

21 A It's a multi-tone carrier.

22 Q And was OFDM something that you had heard
23 about prior to the time of this meeting?

24 A Yes, I had.

25 Q How long had it been around or how long had

1 you known about it?

2 A Well, I had experience, exposure to it back in
3 the late '80s working for Lockheed Electronics.

4 Q What type of proposal was put forward by
5 Breezecom, sir?

6 A That was a nonOFDM single-carrier proposal.

7 Q Did CSIRO or anybody from CSIRO propose
8 anything to this committee?

9 A No.

10 Q What proposal ultimately became standard?

11 A Well, looking at all the proposals, they were
12 very close. One of the criteria was to achieve
13 75 percent. Once you achieve 75 percent, that proposal
14 is the winning proposal for that particular standard.
15 Eventually the Lucent/NTT proposal was the winning
16 proposal.

17 Q And what technology did the winning proposal
18 have?

19 A It was OFDM multicarrier.

20 Q And when did work finish up with regard to the
21 802.11a amendment to the standard?

22 A It finished up in 1999.

23 Q Now, while you were on that committee and
24 working on that, was anybody from CSIRO or Radiata there
25 participating?

1 A Well, they learned of two individuals, one of
2 which was David Skellern and he worked for Radiata.
3 There was another person, Mr. Deane, who I thought he
4 was a part of Radiata, just because people hang out
5 together, and, you know, I eventually learned that he
6 was part of CSIRO.

7 Q Were they leaders with regard to the 802.11a
8 standard committee process?

9 A No.

10 Q Did they make any proposals?

11 A No.

12 Q Did they make any position paper for
13 presenting position papers?

14 A No.

15 Q At any time on your work with regard to the
16 802.11a committee, did you ever see the '069 patent or
17 hear of it?

18 A Yes, I heard of it.

19 Q I will then move and direct your attention to
20 the 802.11b standard. Now, with regard to that
21 standard, what were the goals of the 802.11b standard?

22 A Again, the goals for that were to operate at
23 the 2.4 gigahertz band, be backward compatible with the
24 existing one and two megabit per second baseline
25 standard, and deliver data rates and a minimum data rate

1 of 11 megabits per second which is equivalent to ten
2 times the rate of the first standard.

3 Q And would you go to demonstrative number 3.
4 What proposals did you receive to meet the
5 goals of that standard?

6 A In front of me here, we have five different
7 proposals. We have Alantro, Harris, Lucent, Micrilor
8 and Raytheon.

9 Q What proposals were ultimately chosen by the
10 802.11b committee?

11 A We went through a process there that is a down
12 selection in voting, and it turned out that there was no
13 clear winner of any one of the particular proposals.
14 All of the percentages were very close, and we selected
15 what is called a single-carrier CCK proposal. It was a
16 variant or modification of the Harris proposal. So the
17 Harris modification of CCK was the main proposal.

18 Q Where did the technology for this proposal
19 come from?

20 A Well, the technology came from a lot of work
21 that Harris did over the years. And in particular, a
22 lot of the engineers that I had the opportunity to work
23 with at Harris Semiconductor came from the government
24 assistance side of the house where they did a lot of
25 advanced modulation, design work, if you will.

1 Q And when was the work of this committee
2 completed?

3 A The same time of .11a, 1999.

4 Q Now, once these two amendments were in place,
5 did companies start relying upon them and developing and
6 manufacturing products to meet them?

7 MR. GILCHRIST: Your Honor, I'll object.
8 Calls for speculation.

9 MR. MIKE JONES: Your Honor, that's what
10 the standards are for. They're developed so companies
11 can build products to the standards and then --

12 THE COURT: Restate your question.

13 MR. MIKE JONES: Excuse me?

14 THE COURT: Restate your question.

15 MR. MIKE JONES: Okay. Thank you, Your
16 Honor.

17 Q (By Mr. Mike Jones) Why do you have standards
18 in the first place? What's the goal of them?

19 A The goal of the standards are to set a set of
20 specifications that companies or individuals can build
21 products to, for the commercial market, for industrial
22 use in the marketplace.

23 Q With regard to the 802.11a and 802.11b
24 standards, what kind of products are we talking about
25 that are built to them?

1 A Well, there's a couple -- couple pieces of
2 products. The fundamental products for a wireless LAN
3 is what's called an access point. And that's the -- if
4 you look at what you have at home, that's a box that
5 connects to, let's say, your phone line, and then the
6 other particular product is called a client radio. It's
7 basically a card that plugs into your notebook or your
8 desktop.

9 Q Are there also certain games that have these
10 products that are built to these standards?

11 A I'm sorry? Can you --

12 Q Also certain games that are built to these
13 standards that use them?

14 A Yes. Various -- various games in the consumer
15 market, mobile devices, et cetera.

16 Q Now, once these standards come out, is there a
17 body that will certify products to say whether or not
18 they meet the standards?

19 A Yes.

20 Q And what is that body?

21 A It's called the WiFi Alliance.

22 Q Do companies submit their products to the WiFi
23 Alliance so that a certification can be made that they
24 meet these standards?

25 A That's correct.

1 Q And is that important?

2 A It's very important. It's analogous, very
3 similar to when you buy a piece of equipment that has a
4 UL stamp, you're protecting yourself against electrical
5 shock, you can be guaranteed that there's some level of
6 certification there. People rely on a stamp of approval
7 that says when I see a WiFi stamp on a box, I know that
8 when I buy a box and I take it home and then I check
9 with my neighbor and they have a similar box that's
10 stamped with WiFi on that product, I know that they
11 interoperate with each other.

12 Q Now, did CSIRO make any written proposals or
13 did they make any responses to requests for proposals
14 concerning the 802.11b standard?

15 A No.

16 Q Did Radiata?

17 A No.

18 Q Thank you, sir.

19 I'd like to next turn your attention to the
20 802.11g standard. Who was the chairman of the 802.11g
21 standard?

22 A Matthew Shoemake.

23 Q I believe we'll hear from him, so I'll be real
24 brief about that. But you also worked on the 802.11g
25 committee, right, sir?

1 A Yes, I did.

2 Q Did CSIRO or Radiata make any proposals to the
3 802.11g committee?

4 A No.

5 Q In all of your years of work with the IEEE,
6 has CSIRO or its employees been a leader with regard to
7 these standards?

8 A No.

9 Q Now, I'd like to turn your attention from the
10 ones that have been adopted to the 802.11n standard. We
11 mentioned that briefly when we started. What are the
12 goals for the 802.11n standard?

13 A Just like the previous standards, we were
14 going higher data rates. The basic data rate was to
15 meet the minimum of 100 megabits per second and operate
16 in the 2.4 gigahertz and 5 gigahertz frequency band.

17 Q And who has made the proposals to try to meet
18 these goals?

19 A When the group first started, there were two
20 consortiums, outside consortium, which I call the
21 shakers and movers. These are companies that have been
22 involved in the standardization process for years.
23 There were two groups. And the first group is called
24 Wwise, and they had a target goal of 150 megabits per
25 second, and the second group was TGnSync and they had a

1 target goal of 600 megabits per second.

2 After going through the frustration of hearing
3 the proposals and trying to get consensus on a winning
4 proposal, it turns out that the groups decided to take
5 basically all the work and bring it all together and
6 pick and choose various portions of -- of that
7 particular standard to make a -- a baseline.

8 Q Has CSIRO made any proposals or responded to
9 requests for proposals for the 802.11n standard?

10 A No.

11 Q Has CSIRO provided any leadership with regard
12 to that standard?

13 A No.

14 MR. MIKE JONES: Pass the witness, Your
15 Honor.

16 THE COURT: All right. Cross-examine.

17 MR. GILCHRIST: Thank you, Your Honor.

18 Your Honor, it might be wise for us to
19 approach about that matter that we spoke to you about
20 the break.

21 THE COURT: Yes. I've taken a look at
22 it, and you may use it.

23 MR. MIKE JONES: Your Honor, could we
24 approach on that real quick?

25 THE COURT: Yes.

1 (Bench conference:)

2 MR. MIKE JONES: There's a motion in
3 limine with regard to the patent policy of the IEEE,
4 which I assume now Mr. Gilchrist agrees with me that I
5 can get in since they're putting this letter in which
6 was written pursuant to that patent policy.

7 MR. GILCHRIST: I've agreed to, Your
8 Honor.

9 MR. MIKE JONES: Thank you. Just want to
10 make sure.

11 (End of bench conference.)

12 CROSS-EXAMINATION

13 BY MR. GILCHRIST:

14 Q Good afternoon, Mr. Petrick. You and I met
15 before, right?

16 A Yes.

17 Q Just to remind, I'm Greg Gilchrist. I
18 represent CSIRO.

19 A Yes.

20 Q There was a suggestion, Mr. Petrick, that
21 CSIRO did not participate at all in the 802.11a or the
22 802.11g process, in your testimony. Is that fair?

23 A Yes.

24 Q Let me ask you to look --

25 MR. GILCHRIST: May I approach, Your

1 Honor?

2 THE COURT: Yes, you may.

3 Q (By Mr. Gilchrist) Let me hand you Defendants'
4 Exhibit 887.

5 You mentioned, Mr. Petrick, that you had heard
6 of CSIRO's patent; is that right?

7 A Yes.

8 Q And you heard about it in connection with the
9 802.11 standards setting, correct?

10 A Yes.

11 Q And you heard about it when the IEEE wrote a
12 letter to CSIRO asking if their patent was essential to
13 practicing the proposed standard, correct?

14 A Yes.

15 Q Now, CSIRO didn't participate in the IEEE at
16 that point in time, at least in your working group,
17 correct?

18 A That's correct.

19 Q But you're not suggesting, are you, that the
20 engineers from the IEEE and the companies that you work
21 for get together, select somebody else's patented
22 technology as the standard, and then just go ahead and
23 infringe it, are you?

24 A No.

25 Q Everybody at the IEEE understands that if you

1 take somebody else's patented technology and you use it,
2 you're going to infringe it, don't you?

3 A I don't know if everybody understands.

4 Q Okay. You understood that, though?

5 A Yes.

6 Q You also understand that if doesn't -- it's
7 not required that somebody make products in order to
8 participate in the IEEE, is it?

9 A No.

10 Q Companies don't -- individual engineers can
11 come and present proposals to them, right?

12 A That's correct.

13 Q And if an individual engineer, who happens to
14 patent something, gets a patent, the IEEE can get
15 together, set a standard on that -- on that patent and
16 then use it just because that engineer is not making
17 products, can't they?

18 A Can you rephrase that?

19 Q Sure. If an individual comes to the IEEE for
20 an idea for a technology and the IEEE happens to adopt
21 it as a standard, just because that individual does not
22 happen to make any products on its own does not mean
23 that the IEEE can adopt that technology for itself and
24 use it without infringing, does it?

25 A I don't know.

1 Q Well, is it your understanding that you can
2 set a standard and use somebody's technology just
3 because they don't happen to be making any products?

4 A Yes.

5 Q Even if they have a patent on it?

6 A Yes.

7 Q Would that be infringing of the patent, if you
8 set a standard to practice somebody's patent just
9 because they didn't make any products?

10 MR. MIKE JONES: Your Honor, I would just
11 object. This is totally outside the scope of this man's
12 expertise. And, secondly, he's not here to testify
13 about what infringes and doesn't. I think that's a
14 matter of law for the Court.

15 THE COURT: Overruled.

16 MR. MIKE JONES: Thank you, Your Honor.

17 Q (By Mr. Gilchrist) I'll try to be a little
18 clearer.

19 Mr. Petrick, I think you testified in your
20 deposition, didn't you, that there's a Dr. Farrara
21 (phonetics) that approached one of the IEEE task forces
22 with some technology; is that right?

23 A Yes.

24 Q And he claimed he had a patent on it, didn't
25 he?

1 A Yes, he did.

2 Q He wasn't making any products, was he?

3 A No, he wasn't.

4 Q Just because he wasn't making any products
5 didn't mean that you could just take his patent and use
6 it for your own, does it?

7 A No.

8 Q Okay. You would have had to have taken a
9 license in order to use that patent of Dr. Farrara's,
10 right?

11 A I would have to take -- I don't know.

12 Q The IEEE understands that one of the reasons
13 it goes around asking people to disclose their patents
14 is because they need to know when they set a standard
15 whether or not they're going to be using somebody else's
16 technology, right?

17 A Yes.

18 Q So everybody that was participating in those
19 task groups keeps an eye out to make sure that all
20 essential patents are disclosed, right?

21 A I don't know if everybody did.

22 Q They do their best, right?

23 A They're supposed to.

24 Q And in any event, they certainly knew about
25 CSIRO's patent, right?

1 A They may have.

2 Q You knew about it?

3 A Yes.

4 Q CSIRO got a letter, right?

5 A Yes.

6 Q That's the letter that we're looking at right
7 here?

8 MR. GILCHRIST: Let me ask Mr. Marriott
9 to highlight the second paragraph of this letter.

10 Q (By Mr. Gilchrist) Do you see there at the top
11 of the second paragraph that says, "It is the policy of
12 the IEEE to ask the patent holder whether the patent is
13 indeed needed to implement the standard." Do you see
14 that?

15 A Yes.

16 Q They're asking CSIRO if they think their
17 patent is needed to implement the standard, right?

18 A Yes.

19 Q And CSIRO responds, right?

20 A With a -- with a letter.

21 Q And you have that letter. That's Plaintiff's
22 Exhibit 86, right?

23 A Yes.

24 MR. GILCHRIST: Can you put that up for
25 us. Okay. Can you highlight that first paragraph?

1 Q (By Mr. Gilchrist) This is CSIRO's response,
2 correct?

3 A Yes.

4 Q And Mr. Hayes was the chair of the committee?

5 A Yes.

6 Q He worked for Lucent?

7 A That's correct.

8 Q Lucent was one of the companies that was
9 proposing the 802.11a standard, right?

10 A Yes.

11 Q And the last sentence there says that, "From
12 the information available to CSIRO, it would appear that
13 the patent may be needed to implement the standards."
14 Do you see that?

15 A Yes.

16 Q So CSIRO did participate in the process,
17 didn't it?

18 A No, not physically.

19 Q Okay. All they did was tell the IEEE that
20 they had a patent that was necessary to practice the
21 standard, right?

22 A Yes.

23 Q While we're at it, that big stack of exhibits
24 that you have in front of you that you identified as the
25 standard, that doesn't include the amendments, does it?

1 A This particular one?

2 Yes, yes.

3 Q There's a lot in that standard that doesn't
4 have anything to do with the modulation and the error
5 correction and the interleaving of -- of the signals in
6 order to make the 54 megabits per second, right?

7 A It's a very small portion, yes.

8 Q Okay. The rest of that stuff all relates to
9 other parts of the standard, correct?

10 A That's correct.

11 Q All right. But you do agree that CSIRO
12 disclosed its patent and told the IEEE that it was
13 essential in order to practice the standard?

14 A It may be essential.

15 Q Okay. Did you ever look at the patent?

16 A I did look at it one time.

17 Q Okay. So you had heard about the CSIRO letter
18 and you looked at the patent?

19 A The first time I looked at it was when the
20 call was made in 2008, when the chair of 802.11 made
21 that aware to the group.

22 Q Okay. So -- so the people that were
23 responsible for the 802.11a committee knew, at least you
24 did, about the CSIRO patent, correct?

25 A I knew that one existed.

1 Q And then you also -- you also stated that
2 you were involved in the 802.11g, correct?

3 A Yes.

4 Q And you worked on that closely; isn't that
5 right?

6 A Yes.

7 Q And you knew about the CSIRO patent when that
8 standard was adopted as well, right?

9 A It didn't come to my mind.

10 Q You forgot about it?

11 A Forgot about it.

12 Q You agree that the physical layer, the phy
13 layer for the 802.11g standard, is the same physical or
14 phy layer for the 802.11g standard?

15 A Correct.

16 Q They just work on different frequencies,
17 right?

18 A Yes.

19 Q It's the same exact technology, just using a
20 different frequency?

21 A Yes.

22 Q And do you understand that everybody agrees
23 that all 802.11a and 802.11g products, in fact, do
24 practice the -- the CSIRO patent?

25 A I don't agree with that.

1 Q You don't know that they've agreed -- you
2 don't know that the parties have agreed to that here?

3 A I don't know that.

4 Q Okay. Now, you mentioned -- the 802.11n
5 standard that's been proposed, that also practices the
6 OFDM technology, correct?

7 A It includes it, yes.

8 Q Okay. Now, you mentioned that the -- that the
9 proposal for 802.11a -- that's the first one that
10 adopted OFDM, right?

11 A Yes.

12 Q You mentioned that that was proposed by
13 Lucent, correct?

14 A Yes.

15 Q Then there was some reference in the document
16 to Lucent and NTT, correct?

17 A Yes.

18 Q Those are two different companies, correct?

19 A Yes.

20 Q Lucent is a company that comes from AT&T,
21 right?

22 A Yes.

23 Q One of the people who proposed this was
24 Mr. Van Nee, right?

25 A One of them.

1 Q And he's the guy from Lucent, right?

2 A Yes.

3 Q The guy from NTT is Mr. Takanashi?

4 A I don't remember.

5 Q Okay. You do remember Mr. Van knee?

6 A Yes.

7 Q And do you know a Bruce Tuch?

8 A Yes, I do.

9 Q He's also from Lucent, right?

10 A Yes.

11 Q He works with Mr. Van Nee, right?

12 A Yes.

13 Q They've worked together for a long time in
14 Lucent and prior to that at AT&T and prior to that at
15 National Cash Register, right?

16 A Yes.

17 Q When they worked at AT&T in 1994, they worked
18 in Holland, right?

19 A Yes.

20 Q That's the same Holland that's in Europe where
21 Mr. Percival took his tour looking for partners for
22 CSIRO's technology, isn't it?

23 A I don't know.

24 MR. GILCHRIST: Thank you, Your Honor.

25 I'll pass the witness.

1 THE COURT: All right. Any redirect?

2 MR. MIKE JONES: Yes, Your Honor.

3 THE COURT: All right. Counsel approach
4 a minute, if you would, please.

5 (Bench conference:)

6 THE COURT: Now, you're not going to
7 launch off into a big RAND type deal?

8 MR. MIKE JONES: No. If the Court would
9 like, I'll tell the Court exactly what I plan to do.

10 THE COURT: Okay.

11 MR. MIKE JONES: I plan to introduce the
12 patent policy of the IEEE by which this was submitted,
13 and I plan to introduce an exhibit which shows all of
14 the letters of assurance that were received. That's
15 what I plan to do.

16 MR. GILCHRIST: No objection.

17 MR. MIKE JONES: Thank you, Your Honor.

18 (End of bench conference.)

19 THE COURT: All right. You may proceed.

20 REDIRECT EXAMINATION

21 BY MR. MIKE JONES:

22 Q Mr. Petrick, does the RAND have -- excuse me.
23 Strike that.

24 Does the IEEE have a patent policy?

25 A Yes, they do.

1 Q And are you familiar with it?

2 A Yes, I am.

3 MR. MIKE JONES: May I approach the
4 witness, Your Honor?

5 THE COURT: Yes, you may.

6 Q (By Mr. Mike Jones) I'm going to hand you what
7 has been marked as Exhibits 526 and 527 --

8 MR. MIKE JONES: Which I would offer into
9 evidence, Your Honor.

10 THE COURT: Any objection?

11 MR. GILCHRIST: I'm sorry, Your Honor.

12 No objection.

13 THE COURT: All right. Be admitted.

14 Counsel, did you wish to admit the two
15 exhibits that you used?

16 MR. GILCHRIST: I did, Your Honor. I
17 thought we -- yes. May I move them to be admitted?

18 THE COURT: What numbers were those?

19 MR. GILCHRIST: Plaintiff's 86 and
20 Defendants' 887.

21 THE COURT: All right. Be admitted.

22 MR. MIKE JONES: Thank you, Your Honor.

23 Q (By Mr. Mike Jones) I'll hand you these two
24 exhibits and ask you if those are bylaws applicable to
25 the IEEE.

1 A Yes, they are.

2 Q And do they contain the patent policy of the
3 IEEE that you and your committee operated by during the
4 time that you testified about?

5 A Yes.

6 Q And do the patent policies of the IEEE require
7 anybody that's on the committee that knows the patents
8 that may relate to the standards, to disclose them?

9 A Yes.

10 Q And are numerous patents disclosed to the
11 committee during this standardization process?

12 A Yes, they are.

13 MR. MIKE JONES: Could we bring up
14 Defendants' Exhibit 876?

15 And, Your Honor, I would move to admit
16 into evidence Defendants' Exhibit 876.

17 MR. GILCHRIST: No objection, Your Honor.

18 THE COURT: Be admitted.

19 MR. MIKE JONES: Thank you, Your Honor.

20 Q (By Mr. Mike Jones) Now, what we see here --
21 what we see here at the top is that -- these are patent
22 owners, correct?

23 A Yes.

24 Q And then their patents are over one, two,
25 three, four columns from the left to the right. They

1 have patent serial numbers.

2 A Yes.

3 Q If you take that black notebook, the little
4 notebook, I think you'll find -- excuse me, sir. I
5 apologize.

6 If you go to 876 -- Exhibit 876. There, I
7 believe. Found that?

8 A Yes, I did.

9 Q That's the one we're looking at here.

10 Now, tell the jury exactly what that is.

11 A That is a list that was copied off of the IEEE
12 802 website. It's a list of the patent holders that was
13 submitted in terms of what's called a letter of
14 assurance. It has the contact, the name of the person,
15 it may or may not include the patent number, and the
16 date in which it was submitted to the -- to the IEEE.
17 And it also has marked that they received an assurance
18 from that particular person or entity.

19 In the very first column, it has standard
20 number and it has 802.11 and calls out various other
21 groups, and that's where it applies to that -- that
22 particular patent applies that particular standard.

23 Q Now, there are a number of pages to that
24 exhibit, right? We have a number of pages --

25 A Right.

1 Q -- to document -- or excuse me, Exhibit--
2 Page 76, right, sir?

3 A Probably less than 20 pages.

4 Q And they all have a listing there. If we can
5 go to the first one there, it says "University of
6 California"?

7 A Yes.

8 Q If you could highlight the "University of
9 California" there.

10 Now, we go column after column with people who
11 disclose patents, right?

12 A Yes.

13 Q And there are numerous people, in the tens --
14 if not maybe a hundred different entities that disclose
15 patents, right?

16 A Yes.

17 Q And there are a number of patents -- sometimes
18 only one, but many times more than one, listed by every
19 one of the patent holders that are listed there, too,
20 correct, sir?

21 A Yes.

22 Q So there are literally many people in many
23 patents that are subject to letters just like the one we
24 showed you that CSIRO wrote, right?

25 A Yes.

1 Q Where they say, "We have a patent that applies
2 to this," right?

3 A Yes.

4 Q Now, does the IEEE do anything or did your
5 committee do anything to try to determine whether or not
6 the patent really applies to the standard?

7 A No. When you -- when you submit a proposal
8 and that proposal has a particular intellectual property
9 or patent rights attached to it, all that is required is
10 that the -- the chair of the group is put on notice that
11 that company needs to -- or entity or person has to
12 supply a letter of assurance.

13 In the group, our job is to develop standards.
14 Our job is not to review and analyze patents during the
15 meetings.

16 Q Thank you, sir.

17 MR. MIKE JONES: I pass the witness, Your
18 Honor.

19 THE COURT: Any recross?

20 MR. GILCHRIST: Thank you. Just a few
21 questions, Your Honor.

22 RE-CROSS-EXAMINATION

23 BY MR. GILCHRIST:

24 Q Mr. Petrick, the last exhibit that we were
25 looking at, 876, that's a printout from the website,

1 right?

2 A Yes, it is.

3 Q So any company that wanted to look at the
4 patents that were identified as essential to these
5 standards could look them up on the website; is that
6 right?

7 A Yes.

8 Q Now, the standard number shown in the left
9 column there that Mr. Jones pointed you to, if we can
10 highlight just briefly, that -- again, covers lots of
11 different parts of the 802.11 standard, right?

12 A Which one?

13 Q Where it says the standard number.

14 A Yeah. The standard, that's correct.

15 Q We're starting off here on the first page,
16 802.11, right?

17 A That's correct.

18 Q But when we get to 802.11a, we don't get to
19 that until we get to about the fourth page, right?

20 A That's correct.

21 Q And there's only about what, 15 or 18 entries
22 of companies that submitted patents at that point for
23 802.11a? I was counting --

24 A That's about right.

25 Q Okay. Now, you mentioned something that I --

1 I'd like to focus on. You said that the IEEE sets the
2 standards, that you don't take responsibility for
3 evaluating the patents. Is that right?

4 A That's correct.

5 Q The companies that make the products that
6 comply with those standards are supposed to evaluate
7 whether they are infringing on somebody's intellectual
8 property, right? The IEEE doesn't do it?

9 A The IEEE does not.

10 Q The companies are supposed to do it?

11 A I don't know if the company is supposed to.

12 MR. GILCHRIST: Thank you, Your Honor. I
13 pass the witness.

14 THE COURT: Okay. Any redirect?

15 MR. MIKE JONES: Just one.

16 REDIRECT EXAMINATION

17 BY RIGHT2:

18 Q And likewise, the IEEE doesn't do anything to
19 determine whether or not these patents are valid, does
20 it?

21 A No, sir.

22 MR. MIKE JONES: Thank you, sir.

23 THE COURT: All right. May this witness
24 be excused?

25 MR. MIKE JONES: Your Honor, I don't

1 believe he may. Can we approach the bench?

2 THE COURT: No. That's fine.

3 MR. MIKE JONES: Oh, okay. You
4 understand. Thank you.

5 THE COURT: You may stand down,
6 Mr. Petrick, but you should remain in attendance of the
7 Court.

8 Thank you. Who will be your next
9 witness?

10 MR. MIKE JONES: Mr. Shoemake, Your
11 Honor.

12 THE COURT: Mr. Shoemake.

13 MR. MIKE JONES: May it please the Court.

14 THE COURT: Yeah.

15 MATTHEW SHOEMAKE,
16 Having been duly sworn, testified as follows:

17 DIRECT EXAMINATION

18 BY MR. MIKE JONES:

19 Q I've already made the mistake of calling you
20 Mr. Shoemake.

21 Dr. Shoemake, could you please state your full
22 name for the record.

23 A Certainly. It's Matthew Brendon Shoemake.

24 Q Where do you reside, sir?

25 A I reside in Allen, Texas.

1 Q And that's near Dallas, right?

2 A It is. It's the north side of Dallas between
3 Plano and McKinney.

4 Q Do you have any family, sir?

5 A I do. I have a wife and two children, a
6 seven-year-old daughter and three-year-old son.

7 Q Okay. Can you speak up just a little.

8 A Yeah.

9 Q Just in case. I don't know if they can hear
10 you or not.

11 What does your wife do, sir?

12 A So my wife, by education, is a schoolteacher.
13 When I met her she was teaching. She most recently
14 taught in Richardson ISD. But when we had our daughter,
15 she stopped teaching, and she's a stay-at-home mom now.

16 Q Where did you grow up?

17 A So I grew up in Texas, in Mexia, Texas.

18 Q Did you go to high school in Mexia?

19 A I did. I went to Mexia high school.

20 Q After you graduated from Mexia High School,
21 where did you go to college?

22 A An appropriate place, Texas A & M University.

23 Q And when did you attend Texas A & M
24 University?

25 A I went to A & M in 1989 and finished there in

1 1994.

2 Q Did you receive any degrees from Texas A & M
3 University?

4 A I did. I received two. I received a Bachelor
5 of Science degree in electrical engineering and a
6 Bachelor of Science degree in computer science.

7 Q Have you had any further affiliation with
8 Texas A & M University after you graduated from there?

9 A I have and still do to this day. I serve
10 on -- they have an external advisory board for their
11 department, the electrical and computer engineering, and
12 I serve on that advisory board.

13 Q Now, have you had any education besides Texas
14 A & M?

15 A Yes, I have.

16 Q And what is that, sir?

17 A So after Texas A & M, I went to Cornell
18 University. I obtained two more degrees there. One
19 in -- well, both of them in electrical engineering. A
20 master of science degree in electrical engineering and a
21 doctorate degree in electrical engineering.

22 Q Thank you, sir.

23 A Certainly.

24 Q Now, after you graduated from Texas A & M,
25 what employments have you held?

1 A So after I graduated from Texas A & M, I
2 worked briefly at Texas Instruments in Houston, the
3 Houston area, Stafford, Texas, before I went to Cornell
4 to get my -- the last two degrees.

5 Q And who did you start working for there? I
6 think you did it while you were getting your degree,
7 right, sir?

8 A I did indeed. So when I was in the last year,
9 year-and-a-half of my Ph.D. at Cornell, my advisor for
10 my Ph.D., Chris Heegard actually started a start-up
11 company out in California. And so this is in the '98,
12 '99 timeframe. And so I went with Chris and joined that
13 company as an employee while I continued to -- to write
14 my dissertation for my Ph.D. And so I finished my Ph.D.
15 and my dissertation in '99, and after that, I continued
16 to work for Alantro Communications in Santa Rosa,
17 California.

18 Q And what were you and the folks Alantro doing
19 at this point in time that you --

20 A Sure. So Alantro was a start-up chip company,
21 so we built semiconductor chips specifically for
22 wireless computer networks or WiFi networks.

23 Q Is Alantro around today?

24 A It is not.

25 Q What happened to it?

1 A So in September of 2000, Texas Instruments
2 acquired Alantro, purchased it.

3 Q And what happened to your employment with
4 Alantro when that occurred?

5 A So my wife and I both had family in Texas. So
6 it was a good opportunity for us to move back here and
7 raise our kids. So I took an opportunity to move to the
8 Dallas area. And from 2000 to 2003, worked at Texas
9 Instruments headquarters.

10 Q And what was your position at Texas
11 Instruments at the time you left their employment?

12 A Certainly. After the acquisition, I became
13 the branch manager of a -- of a branch in Texas
14 Instruments Research and Development Center that was
15 focused on wireless computer networks and WiFi
16 technology.

17 Q And did you ultimately become the Director of
18 Advanced Technologies for Texas Instruments?

19 A I did indeed.

20 Q And was that what you were doing at the time
21 you left Texas Instruments?

22 A Yes. That's correct.

23 Q Now, what did you do after that? Where did
24 you go to work?

25 A So I actually left Texas Instruments to

1 start -- to another start-up company. So I founded a
2 company called WiQuest Communications.

3 Q And what kind of work did WiQuest do?

4 A So WiQuest was also a technology company
5 focused on building computer chips for wireless
6 networks, but they were for a different purpose. While
7 at Alantro we were working on wireless networks to
8 connect to the internet, at WiQuest, we were working on
9 shorter distance connections, three feet, six feet, very
10 high speed connections for things like connecting your
11 notebook computer to a printer.

12 Q Now, when you left WiQuest, where did you go
13 to work?

14 A So after I left WiQuest, I founded a third
15 start-up company named WAM.

16 Q And what kind of business is WAM?

17 A So WAM is a consumer electronics company
18 focused on high definition video calling.

19 Q Thank you, sir.

20 A Certainly.

21 Q Now, are you an inventor on any patents
22 pertaining to wireless computing?

23 A I am.

24 Q What patents might that be?

25 A So I think the first patents that I was on

1 with respect to wireless computing were with respect to
2 the 802.11 standards committee works, and specifically
3 there is the technology called PBCC that I'm a
4 co-inventor of.

5 Q Thank you, sir. Now, have the defendants
6 agreed to compensate you for your time in this matter?

7 A They have.

8 Q And how are you being compensated?

9 A I'm being compensated for my time at \$600 per
10 hour.

11 Q Now, one of the organizations that we've heard
12 a lot about in this case is the IEEE.

13 And if we could go to demonstrative 1.1,
14 please, sir. Thank you so much.

15 Tell us a little bit about the IEEE.

16 A So the IEEE is a very large not-for-profit
17 international organization that does things related to
18 electrical engineering. And, in fact, it's
19 headquartered in Piscataway, New Jersey, and it does
20 things such as it sets standards and it does things --
21 for example, if you're an electrical engineer, maybe
22 you're not employed by a company; you're an independent
23 contractor. They provide services for medical benefits
24 and things like this that you can purchase from them.

25 Q Now, there are many, many members of the IEEE?

1 A Right.

2 Q 365,000 members?

3 A That's correct.

4 Q Is it truly an international organization?

5 A It absolutely is an international
6 organization.

7 Q Are there meetings all around the world?

8 A Yes, indeed. We've had meetings -- I've been
9 to many countries from Europe to Australia to Japan to
10 Singapore, another one is Germany and, of course, the
11 United States with respect to my dealings with IEEE
12 standards. So it truly is international.

13 Q And do they publish a lot about electrical
14 engineering and computer science and electronics?

15 A They do. It's really the -- the entity for
16 electrical engineers to publish in, whether it's
17 academic or whether it's standards. It's, I think, the
18 number one organization for publishing literature
19 related to electrical engineering and other areas such
20 as computer science.

21 Q Do the companies that produce computer
22 products use the standards that are come up with by the
23 IEEE?

24 A Oh, they absolutely do.

25 Q And do they submit their products for

1 certification that they comply with IEEE standards?

2 A They do, that's correct.

3 Q How do companies that make computer products,
4 for example, how do they support the standard making
5 process?

6 A Well, what they typically do is they send
7 their employees to the standards making process. So,
8 for example, the IEEE committees that I participated in
9 met typically every other month, six times a year. So
10 they would send their employees for a full week to
11 participate in these proceedings and help set standards.

12 Q Thank you, sir. We can take that down now. I
13 appreciate it.

14 And let's just use an example. How did you
15 become a member of the IEEE?

16 A Well, at first the large organization, the
17 IEEE itself, I became a member when I was a student at
18 Texas A & M. There was a simple form to fill out with
19 some small fee that I paid and I became a member.

20 Q And did you ultimately become a member of a
21 standards body?

22 A I did.

23 Q Under the auspice of the IEEE?

24 A I did, yes.

25 Q And using you as an example or anybody else,

1 can you tell us how you become a member of the standards
2 committees that make these standards?

3 A Certainly, it's pretty simple. You register
4 and again pay a small fee to attend the meetings. A
5 small fee tend to help offset the cost of the meetings.
6 These meetings have lots of engineers, hundreds of
7 engineers attending, so they tend to happen in large
8 hotels where they have big rooms for us to meet in. And
9 so you register, you pay a small fee to help pay for the
10 room and the equipment and that's how you become a
11 member.

12 Q Now, how do you become a voting member of a
13 subcommittee so as to be able to vote on these standards
14 as reviewed and adopted?

15 A So specifically the standard that I
16 participated in was the 802.11 committee. And to become
17 a member there, you attend the meetings, so as I
18 previously described, but in addition you need to attend
19 some number of meetings before you get voting rights.
20 It typically takes about three meetings before you can
21 become a voting member.

22 Q So the process, would you describe it as open?

23 A I would describe it as open and democratic.

24 Q So anybody who wants to be a member, merely by
25 attending the subcommittee meetings as required can

1 become a voting member; is that right?

2 A That's correct, yes, sir.

3 Q Now, when members on the committee vote, do
4 they vote for their companies or do they just vote
5 individually?

6 A No, the IEEE has maintained a policy
7 maintaining individual membership, and that's with kind
8 of the democratic theme. So the members of the IEEE
9 802.11 standards organization are individuals, they're
10 not companies, and they cast their votes as individuals.

11 Q Now, I believe with regard to 802.11 you were
12 involved with "b" committee, the "g" committee and the
13 "n" committee; is that correct?

14 A That is correct.

15 Q And you were chairman of the "g" committee and
16 you were chairman for a short period of time in the "n"
17 committee; is that fair?

18 A That's correct.

19 Q I would like to zero your attention in on the
20 time when you were chairman, because I believe you were
21 chairman of the "g" committee the entire time of the
22 process; is that right?

23 A That is correct.

24 Q Could you tell us how you became chairman of
25 the 802.11g committee?

1 A Certainly. So I had previously been
2 participating as a member in the 802.11b standardization
3 activity. And when that was finished, the overall body,
4 the working group decided to work on some additional
5 standards, and that eventually became 802.11g.

6 And when they did that, they needed a
7 chairperson. And so Professor Chris Heegard was also a
8 member and so he nominated me and the body had an
9 election and I was elected as the chairperson.

10 Q Now, how many members are there on a
11 committee?

12 A Well, it's changed over time as WiFi 802.11
13 became very important in the marketplace. So let me
14 give you two points in time. In late 1999 when we
15 ratified the 802.11a and "b" standards, our meetings at
16 the working group level had on the order of 50 people
17 attending.

18 In 2003 by the time 802.11g was ratified, we
19 had hundreds, 400-plus people attending. We had votes
20 where there were hundreds of voting members.

21 Q Now, how many meetings does the committee
22 have?

23 A So the standard course through the year would
24 be to have six meetings every other month, and the
25 meetings, if you will, last for a whole week.

1 THE COURT: Counsel, if you would
2 approach, please.

3 MR. MIKE JONES: Sure.

4 (At the bench.)

5 THE COURT: I'm having a lot of trouble
6 seeing the relevance of this amount of in-depth
7 testimony about the standards committee and the members,
8 what it takes to get in. How is that relevant to
9 validity or to willfulness?

10 MR. MIKE JONES: Again, I just think it's
11 an open process. They have made the statement that the
12 standard adopts their technology and anybody that wants
13 to can come up and be a part of this. But I'll be happy
14 to move along, Your Honor.

15 THE COURT: Okay. I think you're kind of
16 wearing -- I mean, it's interesting, but I don't think
17 it's relevant to the issues.

18 MR. MIKE JONES: I understand.

19 (End of bench conference.)

20 Q (By Mr. Mike Jones) We've been talking about
21 the 802.11g committee. Did your committee form a task
22 group to set certain goals for the 802.11g standard?

23 A We did. We actually formed a study group to
24 set the goals and then subsequently a task group.

25 Q And what goals did the study group come up

1 with?

2 A So at the study group phase we came up with
3 two primary goals; one was 802.11g needed to be backward
4 compatible with the 802.11b, and the second, it needed
5 to have data rates of at least 20 megabits per second.

6 Q Now, did you then receive proposals from
7 folks, did you request folks to give you proposals as to
8 what technology might meet these goals?

9 A We did. After that phase, we set up a
10 procedure, we agreed on the procedure. After we agreed
11 on the procedure, we followed it.

12 The first step in the procedure was to solicit
13 proposals, so proposals that would help us meet those
14 goals. So that's correct.

15 Q If we could go to slide 1A.1.

16 And does this set forth the people that made
17 proposals with regard to "g"?

18 A Yes. So with respect to our solicitation, we
19 received four proposals and this is the list.

20 Q If you would look into -- if we could, could
21 we bring up Defendants' Exhibit 302 on the screen. And
22 could you identify from the screen what Defendants'
23 Exhibit 302 is?

24 A Yes, I've seen this. This is a record, it's a
25 voting record. So after we solicited -- after we

1 solicited these proposals, the next step in our
2 procedure was to vote on them. And this is a record of
3 one of those rounds of voting.

4 Q Thank you.

5 And as the voting went along, what proposals
6 were selected by the committee with regard to the
7 802.11g?

8 A So as the voting went along, the way our
9 voting worked is we would -- we started off with four
10 proposals and we would vote. And every time we voted,
11 we would eliminate the proposal that had the least
12 amount of support.

13 And so, in fact, as we voted, the Super Gold
14 proposal -- I'm sorry, the 3Com proposal was eliminated
15 first and subsequently the Super Gold MBCK proposal was
16 eliminated. And I believe the exhibit you showed me was
17 actually the record of where we took the vote that was
18 going to eliminate the Super Gold MBCK proposal.

19 Q Thank you.

20 Now, what technology ultimately ended up being
21 in the standard -- excuse me, Your Honor.

22 Could I introduce at this time Defendants'
23 Exhibit 302?

24 THE COURT: Any objection?

25 MR. JONES: No objection, Your Honor.

1 THE COURT: Be admitted.

2 Q (By Mr. Mike Jones) Could you tell us about
3 the process that led up to what was ultimately selected?

4 A Yes, I would be happy to.

5 So on these proposals we -- if you look at the
6 previous exhibit, I believe this is the one marked 302,
7 you'll see that although we eliminated the MBCK
8 proposal, we had the CCK OFDM proposal, which is
9 indicated here as OFDM, and we also had the PBCC
10 proposal. And I believe at the bottom of this document
11 it actually shows the votes. Each of them had
12 40-something votes. I think they were separated by five
13 votes at the time.

14 But this left me as chairperson with a
15 problem. Because under our rules in 802.11g, to form a
16 standard our members have to vote -- at least 75 of them
17 have to vote in favor.

18 Oh, thank you. So you can see here at the
19 bottom that it shows that there were 48 votes for CCK
20 OFDM, which was 49 percent, and you can see that PBCC
21 had 43 votes or 44 percent. So there was some
22 subsequent votes after this that actually confirmed that
23 neither was going to be able to get to 75 percent, so
24 that left me as chairperson needing to try to find a way
25 forward.

1 Q And what proposal did you ultimately select as
2 you found that way forward?

3 A So we didn't select any of these. What I did
4 was I -- it was an alternative proposal. We were in a
5 deadlock situation, so I literally had a microphone put
6 into the middle of the room and I solicited the members.
7 I said, "We're at a deadlock situation, I need your
8 help, I need a little latitude from you with respect to
9 finding a way out of this," and I asked them to come to
10 the microphone. I told them there's no such thing as
11 bad idea. I said, "Please come to the microphone." We
12 had big screens in the room so they could see. We put
13 up a blank, I think, Microsoft Word document. And we
14 solicited new ideas for ways out of this.

15 And in fact, I got nine of those, nine ideas.
16 We did some straw polling or voting, nonbinding votes,
17 and we ultimately figured out that one of those nine was
18 the way forward that we could achieve 75 percent of the
19 members could vote for. And that became the basis of
20 the 802.11g standard.

21 Q Thank you, sir.

22 And it ultimately got to 75 percent, correct?

23 A It did, just slightly, right.

24 Q And it was passed on to the 802.11 committee,
25 correct, sir?

1 A Yes, that's correct.

2 Q Now just a couple questions more. With regard
3 to the Intersil/Harris proposal, who made those
4 proposals? Who were the people who made those?

5 A So the members that came to 802.11g, so to my
6 committee, the main members were Mark Webster and Steve
7 Huffard, both engineers from Harris/Intersil, and then
8 also Jim Zyron who was a marketing manager from
9 Harris/Intersil.

10 Q Thank you, sir.

11 Now, during this time, were any proposals made
12 by CSIRO or Radiata?

13 A There were not.

14 Q And during this time were there any proposals
15 -- during the time when you set up a microphone to have
16 people make these nine proposals that we just talked
17 about, were any of those made my CSIRO or Radiata?

18 A They were not.

19 Q Was there any concerns expressed during the
20 committee meetings about any particular company having a
21 head start in this area?

22 MR. JONES: Objection, hearsay, Your
23 Honor.

24 THE COURT: Sustained.

25 MR. MIKE JONES: I pass the witness, Your

1 Honor.

2 THE COURT: All right. Cross-exam.

3 CROSS-EXAMINATION

4 BY MR. JONES

5 Q Mr. Shoemake, we've met before, haven't we?

6 A We have.

7 Q Okay. I'm Jordan Jones and I represent CSIRO.
8 It's good to see you.

9 A It's good to see you as well.

10 Q I'm curious, you said that -- in your last bit
11 of testimony that somehow you found a way forward. What
12 was the way?

13 A We did. So what happened with these integral
14 grounds of voting, we had nine ideas, if you will, that
15 people had come to the mic and given, and we -- through
16 these votes we figured out that half of them or so were
17 nonvile. But ultimately to get to the answer --

18 Q Let me interrupt you. Maybe I was imprecise
19 in my question.

20 What was the final technology that was adopted
21 for the 802.11g standard?

22 A Certainly. It was a combination of 802.11a
23 and 802.11b. So the 802.11a OFDM modulation and
24 802.11b.

25 Q So that's the same PHY layer that's used in

1 802.11a that was just incorporated into 802.11g; is that
2 correct?

3 A That is correct.

4 Q So the multicarrier modulation, the
5 interleaving, the forward error correction, that's the
6 same both in the 802.11a and also in 802.11g; is that
7 right?

8 A That's correct.

9 Q And that is the way forward that you found
10 when you had that consensus in terms of the adoption of
11 802.11g standard; is that right?

12 A So that -- that was the --

13 Q I'm sorry, Mr. Shoemake. It's just a yes or
14 no. Is that right?

15 A So could you repeat the question, please?

16 Q The way you found forward, the final thing
17 that you adopted in terms of breaking that deadline was
18 the same technology that had been used in the 802.11a
19 standard; is that correct?

20 A So yes. The path we -- yes.

21 Q Thank you.

22 A You're welcome.

23 Q Now, you said you're being compensated at \$600
24 an hour?

25 A That's correct.

1 Q Are you also being compensated for time that
2 you spent studying and getting ready to testify, in
3 terms of reviewing your testimony. I'm not saying
4 you're studying for your testimony, but in terms of
5 reviewing materials to refresh your recollection?

6 A Yes, I've been paid for some time outside of
7 trial.

8 Q And how much are you getting compensated for
9 that time outside of trial?

10 A So outside of trial I've been paid \$400 per
11 hour.

12 Q So you're getting an extra \$200 per hour to
13 sit here and testify today; is that right -- in
14 comparison to the work you're doing outside of the
15 courtroom?

16 A That's true.

17 Q And that was also true when I deposed you or
18 asked you some questions last October; is that right?

19 A That's correct.

20 Q Now, you mentioned that you're the co-inventor
21 of PBCC; is that right?

22 A That's correct.

23 Q When I deposed you in October, you said to me,
24 if I recall correctly, that you thought that was the
25 best technology, right?

1 A I did, that's correct.

2 Q You thought it was better than OFDM that was
3 adopted as a standard; isn't that right?

4 A That is correct and it's still true.

5 Q That's still your belief?

6 A Yes.

7 Q So all these big companies, all these smart
8 companies, all these engineers that are part of the IEEE
9 process, they all got it wrong?

10 A No.

11 Q They didn't?

12 MR. MIKE JONES: Your Honor, can we
13 approach the bench?

14 THE COURT: Yes, you may.

15 (At the bench).

16 MR. MIKE JONES: I'm under a motion in
17 limine not to ask these witnesses what the best
18 technology is and to get their opinions because they've
19 never been designated as experts, and now he's just gone
20 into it.

21 You know, I've obeyed the order of this
22 Court.

23 THE COURT: You got the motion in limine
24 to him.

25 MR. MIKE JONES: I object to it as being

1 opinion evidence.

2 MR. JONES: I'm happy to stop. I think
3 this goes to bias but I'm happy to stop here.

4 THE COURT: Don't ask him any opinions if
5 he's not been designated as an expert.

6 MR. JONES: Okay. That's fine.

7 (End of bench conference).

8 Q (By Mr. Mike Jones) Mr. Shoemake, you
9 mentioned that you were the co-inventor of PBCC; is that
10 correct?

11 A That is correct.

12 Q Okay. How much do you personally make in
13 terms of the acquisition when your company Alantro was
14 acquired by Texas Instruments?

15 A So in the acquisition by Texas Instruments, I
16 was in acquisition for stock, and so once I got all that
17 stock sold and taxes paid I made about a million
18 dollars.

19 Q But at the time of the acquisition it was a
20 bit higher, wasn't it?

21 A It was, that's correct.

22 Q Closer to 3 million?

23 A It was 2.7 million at the time of the
24 acquisition before taxes.

25 Q Okay. And how much did TI pay for the Alantro

1 technology that you were a co-inventor of?

2 A So Alantro -- I'm sorry, Texas Instruments
3 purchased Alantro, just to be clear they purchased the
4 company.

5 Q My apologies.

6 A And so Texas Instruments paid \$300 million
7 worth of Texas Instrument stock to purchase Alantro.

8 Q Okay. Then after that acquisition, Texas
9 Instruments also invested more money trying to develop
10 PBCC; is that correct?

11 A Yes. PBCC had largely been developed at that
12 time. But yes, they continued to invest in the general
13 area of wireless LANs or WiFi technology.

14 Q Okay. And PBCC, that was a single-carrier
15 modulation system, right?

16 A Yes, that is correct.

17 Q Not OFDM?

18 A It is not.

19 Q Not multi-tone?

20 A It's not multi-tone and it's not OFDM.

21 Q Okay. And is it being used today?

22 A Yes, I think you can still find it on the
23 market. It tends to be sold under kind of a designation
24 of 802.11b-plus even though it's not an official name.

25 Q Is it your view that it's a commercial success

1 in the marketplace?

2 A So it certainly was at the time it's been
3 displaced by 802.11g subsequently after 802.11g's
4 ratification.

5 Q So it's been displaced by OFDM multi-carrier
6 technology?

7 A It's been displaced by 802.11g which is based
8 on OFDM -- which has OFDM technology in it.

9 Q And OFDM technology, at least at the time you
10 were at the IEEE back in 2001, it had higher peak data
11 and higher actual data than PBCC?

12 A I'm sorry, could you repeat that question?

13 Q Actually let me withdraw that question.

14 MR. JONES: I don't have anything
15 further. I'll pass the witness, Your Honor.

16 THE COURT: All right. Redirect.

17 REDIRECT EXAMINATION

18 BY MR. MIKE JONES

19 Q Mr. Jones was asking you questions about which
20 was the best technology, do you recall that? Did
21 politics play a role with regard to the voting in the
22 IEEE subcommittee?

23 A Politics certainly does play a role in the
24 voting.

25 Q Did it play a role specifically with the

1 802.11g committee that you were the chair of?

2 A It did indeed.

3 Q And describe how it played a role.

4 A So the way it plays a role is there are a lot
5 of people involved. They all have different views. And
6 when you're trying to get to 75 percent, you need to
7 make political compromises.

8 And so, for example, I might view one
9 technology as the best, but I have to compromise from
10 that belief to actually vote for something that actually
11 75 percent of people are willing to vote for.

12 And so this is where politics and compromise
13 comes into play.

14 Q Now, Mr. Jones just got through asking you
15 about OFDM CCK technology, correct?

16 A Yes.

17 Q Who was that proposed by?

18 A So the CCK OFDM proposal came from members of
19 802.11g whose employer was Harris/Intersil.

20 Q Thank you, sir.

21 Finally, we've heard testimony in this case
22 about a certain letter written ensuring the '069 patent
23 with regard to the 802.11a standard. Did you receive
24 any letters or any disclosures about the '069 patent
25 with regard to work in your subcommittee, subcommittee

1 "g"?

2 MR. JONES: Objection, Your Honor, that's
3 outside the scope of my cross.

4 THE COURT: What was the question?

5 MR. MIKE JONES: I just asked if he
6 received any letters or any disclosures of the '069
7 patent concerning his work with the "g" committee.

8 THE COURT: Objection sustained.

9 MR. MIKE JONES: Thank you, Your Honor.
10 I don't have anything further. I pass the witness.

11 THE COURT: All right. Recross?

12 MR. JONES: Nothing further, Your Honor.

13 THE COURT: You may stand down.

14 All right. Who will your next witness
15 be?

16 MR. VAN NEST: Your Honor, we're going to
17 play a videotape from Mr. Takanashi. And I believe it
18 will last about 30 minutes.

19 THE COURT: All right. Would the Ladies
20 and Gentlemen of the Jury like to take a break now or
21 hear the video first? All in favor of taking a break
22 now? Push on, hard working jury. Go ahead.

23 MR. VAN NEST: Play the video?

24 THE COURT: Yes.

25 MR. VAN NEST: Can I simply introduce the

1 witness, Your Honor?

2 THE COURT: Yes, you may.

3 MR. VAN NEST: Ladies and gentlemen, Mr.
4 Hitoshi Takanashi. In the opening statement he was the
5 gentleman that made a proposal in the 802.11a committee
6 that was eventually adopted. We're going to hear
7 testimony from him now, a videotape. He's speaking in
8 English. He is Japanese. So we're running a text below
9 the picture so it's a little easier to follow.

10 THE COURT: All right. And what is the
11 play time?

12 MR. VAN NEST: I believe it's about 30
13 minutes -- oh, I'm sorry, 40 minutes. So it's 40
14 minutes, maybe you want to ask that question again, Your
15 Honor?

16 THE COURT: Go ahead. Roll the video.
17 (Video deposition of Hitoshi Takanashi:)

18 "QUESTION: Good morning.

19 "ANSWER: Good morning.

20 "QUESTION: Mr. Takanashi, could you
21 please introduce yourself to the jury.

22 "ANSWER: Sure. I am Mr. Hitoshi
23 Takanashi. I am working for NTT Multimedia
24 Communications Laboratories which is a wholly owned by
25 NTT Communications.

1 "QUESTION: Okay. Could you tell the jury
2 briefly about your educational background?

3 "ANSWER: Sure. I graduated the Japanese
4 university in 1985, in -- a bachelor's degree. And also
5 I got the master degree in 1987 from the same
6 university.

7 "QUESTION: Are you currently employed?

8 "ANSWER: Yes, I am.

9 "QUESTION: And where are you currently
10 employed?

11 "ANSWER: I'm working at NTT Multimedia
12 Communications Laboratories.

13 "QUESTION: Now, what does NTT Multimedia
14 Communications Laboratories do?

15 "ANSWER: We are a research and development
16 firm. We invent new technologies for our parent
17 company, which is NTT Communications. And also
18 implement ideas, new ideas into software. That is what
19 we are doing.

20 "QUESTION: Okay. When did you join NTT?

21 "ANSWER: NTT, we -- I joined in 1987.

22 "QUESTION: What is your current position at
23 NTT Multimedia Communication Laboratories?

24 "ANSWER: I'm the president and CEO of NTT
25 Multimedia Communications Laboratories.

1 "QUESTION: And was that president and CEO?

2 "ANSWER: Yes.

3 "QUESTION: And how long have you held that
4 position?

5 "ANSWER: Almost four years, but it's three
6 and eleven months.

7 "QUESTION: Now, could you give an example
8 just of the sort of work that NTT Multimedia
9 Communication Labs does?

10 "ANSWER: Sure. Because our parent company is
11 providing broadband service, we develop new technologies
12 for the broadband services.

13 "QUESTION: Okay. Now, Mr. Takanashi, are you
14 a -- here today as -- or are you in any way a consultant
15 for a party to this litigation?

16 "ANSWER: No.

17 "QUESTION: Are you being paid for your
18 testimony here today?

19 "ANSWER: No.

20 "QUESTION: Now, are you a member of the IEEE?

21 "ANSWER: Yes, I am.

22 "QUESTION: And when did you become a member
23 of the IEEE?

24 "ANSWER: I became a member of the IEEE around
25 1991 or '2. I'm not sure. But that kind of years.

1 "QUESTION: As a member of the IEEE, did you
2 attend any TGA working group meetings?

3 "ANSWER: Are you asking if I was attending
4 IEEE 802 TGA meeting?

5 "QUESTION: Yes.

6 "ANSWER: Yes, I was attending TGA -- IEEE
7 802.11 TGA meetings.

8 "QUESTION: And what -- we've both used the
9 word "TGA." Could you explain to the jury what that
10 term means?

11 "ANSWER: TGA stands for Task Group A. That
12 was formed to establish a new standard, wireless LAN
13 standard, operating in 5 gigahertz band.

14 "QUESTION: Now, did you personally play any
15 role in the Task Group A?

16 "ANSWER: Yes. I proposed a standard idea,
17 and later I became a technical editor of TGA.

18 "QUESTION: Now, in November of 1997, did you
19 work for NTT?

20 "ANSWER: Yes, I was. I do.

21 "QUESTION: And were you involved with the --
22 proposing -- with a proposal to the Task Group A for a 5
23 gigahertz high-speed PHY?

24 "ANSWER: Yes.

25 "QUESTION: Now, what proposal -- well, first

1 of all, did NTT make a proposal in November of 1997 for
2 this standard?

3 "ANSWER: Yes, NTT did.

4 "QUESTION: And what modulation type did NTT
5 propose?

6 "ANSWER: OFDM.

7 "QUESTION: And did you play any role in the
8 preparation of that document?

9 "ANSWER: Yes. I prepared document proposal
10 document with my colleagues who were working in NTT
11 Laboratories.

12 "QUESTION: Now, in November of '97 and prior
13 to that date, had you ever heard of CSIRO?

14 "ANSWER: No.

15 "QUESTION: Had you ever heard of the
16 Commonwealth Scientific Industrial Research
17 Organisation?

18 "ANSWER: Actually, no.

19 "QUESTION: Had you -- and again, prior to
20 November 1997, had you ever heard of the '069 patent?

21 "ANSWER: No.

22 "QUESTION: Now, to your knowledge, had anyone
23 at NTT heard about CSIRO or the '069 patent prior to
24 November 1997?

25 "ANSWER: As far as I know, no one knew it --

1 no one knew it.

2 "QUESTION: Okay. Now, did -- in making this
3 proposal to use OFDM for what became the 802.11a
4 standard, did NTT copy any idea from CSIRO or from the
5 '069 patent?

6 "ANSWER: No.

7 "QUESTION: Now, briefly, very briefly, what
8 was it that inspired NTT's selection of OFDM modulation
9 for its proposal for the 802.11a standard?

10 "ANSWER: Let me clarify. Are you asking why
11 we selected OFDM for the proposal?

12 "QUESTION: Yes.

13 "ANSWER: The reason was OFDM was very robust
14 against multipath.

15 "QUESTION: What was it about -- why -- what
16 was it about OFDM and your knowledge about OFDM,
17 including whether or not there were prior art or prior
18 systems that used OFDM, that made you believe that OFDM
19 would, in fact, be robust against multipath?

20 "ANSWER: At that time, I knew the broadband
21 system -- broadcast system in Europe, which needs the
22 robustness against multipath. That technology -- when
23 we ran that technology, we thought OFDM could be the
24 best one for the wireless LAN, high-speed wireless LAN.

25 "QUESTION: Okay. Now, was NTT the only

1 company that proposed OFDM modulation in November 1997?

2 "ANSWER: No.

3 "QUESTION: Who else proposed OFDM?

4 "ANSWER: Lucent Technologies proposed this
5 OFDM.

6 "QUESTION: The court reporter just handed you
7 what has been marked for identification as Takanashi
8 Exhibit 2. Do you recognize this document?

9 "ANSWER: Yes, I do.

10 "QUESTION: What is this document?

11 "ANSWER: This is proposal from Lucent
12 Technologies.

13 "QUESTION: Do you know when this proposal was
14 submitted?

15 "ANSWER: This was submitted -- yes, I know.
16 This was submitted in November 1997.

17 "QUESTION: And when we say it was a proposal,
18 what was it a proposal for?

19 "ANSWER: This was a proposal for TGA
20 high-speed wireless LAN.

21 "QUESTION: Was this proposal for what
22 eventually became the 802.11a standard?

23 "ANSWER: Yes. After some modifications.

24 "QUESTION: Yes. Prior to this proposal by
25 Lucent, did you know that Lucent was considering OFDM

1 modulation?

2 "ANSWER: No, I didn't know that.

3 "QUESTION: Okay. So -- well, to your
4 knowledge did NTT and Lucent work together to propose
5 OFDM in November of 1997?

6 "ANSWER: As far as I know, no.

7 "QUESTION: Now, I think you testified earlier
8 that in January of 1998 companies were to provide kind
9 of the full proposals.

10 "ANSWER: Yes.

11 "QUESTION: Is that your recollection?

12 "ANSWER: Yes.

13 "QUESTION: Now, did NTT provide a full
14 proposal, fully sketched-out proposal, in January of
15 1998?

16 "ANSWER: Yes, we did. NTT did.

17 "QUESTION: The court reporter has just handed
18 you what has been marked for identification as Takanashi
19 Exhibit 3. Do you recognize this document?

20 "ANSWER: Yes, I do.

21 "QUESTION: What is this document?

22 "ANSWER: This is a proposal document from
23 NTT.

24 "QUESTION: Okay. And again, what is it a
25 proposal for?

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"ANSWER: This is a proposal for TGA.

"QUESTION: Okay. And to what standard -- to what ultimate standard did this relate to?

"ANSWER: This is related to 802.11a standard.

"QUESTION: Did -- does this proposal still offer OFDM as the modulation scheme?

"ANSWER: Yes.

"QUESTION: Does this proposal use a guard interval or disclose the -- or propose the use of a guard interval?

"ANSWER: Yes.

"QUESTION: Now, does this proposal suggest an arrow control coding technique?

"ANSWER: Yes.

"QUESTION: What technique is proposed?

"ANSWER: Conversational encoder and decoder proposed in this document.

"QUESTION: Now, does this proposal -- does this document suggest any interleaving technique?

"ANSWER: Yes, it does.

"QUESTION: And it suggests the use of an interleaver?

"ANSWER: Excuse me?

"QUESTION: An interleaver?

"ANSWER: Yes.

1 "QUESTION: At a high level, then, how does
2 the document before you, Takanashi Exhibit 3, compare to
3 the ultimate standard that -- that the -- the ultimate
4 standard of 802.11a?

5 "ANSWER: This -- this is a base of that
6 standard, very similar to the last -- the final
7 standard.

8 "QUESTION: Now, by January of 1998 -- well,
9 first of all, let me back up.

10 Did you play any role in the preparation of
11 what has been marked as Takanashi Exhibit 3?

12 "ANSWER: Yes. I was involved in the
13 preparation. I wrote this document with my colleagues
14 who are working in NTT Laboratories.

15 "QUESTION: Okay. Now, by January 1998, had
16 you heard of CSIRO?

17 "ANSWER: No.

18 "QUESTION: Had you heard of the Commonwealth
19 Scientific Industrial Research Organisation?

20 "ANSWER: No, I have not.

21 "QUESTION: By January 1998, had you heard of
22 the '069 patent?

23 "ANSWER: No, I had not.

24 "QUESTION: And to your knowledge at this
25 point, did anyone in NTT know of CSIRO or the '069

1 patent?

2 "ANSWER: I suppose I know no one know -- no
3 one knew it.

4 "QUESTION: Now, did -- in making this
5 proposal, did NTT copy any idea from CSIRO or the '069
6 patent?

7 "ANSWER: No, we -- NTT didn't.

8 "QUESTION: Did Lucent also submit a full
9 proposal in January 1998?

10 "ANSWER: Yes, they did.

11 "QUESTION: Could we mark this as Takanashi
12 Exhibit 4.

13 Mr. Takanashi, the court reporter has just
14 handed you what has been identified as -- or marked for
15 identification as Takanashi Exhibit 4. Do you recognize
16 this document?

17 "ANSWER: Yes, I do.

18 "QUESTION: What is it?

19 "ANSWER: This is a proposal from Lucent
20 Technologies.

21 "QUESTION: And what -- generally speaking,
22 again, what was this a proposal for?

23 "ANSWER: This was for TG -- IEEE 802.11 TGA.

24 "QUESTION: Okay. And what did Lucent propose
25 for the 802.11a standard?

1 "ANSWER: Lucent Technologies also proposed
2 OFDM for its PHY layer.

3 "QUESTION: And by PHY layer, could you
4 explain to the jury what the PHY layer refers to?

5 "ANSWER: PHY layer is the bottom layer or --
6 called physical layer. So that is the radio layer.

7 "QUESTION: Now, were there any similarities
8 between the Lucent and NTT proposal?

9 "ANSWER: Yes, very similar.

10 "QUESTION: Now, did Lucent and NTT work
11 together to develop what has been marked as Takanashi
12 Exhibit 4?

13 "ANSWER: No.

14 "QUESTION: Did Lucent and NTT proceed with
15 separate OFDM proposals before the -- in the TGA work
16 task group?

17 "ANSWER: No.

18 "QUESTION: Could you tell the jury what
19 happened instead?

20 "ANSWER: Happened instead?

21 "QUESTION: Did Lucent and NTT prepare a joint
22 proposal?

23 "ANSWER: Yes.

24 "QUESTION: Could you tell the jury about how
25 that joint proposal came to be?

1 "ANSWER: Okay. When NTT, including me,
2 myself, reviewed Lucent Technologies, this proposal, we
3 learned that their proposal is very similar to ours. So
4 I discussed with my colleagues and supervisor to make a
5 joint proposal. Everyone agreed. So I proposed to
6 Lucent Technologies to make a joint proposal.

7 "QUESTION: Okay. Could we mark this as
8 Takanashi Exhibit 5.

9 The court reporter has just handed you what
10 has been marked for identification as Takanashi Exhibit
11 5.

12 "ANSWER: Yes.

13 "QUESTION: Do you recognize this document?

14 "ANSWER: Yes, I do.

15 "QUESTION: What is this document?

16 "ANSWER: This is a joint proposal from Lucent
17 Technologies and NTT.

18 "QUESTION: And did you have a role in the
19 preparation of this document?

20 "ANSWER: Yes. I wrote this document with
21 Lucent Technologies and my colleagues.

22 "QUESTION: And when was this document
23 submitted?

24 "ANSWER: This was submitted in March 1998.

25 "QUESTION: And who was it submitted to?

1 "ANSWER: Who was?

2 "QUESTION: Who -- who was this document
3 submitted to?

4 "ANSWER: The -- this was submitted to IEEE
5 802.11 TGA.

6 "QUESTION: And what was the purpose of this
7 document?

8 "ANSWER: This is -- the purpose was improve
9 our proposals, joint proposal, by jointing (sic) the
10 proposals.

11 "QUESTION: Okay. Now, by -- or prior to
12 March of 1998, had you heard of CSIRO?

13 "ANSWER: No.

14 "QUESTION: Had you heard of the Commonwealth
15 Scientific Industrial Research Organisation?

16 "ANSWER: No.

17 "QUESTION: Had you heard of the '069 patent?

18 "ANSWER: No.

19 "QUESTION: Now, did you have discussions with
20 Lucent about this document?

21 "ANSWER: About this document?

22 "QUESTION: Yes.

23 "ANSWER: Exhibit 5.

24 "QUESTION: Exhibit 5?

25 "ANSWER: Yes.

1 "QUESTION: You worked together on this
2 document?

3 "ANSWER: Yes.

4 "QUESTION: Now, at any time during those
5 discussions, did anyone --

6 "ANSWER: With Lucent.

7 "QUESTION: With Lucent?

8 "ANSWER: Yes.

9 "QUESTION: Did anyone from Lucent say
10 anything to you about CSIRO?

11 "ANSWER: No.

12 "QUESTION: Did anyone from Lucent say
13 anything about the '069 patent to you?

14 "ANSWER: No.

15 "QUESTION: Now, after NTT and Lucent had made
16 this joint proposal in March of 1998, what happened next
17 in the process of deciding the 802.11a standard?

18 "ANSWER: In the Task Group A, TGA, we
19 narrow -- we were narrowing down the proposals. That
20 was process we made.

21 "QUESTION: Okay. Did at some point the
22 NTT/Lucent joint proposal go before the task group for
23 vote?

24 "ANSWER: Yes.

25 "QUESTION: And what was the result of that

1 vote?

2 "ANSWER: The -- our proposal fortunately won.

3 "QUESTION: And did this proposal in
4 Exhibit 5, did this proposal go before the entire
5 working group for a vote?

6 "ANSWER: Yes.

7 "QUESTION: And what was the result of that
8 vote?

9 "ANSWER: This was selected. Our proposal was
10 selected.

11 "QUESTION: And what was it selected to be? I
12 mean, when they select it, what does that mean?

13 "ANSWER: That selected means this would --
14 this would be the draft of the 802.11a standard.

15 "QUESTION: Okay. And do you know whether or
16 not ultimately the joint Lucent/NTT proposal became the
17 802.11a standard?

18 "ANSWER: Yes.

19 "QUESTION: I'm going to show you another
20 document.

21 "The court reporter has just handed you what
22 has been marked for identification Takanashi Exhibit 6.

23 "ANSWER: Yes.

24 "QUESTION: Do you recognize this document?

25 "ANSWER: Yes, I do.

1 "QUESTION: What is this document?

2 "ANSWER: This is updated -- our proposal to
3 TGA.

4 "QUESTION: Okay. And do you know whether or
5 not this -- this document actually was the first draft
6 of the -- the 802.11a standard?

7 "ANSWER: Yes. This was a very first draft of
8 802.11a standard.

9 "QUESTION: And did you have any role in
10 drafting this document?

11 "ANSWER: Yes. I wrote this document. I
12 revised this document based on the previous proposal,
13 which also I -- which I also -- I was also involved in.

14 "QUESTION: And when was this document
15 circulated among the TGA or the 802.11a working group?

16 "ANSWER: That was in July 1998.

17 "QUESTION: Now, prior to July 1998, had you
18 heard of CSIRO?

19 "ANSWER: No.

20 "QUESTION: Had you ever heard of the
21 Commonwealth Scientific Industrial Research
22 Organisation?

23 "ANSWER: No.

24 "QUESTION: Now, what about the '069 patent?

25 "ANSWER: No.

1 "QUESTION: So at any time prior to the
2 acceptance of the NTT/Lucent joint proposal, had you
3 heard of CSIRO or the '069 patent?

4 "ANSWER: No.

5 "QUESTION: Did -- what is marked as
6 Exhibit 6, the first draft of the 802.11a standard, did
7 it copy in any way, shape or form any idea from CSIRO or
8 from the '069 patent?

9 "ANSWER: No.

10 "QUESTION: After the -- after you circulated
11 what has been marked as Takanashi Exhibit 6, were there
12 further changes made in -- prior to the ratification of
13 the 802.11a standard?

14 "ANSWER: There was some very minor
15 modifications, but -- except as minor, no.

16 "QUESTION: And what do you mean by -- I mean,
17 just give an example of a minor --

18 "ANSWER: I mean some words or some format.
19 So it's kind of a small thing. But major, the
20 technologies implemented in this first draft was not
21 touched.

22 "QUESTION: Okay. So if I understood that,
23 the changes were editing of text and changing of format?

24 "ANSWER: Right.

25 "QUESTION: Now, at some point, did CSIRO

1 provide comments on what was proposed to be the 802.11
2 standard?

3 "ANSWER: Yes.

4 "QUESTION: And -- could we mark this as
5 Exhibit 7.

6 "The court reporter has handed you what has
7 been marked for identification as Exhibit 7. Do you
8 recognize this document?

9 "ANSWER: Yes, I do.

10 "QUESTION: What is this document?

11 "ANSWER: This is a comment list from similar
12 parties, including CSIRO.

13 "QUESTION: Okay. Now, could you tell the
14 jury what type of comments did CSIRO provide on this
15 802.11a standard?

16 "ANSWER: CSIRO provided -- CSIRO kindly
17 provided seven items which were related to some format
18 and some minor changes, which can -- which could make
19 the draft more clear to understand any of it.

20 "QUESTION: Okay. And when -- I think you
21 said make the draft more clear. Were those comments
22 directed at technical changes or were they directed at
23 the -- the written description of the standard?

24 "ANSWER: Written description form changes,
25 additions.

1 "QUESTION: Okay. Do any of the suggested --
2 the comments, any of the seven comments, did any of
3 those propose fundamental changes?

4 "ANSWER: No.

5 "QUESTION: For these seven comments, did any
6 of these seven comments relate to or specifically relate
7 to OF -- the OFDM modulation?

8 "ANSWER: No. They are not directly related
9 to OFDM modulation.

10 "QUESTION: And are any of these directly
11 related to the encoding technique in the standard?

12 "ANSWER: No. Not that standard.

13 "QUESTION: Are any of these directly related
14 to the interleaving used in the standard?

15 "ANSWER: No.

16 "QUESTION: Finally, was the joint NTT/Lucent
17 OFDM proposal, was that -- when was that accepted by the
18 IEEE as the 802.11a standard?

19 "ANSWER: That was accepted in July 1998
20 meeting.

21 "QUESTION: The 802.11a standard, when did the
22 802.11a standard issue?

23 "ANSWER: That was issued December 1999.

24 "QUESTION: Okay. Were there any fundamental
25 changes or major changes between the proposal that was

1 accepted by the IEEE in July of 1998 and the issued
2 standard?

3 "ANSWER: No.

4 "QUESTION: And the -- was the joint
5 NTT/Lucent OFDM proposal, was that the proposal that
6 ultimately resulted in the issued 802.11a standard?

7 "ANSWER: Yes.

8 "QUESTION: Yes. What was your understanding
9 of the technology proposed by BreezeCom/NEC in this
10 timeframe of May 1998?

11 "ANSWER: They proposed a single carrier with
12 an equalizer. That is what I understand -- I remember.

13 "QUESTION: They proposed a single carrier
14 with an equalizer system?

15 "ANSWER: Yes.

16 "QUESTION: And Lucent/NTT system was an OFDM
17 system?

18 "ANSWER: Right.

19 "QUESTION: Which system did you believe was
20 superior of the two?

21 "ANSWER: For this -- the standard, I believe
22 OFDM is better, superior.

23 "QUESTION: And why do you believe that the
24 OFDM proposal was superior to the BreezeCom/NEC
25 proposal?

1 "ANSWER: Because it is more robust against
2 multipaths.

3 "QUESTION: It has more robustness against
4 multipath?

5 "ANSWER: Yes.

6 "QUESTION: And what do you mean by that?

7 "ANSWER: In high data rate -- large -- in
8 higher data rate, multipath is a bigger issue. In order
9 to overcome this problem, there were major two
10 technologies. One is OFDM. The other one is equalizer.
11 Both should work, but OFDM is more robust against
12 multipath. It depends on the conditions, but for our
13 proposal or conditions required to TGA, OFDM is better,
14 superior, I believe. It depends on the design,
15 including guarding double.

16 "QUESTION: Okay. I believe you earlier
17 testified that OFDM was the best solution for a
18 high-speed wireless LAN; is that correct?

19 "ANSWER: Yes.

20 "QUESTION: Besides having better multipath
21 performance, what other features of OFDM do you believe
22 make OFDM the best solution for high-speed wireless LAN?

23 "ANSWER: If -- I don't remember the details,
24 but I think we needed to take many things into the
25 constellation, including hardware size, complex steel

1 hardware, I mean, and power consumption. And the
2 stability of the system.

3 "QUESTION: Any other factors or features of
4 OFDM that you can think of that make OFDM the superior
5 technology for high-speed wireless LAN, in your opinion?

6 "ANSWER: I don't have -- I don't have any
7 other.

8 "QUESTION: Do you believe that OFDM was
9 superior for a single-carrier solution for high-speed
10 wireless LAN?

11 "ANSWER: For TGA?

12 "QUESTION: For the Task Group A, yes.

13 "ANSWER: Yes.

14 "QUESTION: Can I direct your attention to
15 Takanashi 6 that was discussed this morning.

16 I believe you earlier testified that this
17 proposal was similar to the final standard that was
18 adopted.

19 "ANSWER: Yes.

20 "QUESTION: And do you believe that to be
21 true?

22 "ANSWER: Of course the word 'similar' has
23 some -- some ambiguity -- similar to --

24 "QUESTION: The word 'similar,' is that what
25 you said?

1 "ANSWER: Yes, similar to -- the word
2 'similar' has some ambiguity, so it depends on the
3 person's understanding. But I think this -- this was
4 based on the standard.

5 "QUESTION: Do you know if this proposal
6 discusses the use of a 64 QAM?

7 "ANSWER: 64 -- 64?

8 "QUESTION: Yes.

9 "ANSWER: Not 16, but a 64.

10 "QUESTION: Yes.

11 "ANSWER: I don't recall it. Did we --

12 "QUESTION: What type subcarrier modulation
13 exists in this document as Takanashi 6?

14 "ANSWER: It is PSK -- KPSK and 16 QAM.

15 "QUESTION: Any others?

16 "ANSWER: No.

17 "QUESTION: Do you know if the final 802.11a
18 standard had anything higher than a 16 QAM as it related
19 to subcarrier modulation?

20 "ANSWER: The final one has 64 for -- the
21 final one may have 64 QAM.

22 "QUESTION: So the final 802.11a standard has
23 64 QAM, whereas the Takanashi 6 only goes up to 16 QAM;
24 is that right?

25 "ANSWER: Yes.

1 "QUESTION: But I believe you earlier
2 testified that this document, Takanashi 6, was, in your
3 opinion, similar to the final standard, except for
4 editing of text and formatting. Is that -- was that
5 your testimony?

6 "ANSWER: Can I decline to answer that
7 question then?

8 "QUESTION: I don't think you can.

9 "ANSWER: Okay. Then, yes, I did.

10 "QUESTION: Okay. So my question is: Do you
11 believe that statement to be true now?

12 "ANSWER: As far as I understand, the
13 modulation is different, but 16 and 64 QAM is not a big
14 difference. And that, I believe, 16 -- 64 QAM is an
15 option of the standard. Not a mandatory. Mandatory.

16 "QUESTION: So do you believe Takanashi 6 is
17 similar to the text of the final standard as adopted for
18 802.11a?

19 "ANSWER: It was almost ten years ago, so I
20 don't remember.

21 "QUESTION: So it's your testimony that you do
22 not remember whether or not --

23 "ANSWER: No. That I don't remember the
24 details. But I believe this is the first draft base of
25 the standard.

1 "QUESTION: Do you have any personal
2 recollection of the specific changes that were made from
3 the initial draft of the standard located at Takanashi 6
4 to the ultimate final standard that was ratified as
5 802.11a?

6 "ANSWER: I don't remember.

7 "QUESTION: You don't remember?

8 "ANSWER: I don't remember the details.

9 "QUESTION: Is it your testimony that you have
10 not read the final 802.11a standard since it was issued
11 on or in December '99 through the present?

12 "ANSWER: After seeing the standard, I have
13 not read the -- the issued standard.

14 "QUESTION: Do you have any specific
15 recollection as to the details that exist in the 802.11
16 standard?

17 "ANSWER: Restate that.

18 "QUESTION: Do you have a specific
19 recollection of the details that exist in the 802.11a
20 standard?

21 "ANSWER: No.

22 "QUESTION: How about the first line under the
23 introduction, where it states OFDM has several
24 attractive properties which make it a suitable
25 modulation choice for high-speed wireless networks. Do

1 you see that?

2 "ANSWER: Yes.

3 "QUESTION: Do you agree with that statement?

4 "ANSWER: Yes.

5 "QUESTION: And when you said that, you meant
6 that those were all things that were considered, but you
7 didn't mean that your proposal was superior in every one
8 of those areas to all other proposals, did you?

9 "ANSWER: The -- from the pros and cons --
10 when we compare. But we did the comparison and the --
11 and -- concluded that our proposal is the best
12 concerning these kind of -- all the things into the
13 constellation."

14 THE COURT: All right. Does that
15 conclude that offer?

16 MR. VAN NEST: It does, Your Honor, but I
17 have four exhibits that were introduced that I'd like to
18 offer into evidence.

19 THE COURT: All right.

20 MR. VAN NEST: If they're not objected
21 to.

22 DTX 25, 1118, 1119, 1413. And I'm
23 advised that the time on that: Defendants, 29 minutes;
24 plaintiffs, 12.5. Maybe I'll take 29-and-a-half, Your
25 Honor, to make it fair.

1 MR. FURNISS: No objection to the
2 exhibits, Your Honor.

3 THE COURT: All right. The exhibits will
4 be admitted.

5 We'll take our noon recess -- our
6 afternoon recess until 10 minutes until 4:00.

7 (Recess.)

8 THE COURT: All right. Who will be your
9 next witness?

10 MR. VAN NEST: Your Honor, the defendants
11 call Tim Wilkinson.

12 THE COURT: All right.

13 MR. VAN NEST: And he's been sworn, Your
14 Honor.

15 All right. You may proceed.

16 MR. LAM: Thank you, Your Honor.

17 TIM WILKINSON,

18 Having been duly sworn, testified as follows:

19 DIRECT EXAMINATION

20 BY MR. LAM:

21 Q Good afternoon, Dr. Wilkinson.

22 Please introduce yourself.

23 A Yes. My name is Timothy Wilkinson. I'm from
24 England.

25 Q Do you have a family there, Dr. Wilkinson?

1 A Yes. I have a wife and two children.

2 Q How old are your children?

3 A Ages three and eight.

4 Q Did you come here from England to testify at
5 trial?

6 A Yes.

7 Q When did you arrive?

8 A I arrived on Sunday afternoon.

9 Q Are you a bit jetlagged, Dr. Wilkinson?

10 A Very slightly, but I don't expect I'll fall
11 asleep here.

12 Q Thank you for coming all the way here to
13 testify, Dr. Wilkinson. I'll try to be as efficient as
14 possible.

15 Have you ever testified in court before today?

16 A No, I have not.

17 Q Have you been retained as a technical expert
18 on behalf of the defendants in this case?

19 A Yes, I have.

20 Q Are you being paid for your time?

21 A Yes, I am.

22 Q How much are you being paid for your time?

23 A I'm being paid \$400 an hour.

24 Q Does your payment depend in any way on what
25 happens in this case?

1 A No, not at all.

2 Q Please tell us briefly about your educational
3 background, if you will.

4 A Okay. After leaving school, I did a degree,
5 first degree at the University of Leeds from the years
6 1981 to 1984. And that degree was in physics. And
7 after completing that degree, bachelor's degree, I did a
8 Ph.D. from 1984 to 1988, and that was in the --
9 electrical engineering in the area of wireless
10 communications.

11 Q Besides your academic education, have you had
12 any professional experience in the wireless field?

13 A I have around 28 years of experience in
14 research in wireless communications.

15 Q Please give us a summary of your professional
16 experience in the wireless field.

17 A Okay. After leaving the University of Leeds,
18 I went to work in Australia. So that was in '89 to
19 1990. And in Australia, I worked on mobile satellite
20 communications at the University of Sydney. I -- I then
21 went on to work on similar technology at a company
22 called Phillips in Melbourne. That was for one year.

23 Upon returning to the U.K., I took up a
24 research fellow post back at the University of Leeds.
25 There I worked on digital cordless telephony, digital

1 enhanced cordless telephony. And I did that research
2 for almost a year at the University of Leeds before
3 moving to the University of Bradford. And there I
4 started work on wireless LAN research, and that was in
5 1992, '91, '92.

6 Q Did that wireless research involve any
7 partnership with any wireless company?

8 A Yes. The first year of that research was in
9 conjunction with a company called Symbionics who were
10 working on 802.11 standards that you've heard about many
11 times here. And I then went on to work on a project
12 called the LAURA project, which was in conjunction with
13 several other European companies, and that was
14 associated with the HiperLAN standardization.

15 Q Dr. Wilkinson, what did you do after that?

16 A After -- in 1994, I left the University of
17 Bradford, and I worked to work at Hewlett-Packard
18 Laboratories at Bristol, U.K.

19 Q How long were you at Hewlett-Packard?

20 A I worked at Hewlett-Packard until 2000, and
21 then I moved to a company called IPWireless, also in the
22 U.K.

23 Q Did your work at Hewlett-Packard involve
24 wireless technology?

25 A Yes. Almost all of my research,

1 Hewlett-Packard research, was in wireless technology.

2 Q What about your work at IPWireless?

3 A IPWireless was also working and researching
4 wireless technology, yes.

5 Q What type of wireless technology?

6 A At IPWireless, I'm working on third generation
7 and fourth generation cellular technology.

8 Q Do you still work for IPWireless?

9 A I do, that's right, yes.

10 Q What is your current job title?

11 A My current job title is VP of Technical
12 Marketing at IPWireless.

13 Q You mentioned having worked in Australia for a
14 while, Dr. Wilkinson.

15 At that time -- let's pull up the patent.

16 At that time, did you ever meet or hear of any
17 of the named inventors on the '069 patent -- focus in on
18 the list of inventors.

19 Do you see the inventors there, Dr. Wilkinson?

20 A I can, yes.

21 Q At the time that you worked in Australia, did
22 you ever meet or hear of any of the named inventors on
23 the '069 patent?

24 A No, I don't believe I met any of those people.

25 Q Dr. O'Sullivan?

1 A No.

2 Q Dr. Percival?

3 A No.

4 Q Ostry?

5 A No.

6 Q John Deane or Graham Daniels?

7 A No.

8 Q Dr. Wilkinson, are you yourself a named
9 inventor or any patents?

10 A Yes. I'm the named inventor on a handful of
11 patents.

12 Q Are you a named inventor on any pending
13 applications?

14 A A handful of pending applications as well,
15 yes.

16 Q Have you written any published technical
17 papers?

18 A Yes, I've written dozens of technical papers
19 in the area of wireless communications.

20 Q How many of your patents or patent
21 applications are in the field of wireless
22 communications?

23 A Almost all of them involve an aspect of
24 wireless communications.

25 Q Now, you mentioned studying techniques for

1 802.11, and you also mentioned doing some work for
2 something called HiperLAN. Would you tell us what
3 HiperLAN is.

4 A Yes. HiperLAN stands for High Performance
5 Radio Local Area Network, or wireless local area
6 network, wireless LAN, and HiperLAN is a standard that
7 was started in Europe under the ETSI standards body.
8 ETSI, which stands for European Telecommunications
9 Standards Institute.

10 Q Dr. Wilkinson, would you try to keep your
11 voice up, please.

12 A Sorry.

13 Q Is there a subcommittee or subgroup between
14 ETSI -- is it pronounced ETSI?

15 A It's pronounced ETSI, yes.

16 Q Was there a group within ETSI that was
17 responsible for the HiperLAN standard?

18 A Yes. The committee was called RES-10. RES
19 stands for Radio Equipment and Systems, and the
20 subcommittee in Radio Equipment and Systems that dealt
21 with the HiperLAN standard was RES-10.

22 Q Were you personally a member of RES-10?

23 A I became a member of RES-10 in 1992, yes.

24 Q Dr. Wilkinson, were you here for opening
25 statements Monday?

1 A I was, yes.

2 Q Do you recall CSIRO's lawyer, Mr. Furniss,
3 mentioning a video of the pilot who emergency landed his
4 plain in the Hudson River in New York?

5 A Yes, I do recall that, and I found that a
6 quite confusing statement.

7 Q Why is that? Why did you find that confusing?

8 A Well, it was confusing in the first instance,
9 because I couldn't see how that video was linked with
10 wireless LAN technology or the CSIRO work. But it's
11 also confusing, because I know that the company that I
12 work for, IPWireless, was the supplier of the broadband
13 public safety network that the New York agencies --
14 police, fire, ambulance -- are using.

15 Q We've also heard quite a bit about multipath
16 problems so far at this trial. Can multipath affect any
17 type of wireless transmission environment?

18 A It can affect any type of wireless
19 transmission environment, yes, that's true.

20 Q Including indoor transmission environments?

21 A Including indoor transmission environments,
22 yes.

23 Q What about outdoor wireless environments?

24 A Yes, it can affect outdoor wireless
25 environments as well. The principles between indoor and

1 outdoor are the same. The outdoor multipath problem
2 typically tends to be more challenging.

3 Q Why is that?

4 A Simply because the echoes come from longer
5 distances.

6 Q What can be done to deal with multipath
7 interference?

8 A There are two fairly well-known techniques to
9 deal with multipath. These were described by the
10 gentleman in the previous video. One of these is
11 adaptive equalization, which is essentially echo
12 cancellation, and so it's very straightforward. It's a
13 technique that you employ at the receiver where you
14 estimate the channel and cancel the echos.

15 And another technique is the technique is the
16 technique that we've been discussing quite a bit here in
17 the courtroom, and that's OFDM.

18 Q Is it fair to describe adaptive equalization
19 as trying to cancel out echos by making adjustments on
20 the receiver side?

21 A Yes, it's -- it's basically that, and you're
22 making adjustments on the receiver side to cancel the
23 echoes, echo cancellation.

24 Q Let's talk about OFDM then. How is OFDM used
25 to deal with multipath?

1 A Well, we've seen a few animations of how OFDM
2 works. And basically in OFDM, or multicarrier
3 modulation, what you do is split the transmission to a
4 number of parallel, low bit rate streams. And the idea
5 is that you send information at a very low rate on each
6 one of these streams such that is -- significant space
7 between the signals that you're sending. And this space
8 or this time allows the echos that occur in a multipath
9 environment to decay so that you don't get any
10 interference between the signals that you're sending.

11 So if you think about the analogy of the
12 cave -- and this is effectively speaking -- speaking
13 slowly so that the speech isn't jumbled at the other end
14 of the communication.

15 So with OFDM, you have several of these
16 streams, these low bit rate streams, and together you
17 can have very high bit rate communication in
18 transmitting over all of these streams at the same time.

19 Q Dr. Wilkinson, how long has OFDM been used for
20 wireless transmission?

21 A It's been used since the -- I think '50s and
22 '60s in HF communications.

23 Q And what do you mean by HF communications?

24 A HF stands for stands for high frequency.
25 These are the modems that we saw an example of earlier

1 in the proceedings this week.

2 Q The Harris modem?

3 A The Harris modem, that's right, yes.

4 Q Has OFDM been used in other wireless
5 transmission applications?

6 A It has. It was used in digital audio
7 broadcasting.

8 Q What is digital audio -- excuse me -- what is
9 digital audio broadcasting?

10 A Digital audio broadcasting was a European
11 standard for digital radio.

12 Q Was it commonly referred to as DAB?

13 A It was commonly referred to as DAB, yes.

14 Q What about OFDM specifically for wireless LAN
15 systems, Dr. Wilkinson?

16 A OFDM for wireless LANs was proposed in early
17 1992 by several researchers, including myself.

18 Q You personally made a proposal to use OFDM
19 for a wireless LAN?

20 A Yes, I did.

21 Q Did you write a paper documenting such a
22 proposal?

23 A Yes.

24 Q Would you turn in your notebook,
25 Dr. Wilkinson, to DTX 55. That's Defendant's

1 Exhibit 55.

2 Do you have DTX 55?

3 A I do.

4 Q Is this the paper you're referring to?

5 A Yes. This is the paper.

6 Q When did you write this paper?

7 A I wrote this paper in early 1992.

8 Q Was your paper ever presented or published?

9 A Yes. This paper was published at a small
10 conference called the IEE Colloquy (phonetics) in May of
11 1992.

12 MR. LAM: Your Honor, we move Defendant's
13 Exhibit 55 into evidence.

14 MR. FURNISS: No objection, Your Honor.

15 THE COURT: All right. Be admitted.

16 And, Counsel, if we can, both sides get
17 together on these exhibits tomorrow where we can
18 introduce them at the beginning of the trial instead of
19 having to do it each exhibit one at a time.

20 MR. LAM: We'll do, Your Honor.

21 MR. VAN NEST: We'll do that, Your Honor.

22 THE COURT: Thank you.

23 Q (By Mr. Lam) Dr. Wilkinson, what is IEE? Is
24 that the same the IEEEE?

25 A No, it isn't. The IEE is the British version

1 of the IEEE. It stands for the Institute of Electrical
2 Engineers.

3 Q Why did you write this paper?

4 A Well, I wrote this paper because -- this was
5 the result of the research that we had done and the
6 first part of my wireless research at Bradford. And
7 basically in that research, we were looking at ways of
8 extending the data rate of wireless local area networks
9 beyond 1 megabits per second.

10 So we were looking at the existing
11 technologies in 802.11 spread spectrum technologies, but
12 also ways to extend data rates beyond those
13 technologies.

14 Q Does your paper discuss OFDM?

15 A Yes, it does.

16 Q Where?

17 A OFDM is mentioned in the last paragraph in
18 section 3.

19 Q Is that on the second page?

20 A Yes, that's right.

21 Q In that paragraph, you say -- you wrote,
22 "Parallel FH, where multiple frequency slots are used
23 simultaneously, or COFDM, could be used to achieve
24 increased information rates." Is that what you're
25 referring to, Dr. Wilkinson?

1 A Yes. That's exactly what I was referring to.

2 Q Does your paper discuss forward error
3 correction?

4 A The "C" in COFDM, coded, as you see here, is
5 the forward error correction.

6 Q The coding that referred to, that's for
7 forward error correction?

8 A That is forward error correction, yes.

9 Q Does your paper discuss interleaving?

10 A It does not explicitly mention interleaving.
11 But coding and interleaving are something that comes as
12 part of the standard package in the technique known as
13 OFDM. The paper refers to a Bingham publication, and
14 this publication describes the complete technique of
15 OFDM with the forward error correction and interleaving.

16 Q Dr. Wilkinson, is the Bingham reference cited
17 here the Bingham that you were just referring to?

18 A It is, yes.

19 Q Why did you cite the Bingham reference in your
20 paper?

21 A Well, this was a technique that was known
22 about and it was a technique that looked like it was
23 applicable to solve the problems that we were looking at
24 these wireless LANs.

25 Q Were you aware when you wrote this paper of

1 any other proposals to use OFDM for a wireless LAN?

2 A Yes. OFDM had been proposed in ETSI RES-10,
3 the HiperLAN standard, in Europe.

4 Q Who made such a proposal?

5 A It was proposed by several people, but the
6 first, I believe, was Telia Research.

7 Q Is that the name of a company?

8 A It's the name of a company in Sweden, yes.

9 Q Did they make a written proposal?

10 A They did.

11 Q Would you turn to DTX 59 in your binder,
12 Dr. Wilkinson.

13 Do you have any 59?

14 A I do, yes.

15 Q Is this the Telia or Telia proposal you were
16 referring to?

17 A Yes, it is.

18 Q Let's turn to figure 1 on the second page.

19 Do you see figure 1, Dr. Wilkinson?

20 A Yes.

21 Q The left box says "channel coding." What does
22 that mean?

23 A That is the forward error correction coding
24 being applied to the signal.

25 Q The block next to that is the interleaving

1 block. Is that right?

2 A That's right, yes.

3 Q Now, there's a symbol encoding block to the
4 right of that and then another block to the right of
5 that, that reads "Frequency division multiplexing by
6 IFFT." What does that mean, Dr. Wilkinson?

7 A Yes. So the IFFT is the method whereby you
8 map the data onto the multiple carriers or channels. So
9 this is the OFDM modulator.

10 Q Let's turn back to the cover sheet of this
11 Telia proposal.

12 Dr. Wilkinson, there's a reference to ETSI
13 RES-10 at the top. Does that describe the standards
14 body and corresponding subcommittee that you told us
15 about earlier?

16 A Yes. That's the HiperLAN standards committee
17 or group.

18 Q Who had access to papers written for ETSI
19 RES-10?

20 A Well, people who were members and attending
21 the meetings. But circulation of that was wider than
22 just that, because I actually received this -- this
23 paper that was submitted to RES-10 before I was a member
24 of the ETSI RES-10 group.

25 Q You got a copy of this paper before you became

1 a RES-10 member?

2 A Yes, I did. I got a copy of this paper from
3 Simon Black, who wrote for Symbionics.

4 Q Were there any restrictions on who could
5 access RES-10 papers?

6 A No, there weren't. And Simon used to give me
7 copies of papers that came up in the meeting before I
8 was a member. And then when I subsequently became a
9 member of RES-10, the committee, we used to get
10 collections of the papers from the meetings, and we
11 would give these to the people who were interested in
12 any way in helping us with the research.

13 Q How do you become a member of ETSI?

14 A Anyone can become a member of ETSI, but it is
15 slightly different from the IEEE in that you -- you join
16 as an organization. So this is a research institute or
17 a university or a company. Not as an individual.

18 Q Who were some of the members of ETSI around
19 the time of March of 1992, if you can recall?

20 A Many of the big wireless and computing
21 companies around the world were members, members of
22 ETSI, and several of the universities and research
23 institutes, and lots of the telecommunications and
24 regulators as well.

25 Q How do you become a member of the RES-10

1 committee?

2 A Once becoming a member of ETSI, you simply
3 approach the -- the chair and you are given membership
4 in RES-10, if you were interested in the standardization
5 of the HiperLAN, which is the high data rate standard.

6 Q Do you consider RES-10 and ETSI to have an
7 open membership system?

8 A Absolutely. The companies that I came across
9 in my dealings with RES-10 were from all over the world.

10 Q This Telia proposal was specifically for
11 HiperLAN; is that correct?

12 A That's right, yes.

13 Q Did you ever personally write any papers that
14 discussed OFDM for a HiperLAN?

15 A Yes. I -- I made a proposal to RES-10 and for
16 OFDM for HiperLAN as well shortly after this proposal.

17 Q Let's take a look at one of the papers that
18 you wrote, Dr. Wilkinson.

19 Would you turn to DTX 57.

20 Do you have DTX 57?

21 A I do, yes.

22 Q How do you pronounce that first name --

23 A The first author of this way is paper
24 colleague of mine called Hongsi Xue.

25 Q Xue. Did you cowrite this paper with

1 Mr. Xue?

2 A I did, yes.

3 Q Why did you write this paper?

4 A So this was a summary of some of the research
5 work that we'd done in the collaborative project that we
6 were working on at the University of Bradford.

7 Q Was this paper ever presented or published?

8 A Yes, it was. It was published in a radio
9 relays conference. And, again, this was an IEE
10 conference, and it was in Edinburgh in Scotland.

11 Q Does the Xue paper discuss forward error
12 correction?

13 A It does, yes.

14 Q Where does it discuss forward error
15 correction?

16 A It's discussed in section 2.1, which is
17 entitled "Coding for multicarrier air interface."

18 Q Dr. Wilkinson, what types of forward error
19 correction does the Xue paper describe?

20 A This describes a 1/2 rate block code, and this
21 can be seen in the diagram in the figure 3.

22 Q Does your Xue paper describe any other kind of
23 forward error correction?

24 A This block code is used in conjunction with a
25 convolutional code, which is -- which is not described

1 in any detail, but it's pictured there in the diagram.

2 Q What about the figure to the left of that,
3 figure 1? Let's take a look at that.

4 A Ah, yes. So the paper also talks about a
5 technique whereby instead of using forward error
6 correction, you correct the areas through ARQ. ARQ is
7 basically a request for a retransmission. So ARQ is
8 commonly used in data networks and where some delay
9 doesn't matter.

10 Basically you -- you check the data that you
11 get at the receiving end. If you detect that there are
12 errors in the data, you ask for it to be sent again, so
13 you recover the errors.

14 Q So is it fair to think of ARQ as simply a
15 retransmit request?

16 A Yeah. It's exactly it, yes.

17 Q Does your Xue paper discuss interleaving?

18 A Yes, it does.

19 Q Would you explain what kinds of interleaving
20 your Xue paper discusses.

21 A So the interleaving discussed in this -- this
22 paper -- and, in fact, pictured in figure 3, is a very
23 simple block interleaver, where the data comes in
24 serially and is mapped parallel onto the carriers. So
25 this can be thought of as reading the data into -- into

1 rows, into a matrix, and then reading them out in
2 columns. Table rather than matrix.

3 Q Does the Xue paper discuss OFDM anywhere?

4 A The Xue paper uses the expression multicarrier
5 modulation, which is used interchangeably with OFDM.
6 But it does refer to papers that are specifically OFDM.

7 Q Before we look at the references, let's take a
8 look at where you described multicarrier modulation.
9 Can you tell us where in your paper you describe
10 multicarrier?

11 A Well, it's described in section -- section
12 2.1.

13 Q On page --

14 A 2.1, yeah. The principle is there in the
15 first paragraph of 2 -- sorry.

16 Q Section 2?

17 A Yes.

18 Q I see. You mentioned references to OFDM
19 papers. Are there any particular references to OFDM
20 papers that you're describing?

21 A So this again refers to references 3 and 4.
22 And 4 is the -- is the Bingham reference that I
23 mentioned earlier.

24 Q Put up that reference -- on the last paper.
25 Is that the Bingham reference that you were

1 referring to, Dr. Wilkinson?

2 A That's right, yes.

3 Q Now, again, why did you cite the Bingham paper
4 in this paper?

5 A Well, when we started this work, we -- we
6 understood the problem that we were facing. We did a
7 literature search, and several papers came up that
8 applied OFDM to slightly different applications. And so
9 we just looked at the techniques, and we thought these
10 techniques were applicable for wireless LANs. It's just
11 a question of adjusting the parameters and applying them
12 to this application.

13 Q This Xue paper that we've been looking at
14 discusses the HiperLAN European standard; is that right?

15 A Yes.

16 Q Did HiperLAN ever wind up using OFDM?

17 A It did not in the end, even though we proposed
18 it, and we were strong supports of OFDM for HiperLAN.

19 Q Why not?

20 A It received some objections from members of
21 the committee who had doubts over the complexity of its
22 implementation.

23 Q What kinds of objections?

24 A There were essentially objections in terms of
25 whether it was commercially realizable. There were

1 question marks over whether the chip technology was
2 sufficiently advanced to implement this in a
3 cost-effective and power-efficient way.

4 Q Did you ever write a paper documenting any of
5 the objections that you heard?

6 A Yes, I did.

7 Q Let's turn to PTX 540, please.

8 Dr. Wilkinson, this is a paper that you wrote
9 in 1995; is that correct?

10 A That's right.

11 Q If you will turn to Page 106 of that paper,
12 section 6.3, the bottom of the left-hand column, you
13 wrote, "Multicarrier modulation was proposed in the
14 early days of RES-10. Conceptually, multicarrier
15 modulation is extremely simple."

16 Do you see that?

17 A Yes.

18 Q And then carrying on to the next column, you
19 wrote, "The multicarrier scheme initially proposed was
20 OFDM. This is a technique borrowed from digital audio
21 broadcasting."

22 What did you mean by that?

23 A So the technique had been used in the digital
24 audio broadcasting standard. And it had been proven to
25 work and demonstrated as a standard. And so again, it

1 was just a question of taking the technique and applying
2 it to a slightly different application. So it was an
3 adjustment of parameters and from -- and from the
4 application in this digital audio broadcasting.

5 Q Let's turn to Page 108. There are three
6 numbered points at the bottom of the first column, the
7 left-hand column.

8 This is the part of your paper where you
9 describe some of your criticisms of RES-10 -- in RES-10
10 of multicarrier schemes; is that right?

11 A That's right, yes.

12 Q You said the issues are as follows:

13 Now, number 1, I won't even try to read into
14 the record -- it's a mouthful. But can you describe for
15 us -- can you explain to us what you meant by issue
16 number 1?

17 A Yeah. Issue number 1 is a -- is a minor
18 disadvantage in OFDM. It's basically the fact that
19 because of the multicarrier signal, OFDM requires a
20 linear and consequently a less efficient power amplifier
21 in the radio. And, ultimately, what this means is that
22 that part of the system consumes slightly more power
23 than for some schemes that might have a -- a constant
24 modulation. It's -- basically the result of it is
25 slightly more power consumption in the radio.

1 Q It was a power consumption issue?

2 A It was exactly that, yes.

3 Q Would you tell us what you were talking about
4 in issue number 2, please.

5 A Issue number 2 is a regulatory detail, and it
6 was basically an issue that was European specific. So
7 it was specifically European regulation, how they wrote
8 the rules of the spectrum. But it was an issue that
9 disappeared, and so it -- it's a nonissue now.

10 Q Issue number 2 was basically a regulatory
11 issue; is that right?

12 A It was exactly that, yes.

13 Q Issue number 3 -- issue number 3 you wrote,
14 "The complexity of the multicarrier modem in relation to
15 its cost-power consumption and feasibility given
16 existing processing power."

17 What did you mean by that, Dr. Wilkinson?

18 A Okay. So this was where some companies had
19 doubts as to whether the existing chip technology at the
20 time, you could implement this with a small enough chip
21 and with a small enough power consumption so that it was
22 commercially realizable and you could put it in products
23 that we have this technology in today.

24 Q All right. Let's go to the concluding
25 paragraph in that section, on Page 109, in the second

1 column.

2 Dr. Wilkinson, you wrote, "The general feeling
3 in RES-10 was that although the advantages of
4 multicarrier schemes were recognized, the disadvantages
5 had not been thoroughly investigated, and hence, this
6 would be a high-risk solution to the time dispersion
7 problem for HiperLAN."

8 Do you see that?

9 A Yes.

10 Q What did you mean by that statement?

11 A Well, we just looked at the disadvantages and
12 basically the -- the most important one was the fact
13 that there were doubts over whether it could be
14 implemented with current data and chip technology.

15 Q Did you ever think that OFDM would not work
16 for a wireless LAN?

17 A No. There was no fundamental reason why it
18 wouldn't work at all.

19 Q What made it possible for OFDM for used in
20 wireless LANs today?

21 A Well, it's simply advances in chip integration
22 and processing speed that have enabled it to be
23 commercially realizable in a way that is low power
24 consumption in products today.

25 Q What do you mean by advancements in chip

1 integration?

2 A Well, this is just where you get -- as time
3 goes on, you can pack more transistors into a small area
4 of silicon in a chip.

5 Q What would that allow us to do?

6 A They allowed you to do the complex processing
7 that this technique required in a very small form factor
8 and with low power consumption.

9 Q Thank you.

10 MR. LAM: Your Honor, I pass the witness.

11 THE COURT: Excuse me?

12 MR. LAM: Pass the witness.

13 THE COURT: All right. Cross-examine.

14 MR. FURNISS: Thank you, Your Honor.

15 CROSS-EXAMINATION

16 BY MR. FURNISS:

17 Q Good afternoon, Dr. Wilkinson.

18 A Good afternoon.

19 Q We've met before.

20 A We have.

21 Q Yes. After you worked at Bradford University,
22 you went to work for Hewlett-Packard Labs in Bristol,
23 England?

24 A That's right, yes.

25 Q And did that lab have a particular focus?

1 A That lab was focused on looking at wireless
2 connectivity for all HP and their products.

3 Q It's true, is it not, that Hewlett-Packard had
4 a number of projects aimed at creating wireless LAN;
5 isn't that true?

6 A That's true, yes.

7 Q And, in fact, Hewlett-Packard tried that at
8 least three or four times; isn't that true?

9 A How do you mean "tried that"?

10 Q Well, had three or four different projects
11 that were aimed at creating the wireless LAN technology?

12 A It had several projects that were looking at
13 different aspects of wireless connectivity. I don't
14 think they were creating wireless LAN technology.

15 Q Isn't it true at that Hewlett-Packard never
16 created its own wireless LAN technology?

17 A Hewlett-Packard was at that time an integrator
18 of technologies. So it wasn't really its aim at that
19 time to create technology. But there were many projects
20 that looked at the performance of these technologies and
21 what they could deliver for Hewlett-Packard products.

22 Q Isn't it true that Hewlett-Packard ended up
23 using the 802.11a and 802.11g technologies for its
24 computers?

25 A As I said before, Hewlett-Packard became an

1 integrator of technologies. And so for sure, they
2 integrate those technologies into their products, yes.

3 Q Do you recall in your deposition testifying
4 that you created one of the first air interfaces for
5 802.11a in 1999?

6 A Yes. We created a demonstrator of the 802.11a
7 transmission scheme.

8 Q My question, then, is why didn't you do that
9 earlier?

10 A Why didn't we -- well, again, there are
11 various different reasons why you build these
12 equipments. And we built it at the time because the
13 802.11a standard was being formulated, and we wanted to
14 investigate details of the formulation of that standard.
15 It wouldn't have been appropriate to do that earlier.
16 So it was timed with the finalization of the standard.

17 Q Well, you were working on OFDM technologies as
18 early as 1992 you said; isn't that right?

19 A I continued to work on OFDM, because I was a
20 very big supporter of the scheme right away from when I
21 first learned of it in early 1992, right away through my
22 time at Hewlett-Packard.

23 Q Prior to 1999, you never built any
24 demonstrator or any test equipment to actually test it;
25 is that right?

1 A Well, we were working on various different
2 aspects of the technique. And so those did not
3 necessarily require us to build equipment or demonstrate
4 it, except for the demonstrator that we built to
5 investigate the parameters for the final version of the
6 standard.

7 Q It's not possible to create a working wireless
8 LAN system without understanding the parameters; isn't
9 that true?

10 A Well, this is -- the demonstrator was to
11 understand the parameters in the final version of the
12 standard.

13 Q Would those parameters -- those parameters
14 would have to be different than the parameters in the
15 digital audio broadcasting, wouldn't it?

16 A Yes. So the technique had been proven in
17 digital audio broadcasting that worked in a multipath
18 channel, but it was a different type of multipath
19 channel and a slightly different transmission rate. So
20 it was a question of translating the parameters to this
21 application.

22 Q Isn't it true you have to do experimentations
23 to understand which parameters to use?

24 A Well, not necessarily. Some -- some
25 parameters might require investigation. Some parameters

1 you can use available literature, such as literature
2 on -- for example, you can do simulations. There are
3 various different ways of arriving at parameters you use
4 in system design.

5 Q Now, you testified about the need for a chip
6 and low power consumption. Did you read the '069
7 patent?

8 A I have read the '069 patent, yes.

9 Q You were aware, then, that CSIRO had patented
10 and creating an FFT chip in 1988; isn't that true?

11 A The patent -- as far as I know, I understand,
12 the patent doesn't relate to an FFT chip in the claims.
13 I haven't been asked to analyze the claims.

14 Q So you didn't know that CSIRO had created an
15 FFT chip in 1988; is that right?

16 A I heard that they worked on FFT chips, yes.

17 Q Isn't it true that if you had known that there
18 was a working FFT chip, you would have had a different
19 view about the feasibility of its power consumption?

20 A Well, not necessarily, because it -- I didn't
21 know the details of the FFT chip. It may have had
22 significant power consumption. It may not have been a
23 commercially viable component for consumer products.

24 Q When you were in Australia, you were aware of
25 the Australia National Telescope, were you not, the

1 radio telescope?

2 A Yes.

3 Q And weren't you aware that that used the FFT
4 chip that CSIRO had designed?

5 A No, I wasn't aware of that.

6 Q Would it have changed your analysis and the
7 ETSI committee's analysis had they known that?

8 A I doubt it, no.

9 Q You said it was very, very important to have a
10 chip. But if there already was an FFT chip, that would
11 change your analysis, wouldn't it?

12 A Well, again, I didn't know the details of that
13 FFT chip, and that FFT chip may well have had the power
14 consumption that was unacceptable for a commercial
15 product. It may well have been a development version of
16 a component that might have eventually got to commercial
17 products.

18 Q Let's -- let's look at Defendant's Exhibit 55,
19 which you testified about.

20 And this is your article on spread spectrum
21 for RadioLANs; is that right?

22 A Yes.

23 Q And you said in response to Mr. Lam's
24 questions that it discusses COFDM?

25 A That's right, it does.

1 Q Let's zoom in on that.

2 Third paragraph. And it says there that --
3 down a little bit -- I'm sorry, up.

4 Page 2. The paragraph that begins, "Neither."

5 And it's in that sentence that begins,
6 "However, parallel FH," that's frequency hopping?

7 A Yes.

8 Q "Where multiple frequency slots are used
9 simultaneously for COFDM, Coded Orthogonal Frequency
10 Division Multiplexing, could be used to achieve
11 increased information rates."

12 Do you see that?

13 A Yes.

14 Q One-half of one sentence to the discussion of
15 COFDM in this paper; isn't that right?

16 A Yes, that's right.

17 Q Isn't it true that you were just mentioning it
18 was a possible alternative, you weren't actually
19 suggesting its use?

20 A No, I was suggesting its use. When I made
21 reference to OFDM, the OFDM papers that had been written
22 on the subjective detail.

23 Q Why was your discussion of it so narrow, so
24 short in this paper?

25 A Well, at that time it was a fairly well-known

1 technique. It was something that was in the
2 communication engineer's toolbox. And basically it was
3 being talked about quite a lot and been applied to many
4 different -- many different new problems.

5 Q Isn't it true that at that point in time there
6 was no wireless LAN system that used OFDM?

7 A That's certainly true, there was no wireless
8 LAN system that used OFDM at that time.

9 Q And as you said earlier in response to
10 Mr. Lam's questions, the ETSI committee rejected the
11 idea of multicarrier modulation using COFDM?

12 A Yes, they did reject that for HiperLAN Type 1
13 but they accepted COFDM for HiperLAN Type 2.

14 Q What became HiperLAN Type 1 never became a
15 standard that was used in a wide range of products;
16 isn't that true?

17 A That is true. HiperLAN 1 was essentially a
18 failure but so was HiperLAN 2 but used OFDM as well.

19 Q And isn't it true that that's because HiperLAN
20 Type 2, that this standard had already been established
21 at 802.11a?

22 A No. The HiperLAN was an attempt to create a
23 repeatedly successful GSM standard in Europe. But the
24 world of computer networking wasn't driven out in
25 Europe, it was driven out in the US. So HiperLAN 1 and

1 HiperLAN 2 were essentially very different reasons,
2 technological reasons. 802.11 and its predecessors were
3 certainly going to be the standard, and that was fairly
4 obvious quite some years ago.

5 Q Isn't it true that the standard that is now
6 used in England and around the world is the 802.11g
7 standard?

8 A Well, the standard that's used mostly at the
9 moment is still 802.11b standard.

10 Q Isn't it true that the 802.11g standard is the
11 current standard of products that are advertised and
12 sold and it just happens to be backward compatible with
13 802.11b?

14 A Well, that is true, yes. Again, the basis as
15 far as we understand most of that is still 802.11b, but
16 the new products is 802.11g.

17 Q Now, let's look at -- you discussed Exhibit
18 Number 59, the Telia proposal. This proposal is titled
19 at the top, "Suggestion for the Study of CRPM Techniques
20 for HiperLAN." Do you see that?

21 A Yes.

22 Q And so Telia was not proposing that a CRPM
23 system was actually feasible but that had to be studied;
24 isn't that true?

25 A Well, yes, it certainly had to be studied,

1 because CRPM was being applied to a slightly different
2 set of circumstances. And it makes reference to the
3 application of COFDM for digital audio broadcasting and
4 then it talks about how the parameters might be changed
5 slightly to make COFDM suitable for wireless LANs.

6 Q Isn't it true that the suggestion that COFDM
7 be studied by the HiperLAN committee was rejected?

8 A No. At this point in time this proposal was
9 taken seriously and people looked at the technique and
10 at the pros and cons.

11 Q And ultimately rejected it; isn't that true?

12 A It was ultimately rejected, yes.

13 Q Because it was -- the disadvantages had not
14 been sufficiently studied; isn't that right?

15 A The -- again, it was because there were
16 question marks of whether this could be implemented and
17 in a commercially small form factor power-efficient
18 chip.

19 Q Isn't it true the HiperLAN 1 went with a
20 single-carrier system that used equalization?

21 A Yes, it went with a single-carrier system that
22 used equalization.

23 Q Isn't it true that equalization requires power
24 and small size just as much OFDM?

25 A That's true, also, yes.

1 Q So the consideration of power and size were
2 not different as we treated equalization and OFDM; isn't
3 that true?

4 A Well, there wasn't a big difference between
5 the two techniques, but equalization had been applied
6 for some high-bit rate systems, equalization had been
7 applied in GSM standards. For example, the equalization
8 was slightly better understood by the people who were
9 working on the standardization, it was more familiar,
10 and so they had more comfort that you could do the
11 processing that was required for the equalization and
12 they were slightly more doubtful of whether that could
13 be done with the COFDM.

14 Q That wasn't my question. My question was,
15 isn't it true that equalization required at least as
16 much small size and low power consumption as OFDM?

17 A Well, yes.

18 Q So size and power really weren't the reasons
19 that the committee rejected COFDM; isn't that right?

20 A No, they were the reasons. But again, people
21 were more familiar with equalization techniques, so they
22 were more confident that it could be done with current
23 chip technology. So it was a familiarization problem.

24 Q I would like to ask if you would look at DTX57
25 which you testified about.

1 Now, you testified that this paper was given
2 out at this conference?

3 A Yes.

4 Q But you weren't there, were you?

5 A No, I wasn't there, no.

6 Q And do you know -- and you testified that this
7 paper was published?

8 A Yes.

9 Q Do you know when?

10 A It was published on the first day of the
11 conference and the conference proceedings.

12 Q You mean it was given out on the first day of
13 the conference?

14 A Yes.

15 Q But you don't know whether it was actually
16 published at a library at sometime thereafter, do you?

17 A Well, it's published, as far as I'm concerned,
18 when it's given out in a conference proceedings. These
19 conference proceedings are bound proceedings that are
20 given out at the beginning of the conference to all of
21 the delegates.

22 Q But if someone who wasn't at the conference
23 tried to find the paper, would they be able to find the
24 paper?

25 A Well, ultimately these proceedings end up

1 being in libraries. Most of these people who go to
2 conference and take the proceedings back to their
3 university libraries or their company libraries and put
4 proceedings in those libraries.

5 Q But you don't know for a fact if and when it
6 was ever published in a library, cataloged in a library?

7 A Well, yes. Hongxi Xue who wrote the paper
8 with me went to the conference with Mark Beach who was
9 also, you'll recall, from the paper and brought the
10 proceedings back from the conference and eventually put
11 them in Bristol University Library.

12 Q But you don't know when that occurred, do you?

13 A I can't say exactly when that occurred, but it
14 would have been fairly immediately after we returned
15 from the conference.

16 Q But you don't know that for a fact, you're
17 just speculating, aren't you?

18 A I don't know that for a fact because I was in
19 Bradford at the time that this was in Bristol, but that
20 is what I expected to happen.

21 Q Now, let's look at Plaintiff's Exhibit Number
22 540, your report on HiperLAN standardization. You were
23 the lead author on this paper because you were familiar
24 with the HiperLAN proceedings; isn't that right?

25 A Well, the work is shared between myself and

1 Tim Phipps essentially. He had more experience than me
2 in the Mac layer, the Macis control as it's known. I
3 have more experience in the PHY layer, physical layer.

4 Q You understand we're talking about the PHY
5 layer in this case?

6 A Yes.

7 Q So you were the one that was familiar with the
8 PHY layer?

9 A Yes.

10 Q And you were the one that was familiar, were
11 you not, with the fact that the RES 10 committee decided
12 against using OFDM?

13 A Yes.

14 Q And part of that was because of opposition not
15 only from other companies within ETSI; isn't that right?

16 A Can you repeat the question?

17 Q Yeah. Excuse me.

18 The reason it was rejected was because of
19 technical opposition from companies within ETSI; isn't
20 that right?

21 A There were more companies who were against it
22 than there were for it, yes.

23 Q And it was because they considered it to be,
24 quote, high risk; isn't that true?

25 A Well, it was because of the reasons that I

1 just described, which was whether it could be
2 implemented -- mainly whether it could be implemented in
3 a commercially realizable power efficient form.

4 Q Let's look at page 109 that you looked at
5 earlier.

6 Do you have page 109 in front of you, Dr.
7 Wilkinson?

8 A Yes.

9 Q Let me ask you, it says, quote, "The general
10 feeling in RES 10 was that, although the advantages of
11 multicarrier schemes were recognized, the disadvantages
12 had not been thoroughly investigated."

13 Do you see that?

14 A Yes.

15 Q Now, what does -- the term "not been
16 thoroughly investigated" means that it hadn't been
17 demonstrated to be feasible; isn't that true?

18 A No, it isn't true. The disadvantages that
19 weren't thoroughly investigated were whether it could be
20 realized in a commercial form factor. The technique was
21 definitely feasible because it had been demonstrated
22 with digital audio broadcasting.

23 Q Well, audio broadcasting is for outdoor
24 long-range digital one-way communication; isn't that
25 right?

1 A Yes, that's right.

2 Q And are you saying that's the same as indoor
3 wireless LAN?

4 A What do you mean by the same?

5 Q Well, isn't it true that the characteristics
6 of an indoor environment are different than the
7 characteristics of long-range outdoor broadcasting?

8 A This has been said a few times, but the radio
9 waves don't really know whether they're indoors or
10 outdoors. And the channel indoor or outdoor has the
11 same characteristics, it's just slightly different in
12 severity in terms of the multipath.

13 In fact, the multipath that you see outdoors
14 is worse and more challenging than the multipath you see
15 indoors.

16 Q Isn't it true that the outdoor environment had
17 been the subject of a great deal of study, whereas the
18 indoor environment, even in the early '90s, had not
19 been?

20 A No, that's not true. I worked on the DECT
21 testbed project and I mentioned earlier in my career
22 description. The DECT testbed project was a cordless
23 telephony project, so the first part of that project was
24 to do with the study of indoor propagation, because
25 cordless telephones work in an indoor environment. So

1 we characterized the indoor project.

2 In that, in that process, that, again, was an
3 ANSI standard, I worked with many researchers across
4 Europe who were also studying indoor propagation in that
5 project.

6 So the indoor channel was very well
7 characterized even at that time.

8 Q Isn't it true that even today that devices --
9 the 3G and 4G devices for outdoor communications are
10 much, much slower than an 802.11g indoor wireless LAN?

11 A Yeah, but that is because the channel in the
12 outdoor environment has a more severe multipath. That
13 is principally the reason. It's also because of power,
14 limitations, and because of the requirements of that
15 communication that are very high data rate requirements
16 in a local area obviously because of communication
17 between computers and printers.

18 Q And the outdoor devices, for example, don't do
19 streaming video very well; isn't that true?

20 A Some outdoor devices do use streaming video,
21 our technology will use streaming video if you want to
22 do that.

23 Q It's not capable of doing real-time fast
24 streaming video, is it, a 3G device?

25 A Yes, there are 3G devices that are capable of

1 doing -- it depends what you mean by fast stream. You
2 have to characterize that in terms of bit rate.

3 Q I mean in terms of stopping and starting and
4 in terms of hanging up in terms of real-time, 3G devices
5 are not good at doing streaming video?

6 A That's not really a scientific description for
7 me to say yes or no, unfortunately. But you need to
8 characterize in terms of bit rate for me to be able to
9 say whether or not those devices can support streaming
10 video.

11 Q Isn't it true that the bit rate of a 3G device
12 is much lower than the bit rate of 802.11g indoor
13 wireless LAN?

14 A Yes. And part of that is because the channel
15 in an outdoor environment is more severe than the
16 channel in an indoor environment.

17 Q Isn't it true that in an indoor environment
18 the multipath returns to the receiver or the multipath
19 delay spread is much, much shorter than in outdoors?

20 A Yes, that's true.

21 Q Isn't that true that that makes the indoor
22 environment more hostile not less hostile?

23 A No, it's less hostile. The best example of
24 this is if you sat in Starbucks and you're on the
25 wireless LAN, the bounces of the signal come off the

1 walls. If you sit outside Starbucks and you're on the
2 wireless LAN, bounces can come off the buildings which
3 are further away so those echoes occur much later and so
4 that's more of a problem.

5 Q Isn't it true that the 802.11g device will
6 work in that situation just as well as it will work in
7 yours?

8 A It will, but the indoor problem is less severe
9 than the outdoor problem.

10 Q Do you have any authority for that
11 proposition, Doctor?

12 A Absolutely, yes.

13 Q Is it cited in your paper?

14 A Is it cited in this paper?

15 Q In any paper.

16 A It's cited in many studies of propagation.
17 There is a committee that I worked on called Cross 231
18 (phonetic) that looked at propagation indoors and
19 outdoors, and for the DECT testbed project and for GSM
20 standards, and they are publications that show that the
21 indoor environment is much more benign than the outdoor
22 environment.

23 Q Why then did we have cellular telephones much
24 sooner we had wireless LAN?

25 A Well, there are many reasons why. There are

1 many reasons why that might be the case, as you well
2 know.

3 Q Isn't it because it's more difficult to do
4 high speed indoors?

5 A No, it isn't. We had cellular telephones
6 because there was a market for cellular telephones
7 before there was a market for wireless LANs. That might
8 be one reason.

9 Q Well, there's a market now, right? Isn't that
10 true?

11 A For wireless LAN?

12 Q For wireless LAN.

13 A Yes, there's a market.

14 Q And the wireless LANs that are used indoors
15 are much faster than the available 3G technology
16 outdoors; isn't that true?

17 A Yes. And one of the reasons for that is that
18 the channel in the indoor environment is more benign.

19 Q You read the '069 patent that characterized
20 the indoor environment as more hostile?

21 A Did it characterize the indoor environment as
22 more hostile? I have not studied the patent in any
23 detail, so I haven't done a claim analysis.

24 Q Now, you mentioned that you have some patents
25 and you have some pending patent applications, correct?

1 A That's right.

2 Q And have you ever had an opportunity in order
3 to enforce one of your patents?

4 A No, I haven't.

5 Q If someone was using one of your patents
6 without your permission, would you consider enforcing
7 it?

8 A Most of my patents belong to the companies
9 that I worked for, so that would be their responsibility
10 to enforce it.

11 Q Well, your company, you're the vice-president;
12 isn't that right?

13 A Yes.

14 Q And you're in charge of technical marketing;
15 isn't that true?

16 A That's true.

17 Q And if one of your competitors was using your
18 company's patents, would you consider enforcing them?

19 A We would consider enforcing it, yes.

20 Q And have you ever done that?

21 A Not that I believe so far.

22 Q Is the reason you're getting more patents
23 because you're concerned that other people might use
24 your technology?

25 A I'm sorry, can you repeat the question?

1 Q I'm sorry, could you speak up?

2 A I'm sorry, can you repeat the question,
3 please?

4 Q Yes.

5 Isn't it true that one of the reasons you're
6 applying for additional patents is you're concerned your
7 competitors might use your technology without your
8 permission?

9 A Well, that is one of the reasons why you apply
10 for patents for sure.

11 Q Correct. Thank you.

12 MR. FURNISS: I'll pass the witness, Your
13 Honor.

14 THE COURT: Redirect?

15 MR. LAM: No redirect, Your Honor.

16 THE COURT: Ladies and Gentlemen of the
17 Jury, I think we're going to call it a day. I want to
18 thank you for your attention throughout the day. I've
19 looked over there a number of times and you've been
20 paying very good attention. I know you're a
21 hard-working jury, didn't even want to take an afternoon
22 break today.

23 Need I ask whether you would like to go
24 home tonight?

25 We'll call it a day and we'll plan to

1 start back at nine o'clock in the morning. I'm going to
2 excuse you at this time. Please remember my
3 instructions, don't discuss this case with your fellow
4 jurors or with anyone else.

5 You are excused to the jury room.

6 (The jury left the courtroom.)

7 THE COURT: All right. Let me advise the
8 parties that the plaintiff has used four hours and 55
9 minutes and the defendants have used three hours and ten
10 minutes.

11 Are there any other matters for the Court
12 to take up before we recess for the day?

13 MR. VAN NEST: Excuse me, Your Honor,
14 that's the count for today or that's total?

15 THE COURT: That's total.

16 MR. VAN NEST: That's total running
17 through today?

18 THE COURT: Yes.

19 MR. VAN NEST: Thank you.

20 THE COURT: Unfortunately, we've only
21 gotten about eight hours out of the way, we had about
22 two hours yesterday afternoon and close to six today.

23 MR. MIKE JONES: Your Honor, Mr. Shoemake
24 and Mr. Petrick both have brief RAND-only testimony.

25 THE COURT: All right. How long?

1 MR. MIKE JONES: I would guess 30 minutes
2 for the total.

3 THE COURT: All right. Who's first?

4 MR. MIKE JONES: Mr. Petrick.

5 MS. ANDERSON: Excuse me, Your Honor.
6 Before we move on, I just wanted to alert the Court that
7 the parties did work out a stipulation for filing with
8 the Court the list of exhibits to which neither side had
9 an objection to get that all in and done. May we have
10 permission to file that?

11 THE COURT: Yes, you may.

12 MS. ANDERSON: Thank you.

13 MR. VAN NEST: And Your Honor, we've sort
14 of allocated responsibility between the RAND trial and
15 the jury trial, and I'm wondering if those of us that
16 are working on the jury trial are to be excused?

17 THE COURT: No. If I have to stay, you
18 have to stay.

19 MR. VAN NEST: Okay.

20 THE COURT: No, I'm kidding.

21 MR. VAN NEST: Thank you.

22 THE COURT: That's why I get paid the big
23 bucks.

24 MR. VAN NEST: Thank you, Your Honor.

25 THE COURT: All right. If you're going

1 to leave, please leave quickly and quietly.

2 If you're leaving the courtroom, please
3 leave quickly and quietly.

4

5 (REPORTER'S NOTE: RAND hearing in
6 separate transcript volume.)

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REPORTER'S CERTIFICATE

We certify that the foregoing is a correct transcript from the record of proceedings in the above-entitled matter. Dated at Tyler, Texas, this the 14th day of April, 2009.

D. KEITH JOHNSON, RDR, CRR

KIMBERLY J. JULIAN, RPR, CRR