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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

AX WIRELESS LLC, Plaintiff, : Case No. 2:22-cv-277
vs. :
DELL INC., and DELL TECHNOLOGIES INC., Defendants. :

VIDEOTAPED DEPOSITION OF CHRISTOPHER HANSEN, PhD
Palo Alto, California
Wednesday, November 29, 2023

Stenographically Reported by:
LORI STOKES
RPR, CSR No. 12732

Job No. 515729

Pages 1-54

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The Videotaped Deposition of CHRISTOPHER HANSEN, PhD, was taken on behalf of Defendants, at 3150 Porter Drive, Palo Alto, California, beginning at 10:08 a.m., Pacific Time, on November 29, 2023, before LORI STOKES, RPR, Certified Shorthand Reporter No. 12732.

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APPEARANCES:

FOR PLAINTIFF
LATHAM & WATKINS LLP
BY: AMIT MAKKER
Attorney at Law
505 Montgomery Street
Suite 2000
San Francisco, California 94111
415.391.0600

FOR DEFENDANTS
PERKINS COIE, LLP
BY: MATTHEW W. HINDMAN
Attorney at Law
3150 Porter Drive
Palo Alto, California 94304
650.838.4300

VIDEOGRAPHER: Johanna Lopez

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EXHIBITS

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EXHIBIT 1	IEEE P802.11 Wireless LANs dated March 2005	12
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Palo Alto, California
November 29, 2023 | 10:08 a.m.

THE VIDEOGRAPHER: Here begins Media Number 1 in the videotaped deposition of Christopher J. Hansen in the matter of AX Wireless LLC versus Dell Inc., et al. in the court of the United States District Court for the Eastern District of Texas, Marshall Division, Case Number 2:22-cv-00277-RWS-RSP.

Today's date is November 29th. The time on the video monitor is 10:08 a.m. The videographer today is Johanna Lopez representing Planet Depos.

This video deposition is taking place at 3150 Porter Drive, Palo Alto, California 94304.

Would counsel please voice-identify themselves and state whom they represent.

MR. HINDMAN: This is Matthew Hindman with Perkins Coie for Defendants Dell Incorporated and Dell Technologies Incorporated.

MR. MAKKER: Amit Makker from Latham & Watkins on behalf of Plaintiff AX Wireless.

THE VIDEOGRAPHER: The court reporter today is Lori Stokes representing Planet Depos.

The witness will now be sworn.

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CHRISTOPHER HANSEN, PhD,
having been administered an oath, was examined and testified as follows:

EXAMINATION

BY MR. HINDMAN:

Q Good morning, Dr. Hansen. How are you?
A Good.
Q I'm sure you understand why you're here today, correct?
A Uhm...
Q The deposition regarding topics in your subpoena, correct?
A Yes. I received a subpoena, correct.
Q And I believe you've been deposed before; is that correct?
A Yes, I've been deposed before.
Q And so you know the general rules of a deposition. You understand that you're under oath, correct?
A Yes.
Q And same as if you were at a trial in a courthouse with a judge and jury, you have to tell the truth.
Do you understand that?

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A Yes, uh-huh.
Q All right. And I'm going to ask you some questions. You have to answer audibly. You won't be able to nod or shake your head because the court reporter won't be able to take that down.
Is that okay?
A Yes.
Q And we can take a break at any time, so please feel free to let me know if you need a break. I would appreciate if you answer the question first if we have a pending question.
Is that okay?
A Yes.
Q All right. And also opposing counsel is here and may be making some objections from time to time, but you still have to answer the question.
Do you understand that?
A Yes.
Q Okay. I figured you understood all that, but I just wanted to make that clear for the record.
So is there any reason today you cannot offer complete and accurate testimony?
A Not that I'm aware of.
Q Okay.
Did you do anything to prepare for today's

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deposition?
A No.
Q Okay.
So can you briefly summarize your educational background, institutions you attended and the degrees received.
A Sure, yes. I have a bachelor's degree in electrical engineering from Rensselaer Polytechnic Institute. I received that in 1987.
I have a master's degree in electrical engineering from the University of Massachusetts. I received that in 1989.
And I have a PhD in electrical engineering from UCLA, which I received in 1997.
Q All right. And what was your focus of your research at UCLA?
A Wireless communications.
Q Okay. And what company do you work for now?
A I work for Covariant Corporation.
Q And what is your current role?
A I'm president of the company.
Q Okay. And how long have you worked in that role?
A I believe ten years.

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Q Okay. And what types of work do you do in your current role?
A Engineering work.
Q Okay. And does your work involve 802.11 wireless communications?
A Some of my work does, yes.
Q How much would you say involves 802.11 wireless communications in your current work?
A Maybe 90 percent.
Q Okay. And so for those 90 percent, what types of activities do you get involved in?
A I work in standards development.
(Reporter clarification.)
THE WITNESS: I work on -- I do some expert witness work. I do technical analysis for companies.
BY MR. HINDMAN:
Q Okay. Do you work on any systems or products?
A I have worked on products, yes.
Q Okay. In your past?
A Yes, uh-huh.
Q Okay. And about how long have you worked with 802.11 communication systems?
A Since roughly January of 2000, so almost

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24 years.
Q Okay.
So are you currently involved in any 802 wireless standards development now?
A No, not right now.
Q Okay. But you do have standards development in your background, correct?
A Yes, that's correct.
Q And for about how long would you say?
A I've worked on standards since, I believe, 1999.
Q Okay.
A So, yeah, 25 years.
Q Do you recall a general list of the different 802.11 standards you've worked on?
A Yeah, I can remember some of them. Do you want the whole list?
Okay. Yeah, I've worked on 802.11g, 802.11h, 802.11n, 802.11ad, 802.11ay, 802.11md, and, you know, I've reviewed and voted on other 802.11 amendments, so -- many of them.
Q Okay. So quite a substantial bit.
A Yes, uh-huh.
Q Okay. And regarding 802.11n, do you recall approximately what time period you were

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involved with the development of that standard?
A I believe it would be roughly from sometime in 2003 until January of 2006.
Q Okay. And what was the scope of your involvement in the 802.11 standardization process?
(Reporter clarification.)
THE WITNESS: For 802.11n, I worked on a proposal and then supporting that proposal through contributions in the standard -- in the 802.11 standard.
MR. HINDMAN: Okay.
All right. I'm going to hand you what we'll mark as Exhibit 1.
(Deposition Exhibit 1 was marked for identification.)
BY MR. HINDMAN:
Q Do you recognize this document?
A It appears to be a contribution to 802.11.
Q Okay. And was this -- were you involved in parts of generating this document?
A Yes, I believe I was involved in developing this document.
Q And this document was submitted by the WWiSE industry group; is that correct?
A No -- no, I don't think that's correct.

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Q Okay. What would you -- how would you characterize this document with regard to the WWiSE industry group?
A Well, there was a WWiSE industry group at the time this document -- in the 2005 time frame -- that wrote -- you know, wrote a proposal for 802.11n.
Q Okay. And were you a part of that WWiSE group?
A Not -- well, not -- not exactly. My employer was a part of the WWiSE -- WWiSE is an industry group. My employer was part of that group. And as my work, I worked with that group.
Q Oh, got you.
A I wasn't a member of that group. I mean, it was an industry group; it wasn't an individual group.
Q Understood, okay.
And what company was that that you were working for at the time?
A I was working at Broadcom Corporation at the time.
Q Okay.
Do you know what WWiSE stands for?
A I believe it was an acronym for World-Wide Spectrum Efficiency, but I'm not certain of that. It's been a long time.

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Q Okay. Okay.
And what is WWiSE as far as you know?
A If I remember correctly -- it's been a long time -- but WWiSE was an industry group that's sometimes called a special interest group, or a SIG, that was put together to develop a proposal for 802.11n.
Q And what -- this proposal that was developed, who was it submitted to?
A Well, the -- the proposal was developed and agreed upon within WWiSE, and then -- an individual who was working in the group would then make it as a -- make the proposal as a contribution to 802.11.
Q Okay. And that person, would that be a member of the IEEE working group?
A Yes, yeah.
Q Okay. And what companies were part of the WWiSE group as far as you recall?
A As I recall, the membership changed over time, it grew over time. But originally it included Broadcom, a startup company called Airgo Networks, Texas Instruments, and Conexant was also a member.

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Q Okay. Were you involved in any other of these special interest groups during your time working on the 802.11n standard?
A I think WWiSE was the only -- at the time -- for the -- during the 802.11n time frame, I think WWiSE was the only SIG group I was working in.
(Reporter clarification.)
BY MR. HINDMAN:
Q If you'll turn to the next page of this document.
On about line 28, do you see your name there listed as a contributor?
A Yes.
Q Do you recall what your specific contributions were to this document?
A No.
Q Okay. Do you recall generally the types of activities you were involved in?
A Some of them. I mean, we had a large number of meetings, and I participated in those meetings.
Q Okay. And those meetings were put on by who?
A Those -- so these were meetings that were for WWiSE, and we -- the individual companies that

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were members of WWiSE would host them in different locations. So they would host meetings.
Q Okay. And those were for the purpose of developing what's in this document?
A That's correct.
Q Okay. And about how often were those meetings held?
A I think initially they were every month, roughly every month. But it changed somewhat over time. They probably slowed down, at some point, were every two months or so.
Q Okay.
And this particular WWiSE proposal, was this ever submitted to the Task Group N as far as you know?
A Yeah, I believe it -- this particular document -- what's contained in this document, I believe it was. Although, I don't remember, you know, exactly when.
I mean, the formatting is, you know, appropriate, and the time period is appropriate for --
Q Okay.
A -- being submission into 802.11n.
Q And what is the Task Group N?

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A Task Group N was a group -- a subgroup of the 802.11 working group that was writing an amendment to 802.11 at the time that became called 802.11n. That's what the Task Group N was for.
Q Okay. And so what was the purpose of submitting documents like the WWiSE proposal to the Task Group N?
MR. MAKKER: Objection. Calls for speculation.
THE WITNESS: 802.11 -- the Task Group N had a process for developing the 802.11n amendment. And as part of that process, there was -- the group would accept contributions they called proposals that would be candidates or technical candidates for what would become the amendment itself. So this was part of that process.
BY MR. HINDMAN:
Q Okay. And what did the TGn do with these documents once they were submitted?
A So they would be available to be reviewed by the participants in the task group, and then there would be presentations in the meeting, technical discussions about the contents of the contributions and so forth.
Q Okay. So -- and these were different

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meetings than the WWiSE meetings?
A That's right. These were IEEE802.11 standards meetings.
Q Okay. And do you recall about how often those meetings were held?
A Those meetings were held every two months, so six times a year.
Q Okay. And were members of the public free to join in on those meetings?
A Yes. 802.11 is what's called an open standards body. But to participate, you would have to pay a registration -- you would have to register beforehand. But it was open to anyone who chose to register and pay the fee.
Q Okay. All right.
And can you -- what can you tell me about the voting process?
A So 802.11n had a voting process for determining -- well, for making -- I would say 802.11, in general, has a voting process for making decisions of all kinds.
Q Okay. And so were submissions like this WWiSE proposal available to all participants in these meetings?
MR. MAKKER: Objection. Calls for

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speculation.
THE WITNESS: The contributions were made available to everyone participating in the meeting, yes.
BY MR. HINDMAN:
Q Okay. And were you aware of other competing proposals at the time?
A Yes.
Q Can you tell me -- list a few.
A So the main competing proposal was one called TGnSync.
Q Can you spell that for the record.
A Yeah. It's the letters T-G-N-S-Y-N-C.
And starting at the beginning of the process, there was also a proposal from Qualcomm, a proposal from -- I believe a proposal from Mitsubishi.
And there were numerous what they called partial proposals, which were technical contributions that wouldn't cover the entire 802.11n amendment, but were -- would cover portions of that --
Q Okay.
A -- so there were many -- yeah, there were many.

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Q So this particular WWiSE proposal, was this a complete proposal?
A Yes.
Q Okay. And what about the TGnSync proposal?
A Yes, that was also a complete.
Q Okay.
So I just want to ask you: Who can submit proposals like the WWiSE proposal to the Task Group N?
A I believe anyone could submit a proposal.
Q Did you have to be a member of the IEEE working group to submit a proposal?
A I don't think so. I think it would be possible to register and submit a proposal. In order to vote, you would have to be a voting member, but I don't think to submit a proposal you had to be a voting member.
Q Okay. And do you know who could become a member of the 802.11 working group? Were there any restrictions on that?
A I'm not aware of any restrictions. It only required attendance at multiple meetings. So there was a process for -- after attending three meetings or something, then you were a voting

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member.
Q Okay. So would it be fair to say that any interested member of the public who attended these meetings could become a member?
A Yes.
Q Okay. For example, could someone in academia become a member?
A Yes. And I think there were -- there were -- I think there still are academic voting -- you know, say, like a college professor who is a member of 802.11, voting member.
Q Okay. And what about students? Could students become members?
A Yes.
Q Were you aware of any students at the time that were members of the 802.11n working group?
A I don't recall any -- I don't recall any students being members.
Q Okay. What about engineers working on upcoming products? Would they have been interested in becoming members of the 802.11n working group?
MR. MAKKER: Objection. Vague.
THE WITNESS: Generally, there were many engineers working on products who were members of the 802 --

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BY MR. HINDMAN:
Q Okay. Are you familiar with the term "pre-N products"?
A I've heard that term before, yes.
Q Can you explain your understanding of that term.
A Yeah. So the 802.11n standards development took a long time. And before the standard was finalized, there were draft versions of the standard that were -- that were available, and companies designed products to the draft standard, and those were called pre-N products.
Q So would it be typical for engineers to begin developing pre-N products before the final standard was ratified?
A Yes. Yes, that was common at the time.
Q When you were working at Broadcom, did you begin developing any 802.11 products targeted at the 802.11n standard before it was officially published?
A Yes.
Q Okay. Do you know about how long before you would have started working on these products?
MR. MAKKER: Objection. Vague.
THE WITNESS: Yeah. I don't remember the exact date, but it was probably roughly the same

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time I started working on the standard itself, so working on both simultaneously.
BY MR. HINDMAN:
Q Okay. So before the product is final, how would engineers know what to -- or before the standard was final, how would engineers know what features to put into the product?
A Yeah, there are a number of factors. That's complicated. There are -- the most important feature would have been to understand if it was interoperable with other companies' products.
So features that they felt confident other companies would also be implementing in the same way would be -- would tend to point to the features they would develop.
Q Okay. And where would they look to find those features that other companies would be developing for the standardization?
MR. MAKKER: Objection. Calls for speculation. Lack of foundation.
THE WITNESS: That would generally be in both the draft -- one of the draft standards, and then also it would be common company -- representatives of companies would talk to each other.

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MR. HINDMAN: Okay.
THE WITNESS: Yeah.
BY MR. HINDMAN:
Q So about how many draft standards were there for 802.11n, do you recall?
A No, I don't recall exactly.
Q So is it fair to say that engineers working on pre-N products would have been following the developments of the 802.11n standardization process?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: I believe so, yes.
BY MR. HINDMAN:
Q And would engineers working on pre-N products be interested in reviewing proposals submitted to the 802.11n working group?
MR. MAKKER: Same objections.
THE WITNESS: Yeah. I knew engineers working on pre-N products who were reading the different contributions to 802.11n, so yes.
BY MR. HINDMAN:
Q And do you -- is it fair to say that engineers working on pre-N products would be reviewing the WWiSE and TGnSync proposals at that

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time?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: I know at least some engineers developing pre-N products that were.
BY MR. HINDMAN:
Q Okay. And was it your expectation at the time that certain features of the WWiSE and TGnSync proposals would be ultimately incorporated into the 802.11n standard?
MR. MAKKER: Objection. Vague.
THE WITNESS: Yeah. I mean, at the time I was working on the WWiSE proposal hoping that, you know, the WWiSE proposal would be incorporated into the 802.11n draft. Or at least portions of it would be.
BY MR. HINDMAN:
Q Would it be possible for portions of both standards to be incorporated in the final standard? Or both proposals?
A Yes, yeah.
Q Okay. All right.
Do you recall the procedures for becoming an 802.11 working group member?
A I recall that there was a certain meeting

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attendance requirement, but I don't remember the specifics --
Q Okay.
A -- of that.
Q All right.
MR. HINDMAN: I'm going to hand you a document that we'll mark as Exhibit 2.
(Deposition Exhibit 2 was marked for identification.)
BY MR. HINDMAN:
Q Do you recognize this document?
A Not this -- I don't recognize this specific document.
Q So I'm going to represent to you this is a copy of the new participation orientation [verbatim] slides that were presented at the July 2004 working group meeting.
Can you please turn to slide 25.
Do you recognize what is shown on slide 25?
A Yeah. It appears to be, you know, a screen capture of the website.
Q And what website is that?
A It says 802wirelessworld.com.
Q Were you familiar with that website?

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A Yeah. I believe I used that website, you know, at this time, yeah, back in 2004.
Q Okay. And there's a "become a member" tab shown there on the right, correct?
A Yes.
Q So are you aware of any restrictions on who could access this website and become a member?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: Yeah. I'm not aware of any restrictions.
BY MR. HINDMAN:
Q Could any member of the public then access this website and set up an account for membership?
MR. MAKKER: Same objections.
THE WITNESS: Yes, I believe they could.
BY MR. HINDMAN:
Q All right. Why don't we slide over to slide 27.
Do you recognize what is shown on slide 27?
A It just appears to be a screen capture from a website.
Q Okay. And there's a dialogue box there, correct?

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A Yes. It -- yes.
Q And so someone who was seeking to become a member would have to enter their email address and password to join as a new member; isn't that correct?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: Yeah. I don't recall specifically, but that appears to be correct.
BY MR. HINDMAN:
Q All right. Let's go over to slide 29.
Do you recognize what is shown on slide 29?
A Once again, it appears to be a screen capture from a website.
Q Okay. And do you see that yellow box there?
A Yes.
Q Do you -- what is your understanding of what that's indicating?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: I think it's just showing that a person filling in the website, there's mandatory information -- required

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information they would have to put onto the -- into the website.
BY MR. HINDMAN:
Q Okay. And that would be to become a member and set up an account, correct?
A Yeah. It's part of this registration process for the -- for this website.
Q All right.
And was there any fee that you were aware of for becoming a member?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: I don't believe there was a fee for accessing this website. There was a fee to physically attend meetings, but not -- there's no -- I don't believe there's a fee associated with the website, no.
BY MR. HINDMAN:
Q So based on your familiarity of this Wireless World website, how would submissions like the WWiSE proposal be submitted to the Task Group N?
MR. MAKKER: Objection. Mischaracterizes testimony. Lack of foundation. Calls for speculation.
THE WITNESS: Yeah. I don't remember the

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specifics. But there was -- we used a website -- I believe it was this website -- for uploading contributions to 802.11.
BY MR. HINDMAN:
Q Okay. And just for the record, this is the 802 Wireless World website you're referring to?
A Yeah. I believe at the time for 802.11n that this was the website -- yeah. 802 Wireless World was the website we used for uploading at this time.
(Reporter clarification.)
THE WITNESS: Uploading contributions.
BY MR. HINDMAN:
Q Can you turn to slide 35, please.
Do you recognize what is shown on slide 35?
A Once again, it appears to be a screen capture from the 802 Wireless World website.
Q Okay. And you see up at the top there it says Document Submission Process?
A Yes.
Q So is it your understanding that members could submit documents using this process?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.

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THE WITNESS: Yeah. As I recall, there was a process that we used for uploading documents. This appears to be the process that was used at the time.
BY MR. HINDMAN:
Q Okay. And there's a tab on the right-hand side there called "Document Control Numbers."
Do you see that?
A Yes, uh-huh.
Q Okay. Can you flip over to slide 36.
Do you recognize what's shown there in slide 36?
A Once again, it appears to be a screen capture from the 802 Wireless World website.
Q And do you see at the top there it says "Document Control Numbers"?
A Yes.
Q Can you explain to me what these document control numbers were?
MR. MAKKER: Objection. Lack of foundation.
THE WITNESS: I believe these are the numbers that are used to keep track of 802.11 contributions.
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BY MR. HINDMAN:
Q So how would that work if you submitted a proposal?
A So, for example, you would first request a document -- a number for the contribution. And then it would provide you with a number, and then that number would be -- that would be the number for your contribution, and you would place it in the file name for the name -- for the file that you would upload for the contribution.
Q Okay.
A That was how that worked.
Q Would the WWiSE proposal of Exhibit 1 that we've been discussing have been submitted using this process?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: Yes. I believe this document -- like the other documents -- would have been -- would have followed -- this process would have been followed.
BY MR. HINDMAN:
Q Okay. And would that be the same for the TGnSync proposal?
MR. MAKKER: Same objection.

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THE WITNESS: Yes. I think so, yes.
BY MR. HINDMAN:
Q Were all the submissions to this Task Group N made through this Wireless World website?
MR. MAKKER: Same objections.
THE WITNESS: I believe so. I know that the contributions that I made went through a process like this one. So I assume that the other ones did as well.
BY MR. HINDMAN:
Q Are you aware of any other mechanism by which someone could submit a proposal to the Task Group N?
A No, I'm not aware of one.
Q Okay.
A At this time.
Q Was there also an FTP site?
A Yeah. So in this time frame, there were -- yeah, I recall that we had a local file -- there was one file server that was used on-site at some meetings, and then that was later synchronized in some way with the main site on the internet that -- but I don't remember the details of how that worked.
Q Okay. Do you recall who had access to

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submissions to this Wireless World website?
A Yeah. I believe the submissions -- all the 802.11 submissions were public --
Q Okay.
A -- or available to the public.
Q Were there any procedures you had to do in order to access submissions on this website as far as you recall?
A There might have been. I don't remember the exact process, but -- but I -- but my understanding is they were all available.
Q Would members of the public need to first become a member in order to access the submissions to the TGn?
MR. MAKKER: Objection. Calls for speculation. Lack of foundation.
THE WITNESS: They would not have to be a voting member of 802.11. They wouldn't have to be an IEEE member.
There may have been some process on the website they had to log in or something, but it was -- they -- there were no -- you didn't have to be an IEEE member or anything like that. It was all publicly available.
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BY MR. HINDMAN:
Q Would members of the public have been aware of this website?
MR. MAKKER: Objection. Calls for speculation. Lack of foundation.
THE WITNESS: Yeah, I don't remember.
BY MR. HINDMAN:
Q Okay. What are some of the ways that the members of the public might have been made aware of this website?
MR. MAKKER: Objection. Calls for speculation. Lack of foundation.
THE WITNESS: I believe at the time IEEE802.11 had a publicity group or something. They promoted themselves.
I don't remember the details of how they did that or what, but they -- 802.11 -- the 802.11 working group and the IEEE standards association had procedures -- had a process of some type for publicizing their activities.
BY MR. HINDMAN:
Q Okay. And this website is no longer active; isn't that correct?
A Yeah. I don't think this -- I don't think this website is used anymore.

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Q Were you aware about the Wireless World website being replaced by another website?
A I know there is a different website that's used for 802.11 today. I don't -- I don't recall -- I don't recall exactly when that transition took place or --
Q Okay. Okay.
So do you recall the name of the new website?
A I believe the IEEE calls it Mentor.
Q Okay.
A But I don't know where that name comes from.
Q So submissions to the IEEE802.11 working group currently would be made on that Mentor website, correct?
MR. MAKKER: Objection, leading. Objection, lack of foundation. Calls for speculation.
THE WITNESS: Right. Current -- yeah. Like if I made an 802.11 contribution today, I would use the Mentor website.
BY MR. HINDMAN:
Q Okay. And what about the prior submissions on Wireless World? Are they also

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currently available on Mentor today?
A Yes. I believe they all are, yes.
Q And so, at some point, the Wireless World submissions were added to the Mentor website; is that correct?
A Yeah. There was some process by which they consolidated all the IEEE document -- all the 802.11 contributions over the years and unified them on one website.
Q Okay. So is it your understanding then that the prior TGn submissions would be available now on Mentor?
A Yes, I believe they are.
Q And this would include the WWiSE proposal that we've been discussing, correct?
A Yes.
Q Do you know if these prior submissions to the Task Group N maintained their original titles when they were transferred over to the Mentor website?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: I believe they would. I don't think the documents have been changed in any way.

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BY MR. HINDMAN:
Q Okay. What about the original authors? Would they have been the same?
MR. MAKKER: Same objections.
THE WITNESS: They should all be -- yeah. As I said, I think they're all -- the documents should not have changed. I think they're all --
BY MR. HINDMAN:
Q Okay. And just for the record, that would include the document control numbers?
MR. MAKKER: Same objections.
THE WITNESS: Right, yeah. Right. Those should all be -- those should all be the same.
MR. HINDMAN: Okay.
THE WITNESS: Same as they were used back in 2004.
BY MR. HINDMAN:
Q All right.
So are submissions to the current IEEE Mentor site available to the public as far as you know?
A Yes, I believe they are.
Q Is there any credentials that you're aware of that were required to gain access to Mentor?
A I don't think -- I don't think credentials

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are required for the current 802.11 website --
Q Okay. So it's just wide open to the public?
A Wide open to download the documents, yes.
Q Okay. All right.
Do you know if entries in Mentor are searchable?
MR. MAKKER: Objection. Vague.
THE WITNESS: I think you can search by the title and the year and the document number.
BY MR. HINDMAN:
Q Are there any other parameters that you're aware of that are searchable?
A The particular task group -- there's a pull-down in the menu you can pull out the task group or whatever the group was, study group or something like that.
Q Do you recall approximately what date this WWiSE proposal was submitted to the TGn?
MR. MAKKER: Objection. Vague.
THE WITNESS: So there was an original submission -- an original WWiSE proposal. And then revisions were made, proposal was updated, and then uploads were made at different dates. So -- but I believe the first one was in August of 2004.

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MR. HINDMAN: Okay.
THE WITNESS: Because -- yeah, August 2004 was the first one.
BY MR. HINDMAN:
Q Referring back to Exhibit 1 on the front page there.
Do you see that date at the top of the -- just under the title?
A Yes, uh-huh.
Q What is that date?
A There's a template for documents, and there's a -- there's just a spot where you can put a date into the document. That's all it is.
Q Oh, okay. Would that be the date of creation, or could it have been any date?
A It actually could be any date.
Q Okay.
A Yeah.
Q All right.
MR. HINDMAN: I'm going to hand you what we'll mark as Exhibit 3.
(Deposition Exhibit 3 was marked for identification.)
BY MR. HINDMAN:
Q Do you recognize this document? Or what

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is shown in this document?
A Yeah. It appears to be a printout from the Mentor website.
Q And what are the entries here, for example, on the first page?
A Yeah. It looks to be a list of some of the contributions to -- this would have been Task Group N from 2005.
Q Okay. And if you'll look about halfway down the page, there's a date there, 19 March 2005.
Do you see that?
A Yes, uh-huh.
Q And you see the title of that entry?
A Yes, uh-huh.
Q That's the same title as the WWiSE proposal we've been discussing; is that correct?
A Right. It's the same as in the Exhibit 1.
Q So would that date have been the submission date of that particular proposal?
MR. MAKKER: Objection. Vague. Calls for speculation. Lack of foundation.
THE WITNESS: Right. So this would be -- my understanding is this would be the date that this particular document was uploaded to the file server and then made available to, you know, everyone

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accessing the website.
BY MR. HINDMAN:
Q Okay. And for the record, what is that date?
A This one here is March 19th, 2005.
Q So the original dates of submissions to the TGn have been retained in this Mentor website; isn't that correct?
MR. MAKKER: Objection. Lack of foundation.
THE WITNESS: Yes. I believe they've retained the date -- the dates that the documents were uploaded.
BY MR. HINDMAN:
Q All right.
Final question: Would members of the public who created an account on the Wireless World website have been able to access the WWiSE proposal after that submission date?
MR. MAKKER: Objection. Lack of foundation. Calls for speculation.
THE WITNESS: Yes. I believe they could.
MR. HINDMAN: Okay. Well, sir, I appreciate your time. Thank you so much.
MR. MAKKER: I might have just a few.

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We'll take a quick break.
MR. HINDMAN: Yeah. Do you want to take a break?
THE WITNESS: Yeah.
THE VIDEOGRAPHER: Okay. We're going off the record. The time is 11:01 a.m.
(Recess taken from 11:00 a.m. to 11:03 a.m.)
THE VIDEOGRAPHER: We're going back on the record. The time is 11:04 a.m.

EXAMINATION
BY MR. MAKKER:
Q Just a handful of questions.
Do you have a consulting relationship with Dell or any Dell entity?
A Not at the present time. I've done some work with attorneys for Dell in the past.
Q Was that -- that was related to litigation?
A No, it was not.
Q But with attorneys, you said?
A With attorneys.
Q Was that in patent prosecution?
A Yeah, I can't answer that question.

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Q Say that again.
A I can't answer that question.
Q But you don't have a current consulting relationship with Dell?
A No, I don't believe I do -- no, I don't.
Q What about with Lenovo?
A I don't believe I've done any work with Lenovo.
Q What about with HP?
A Yeah, I was retained as an expert witness by HP, but I haven't done any work -- I think the case ended. I haven't done any work on that.
Q Do you know which case that was?
A I don't recall off the top of my head.
Q But your understanding is that case is over?
A Yes, yeah.
Q So it's not related to this case or this plaintiff, AX Wireless?
A No, it's not related.
Q Do you have a consulting relationship with Intel?
A I have done work with Intel in the past, but not currently, no.
Q What about with MediaTek?

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A No, I -- I don't believe I've done any work with MediaTek.
Q What about Qualcomm?
A No, I don't believe I've done any work with Qualcomm.
Q Is there any consulting relationship or work you've done in connection with the case for which you've been subpoenaed for here today?
A No. I -- no, there hasn't.
Q Have you met Mr. Hindman before today?
A No, I don't believe so.
Q Did you have any conversations with him before today?
A I don't recall.
Q You don't know if you've spoken with him before today?
A I don't recall -- yeah, I don't recall specifically having any.
Q What about attorneys from his law firm Perkins Coie?
A I have spoken with attorneys from Perkins Coie in the past.
Q In the past. Was that related to this subpoena?
A For scheduling the subpoena, yes.

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Q Do you mean just for scheduling today, or what do you mean by that?
A Right. Scheduling this meeting today.
Q Did you discuss the substance of your testimony today with anyone before today?
A No.
Q Are you being compensated for your time today?
A No.
Q Have you provided any documents in connection with the subpoena?
A No, no.
Q How many subpoenas did you receive for this case?
A I received one subpoena.
Q Okay. Have you done any -- you're not aware of the patents-in-suit in this case, are you?
A No.
Q You've never reviewed them?
A I don't know.
Q You've never reviewed any arguments raised by Defendants or Intel in connection with this case?
A I don't believe I have.
Q Okay. I want to look at Exhibit 1 for a second. So that's the WWiSE proposal.

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I think in your previous testimony you used the word "complete" with respect to this proposal, but then you also described that maybe a first revision might have been from the August 2004 time frame.
Do you recall that testimony?
MR. HINDMAN: Objection. Form.
THE WITNESS: Yes, I -- yes.
BY MR. MAKKER:
Q And so I guess my question is: The proposal evolved over time; is that fair?
A Yes.
Q Things were added to it?
A That's correct, yes.
Q Things were removed from it?
A I don't recall if anything was removed from it.
Q Okay. But at any period of time, if we looked at a revision, that probably wasn't a finished product.
Is that fair?
MR. HINDMAN: Objection. Form.
THE WITNESS: Well, there were -- yeah, I'm not sure I understand what you mean by "finished." But it was a proposal, and the

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proposals were under development.
BY MR. MAKKER:
Q So let me give you an example. So you mentioned, I think, August 2004 as a first revision maybe; is that right?
A Right. So the way 802.11n task group worked was there was a call for proposals, and a deadline was set in August of 2004 to upload and have those proposals available.
And so that's -- and so -- right, the original WWiSE proposal was submitted at that time.
Q Is that something that you would consider complete?
A Yes, yeah. Those were -- so the -- the term "complete proposal" was used in the 802.11n task group to describe proposals that would cover -- let me word this correctly -- all of the -- in other words, there was a set of -- or all of the features of 802.11 -- we wanted to have an 802.11n, including MAC features and PHY features, so that's what was meant by "complete proposal."
(Reporter clarification.)
BY MR. MAKKER:
Q So that you called something "complete" doesn't mean that it wasn't changed later, right?

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A Complete -- complete meant that it would cover all of those features. It doesn't mean -- yeah, things could still be added to the proposals. And that was part of the process as well, proposals could be changed.

Q You mentioned in your previous testimony something referred to as a "draft standard."

Do you recall that?

A Yes.

Q Exhibit 1 is not a draft standard, correct?

A That's correct. This is a proposal; it's not a draft.

Q This proposal, Exhibit 1, was never adopted by the IEEE; is that correct?

A That's correct.

Q At what point in time during the development -- or I should say during TGn -- did you realize that the WWiSE proposal would not be adopted?

MR. HINDMAN: Objection. Form.

THE WITNESS: Yeah. It would be hard to pin down an exact date. Probably sometime in the fall of -- autumn of 2005, I think so.

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BY MR. MAKKER:

Q Prior to the fall or autumn of 2005, TGn had held a number of votes on which proposal would go forward; is that right?

A That's correct.

Q And in each of those votes before the fall of 2005, the TGnSync proposal garnered the most votes; is that right?

A I think that's correct, yes.

Q You're not an IEEE employee, right?

A That's correct, I don't work for the IEEE.

Q You never worked for the IEEE?

A No, I've never worked for the IEEE.

Q You discussed a number of websites in your testimony, I believe 802.11 Wireless World and Mentor.

Do you recall that?

A Yes, uh-huh.

Q You were never responsible for maintaining either of those websites, right?

A That's correct, yeah. I have not maintained those websites.

Q You were never an admin of one of those websites, right?

A That's correct, I've never been an admin.

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Q You never worked for a company that maintained either of those websites, right?

A That's correct.

Q You didn't work on or help with the transition from 802 Wireless World to the Mentor website, right?

MR. HINDMAN: Objection. Form.

THE WITNESS: Yeah. I did not participate in that transition.

BY MR. MAKKER:

Q Looking at Exhibit 1, I believe Mr. Hindman directed you to the date field there toward the top. I think it says "Date: 2005-03-18."

Do you see that?

A Yes, uh-huh.

Q And then I think, if we look at Exhibit 3, Mr. Hindman directed you to a line with the date 19 March 2005 and asked you if the title was the same as Exhibit 1.

Do you recall that?

MR. HINDMAN: Objection. Mischaracterizes testimony.

THE WITNESS: Right. I see that there. Yeah, I see the -- I believe he asked me about that particular line there, yes.

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BY MR. MAKKER:

Q Did you testify -- was your testimony that the date shown in Exhibit 3 then is when Exhibit 1 was uploaded?

A Yeah, I don't recall exactly what I testified earlier, but I believe the date -- the date in here would correspond to when this particular -- this particular document was uploaded.

Q So are you saying that -- you're pointing at Exhibit 3 for the record?

A Yeah, I'm pointing at Exhibit 3.

Q And so you're talking about the document Exhibit 3; you're not talking about Exhibit 1?

A Yeah. I see here that, yeah, they may not be the same document.

Q And in Exhibit 1, the dates shown on the face of Exhibit 1, or on subsequent pages in the header, those dates could be anything, right? They're not auto-populated?

A Right. So as I recall, the 802.11 documents had a template, where you could put in the date for a particular document, uh-huh.

Q Yeah. The date on Exhibit 1 doesn't necessarily reflect the upload date, correct?

A That's correct, yeah.

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Q Has anyone discussed trial in this matter with you?
A No.
MR. MAKKER: Okay. I don't have any other questions at this time.
THE VIDEOGRAPHER: If that's everything --
THE STENOGRAPHER: Do you have anything else, Counsel?
MR. HINDMAN: No.
THE VIDEOGRAPHER: Okay. I'll take us off the record.
This marks the end of the deposition of Christopher J. Hansen. The time is 11:18 a.m.
THE STENOGRAPHER: Counsel, do you want a rough?
MR. HINDMAN: Yeah, sure, but there's no rush on it.
MR. MAKKER: I don't have any specific -- I don't think I need one.
THE STENOGRAPHER: Okay. Thank you.
(Time noted 11:18 a.m.)

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STATE OF CALIFORNIA)
)
CERTIFICATE OF REPORTER

I, LORI STOKES, do hereby certify that the witness in the foregoing deposition was by me duly affirmed to tell the truth, the whole truth and nothing but the truth in the within-entitled cause; that said deposition was taken at the time and place therein stated; that the testimony of said witness was reported by me and was thereafter transcribed under my direction and supervision; that the foregoing is a full, complete and true record of said testimony; that the witness was given an opportunity to read and, if necessary, correct said deposition and to subscribe the same.

I further certify that I am not of counsel or attorney for either or any of the parties in the foregoing deposition and caption named, or in any way interested in the outcome of the cause named in said caption.

IN WITNESS WHEREOF, I have hereunto set my hand this 10th day of December, 2023.

Lori Stokes

LORI STOKES, CSR No. 12732

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