Transcript of Mark Mahon, Ph.D.

Date: February 26, 2026
Case: XiFi Networks R&D, Inc. -v- Samsung Electronics Co., Ltd. et al.

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IN THE UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION

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XIFI NETWORKS R&D, INC., :
Plaintiff, : Civil Action No.
v. : 2:24-cv-01057-JRG
SAMSUNG ELECTRONICS CO., :
LTD., and SAMSUNG :
ELECTRONICS AMERICA, INC., :
Defendants. :

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REMOTE VIDEOTAPED DEPOSITION of MARK MAHON, Ph.D.
Thursday, February 26, 2026
9:01 a.m. CST

Job No.: 621103
Pages: 1 - 221
Stenographically Reported By:
Michelle M. Yohler, CSR, RMR, CRR

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Videotaped deposition of MARK MAHON, Ph.D., held remotely pursuant to notice before Michelle M. Yohler, a Certified Shorthand Reporter, Registered Professional Reporter, Registered Merit Reporter, Certified Realtime Reporter, CSR No. 84-4531, in and for the State of Illinois.

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A P P E A R A N C E S

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P R O C E E D I N G S

THE VIDEOGRAPHER: Here begins Media Number 1 of the videorecorded deposition of Dr. Mark Mahon, in the matter of XiFi Networks R&D, Inc., versus Samsung Electronics Company, Ltd., et al., filed in the United States District Court, Eastern District of Texas, Marshall Division, Case Number is 2:24-cv-01057-JRG.

Today's date is February 26, 2026. The time on the video monitor is 9:01 a.m., Central Time.

This remote deposition, everyone is appearing via remote deposition.

All parties -- now, counsel, would you please voice-identify yourself, beginning with the noticing attorney.

MS. BACT: Good morning. My name is Rebecca Bact. I'm from Robins Kaplan, and I represent Plaintiff, XiFi Networks R&D, Inc.

MR. SCHMIDT: Good morning. This is Patrick Schmidt from Quinn Emanuel on behalf of the Samsung defendants.

THE VIDEOGRAPHER: The remote videographer today is Viktor Bezmen representing Planet Depos, and the court reporter is Michelle Yohler.

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Now, the court reporter, would you please swear in the witness.

(WHEREUPON, the witness was duly sworn.)

MARK MAHON, Ph.D.,

called as a witness herein, having been first duly sworn, was examined and testified as follows:

EXAMINATION

BY MS. BACT:

Q Welcome, Dr. Mahon. We really appreciate your time today. Again, for the record, I'm Rebecca Bact. I represent XiFi, and I'll be asking you some questions here today at your deposition.

I know from your CV that you've been deposed before, but just to say it again, I'll ask you questions. I ask that you allow me to finish my question before you answer.

Understood?

A Understood. Thank you.

Q Great.

And I'll do my very best to let you finish your answer before I answer [sic] another question.

Good with you?

A Yes.

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Q Great. And thank you very much for making verbal responses rather than nodding or saying "uh-huh," so appreciate that.

If you do not answer a question -- excuse me. If you do not understand a question that I ask, please let me know so I can rephrase, but if you answer, I will assume that you do understand.

Understood?

A Yes.

Q Great.

And is there anything impairing you from offering full and correct testimony today?

A No, there is not.

Q Great.

Okay. So before we jump into this case's material, I would just like to briefly discuss your experience. You've served as an expert in quite a few patent cases over the course of your career, correct?

A I've been hired as an expert witness in several cases, yes.

Q Okay. Do you have, like, a ballpark number that you could estimate?

A I know it's certainly probably more than 20 or around that number.

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Q Thank you.
And on how many of those would you estimate you opined on claim construction?
A I would think somewhere around 10 to 12 or so would be my guess.
Q Okay. Thank you.
And how many times would you estimate you've been deposed?
A About 20 times or so.
Q Okay. And have you testified at trial?
A Yes, I have.
Q Around how many times?
A I believe six times.
Q Okay. With respect to your work as an expert witness, have you ever had your opinion excluded?
A No.
Q Okay. So turning to this case, when were you retained in connection with this case?
A My memory is it was last April, I believe. Yes, last April, roughly. So maybe --
Q April --
A -- in there, but yes.
Q Excuse me for interrupting.
April of 2025?

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A Correct.
Q And who were you retained by?
A Counsel for Samsung.
Q And when you say, "Samsung," you mean both Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc., the two defendants in this case?
A That's my understanding, yes.
Q Okay. Great.
And you provided a declaration in this case; is that correct?
A Yes, I did.
Q Okay. So I'm going to pull up what I will ask the court reporter, at a time convenient to her, mark as Exhibit 1, and ask you if this is your declaration.
(WHEREUPON, Mahon Exhibit No. 1 was presented to the witness.)
BY MS. BACT:
Q So can you see your declaration on the screen, Dr. Mahon?
A Yes, I can.
Q Okay. And if I scroll to the last page, is that your signature, Dr. Mahon?
A Yes, it is.

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Q Great.
And you signed that on February 4, 2026, in Marshall, Texas?
A That's correct.
Q Great.
Okay. So I'm just going to take that down for a minute.
So in this case you have been retained to provide opinions regarding the understanding of a person of ordinary skill in the art of, or a POSITA, in connection with certain terms in the 11 asserted patents that you list in Paragraph 2 of your declaration; is that correct?
I can put it back up if that's helpful.
A Not required.
Q Okay.
A That's correct.
Q Okay. And is your retention beyond offering opinions as to the meaning of those terms, or are you retained purely for the purposes of opining on these terms?
MR. SCHMIDT: Objection to form.
I'll caution the witness not to disclose any communications with counsel about potential future work that he might be engaged for.

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BY THE WITNESS:
A I was engaged to perform and provide my opinions with respect to the claim construction at -- for any terms at issue in this case.
I do not have any expectations as far as how else I'm going to be used in this case.
BY MS. BACT:
Q Have you signed the protective order in this case?
A I don't recall. I'd have to go back and look in my directory to see if I did or not.
Q Okay. And since you were retained in April 2025, have you worked continuously on this matter?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A I was engaged in April, and I have met with counsel, and since that point in time I -- for various reasons to -- obviously to discuss the claim construction issues, but I wouldn't characterize it as continuously.
BY MS. BACT:
Q Okay. And can you ballpark about how many hours you've billed to this matter?
A Yeah, ballpark would be somewhere in the

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25-hour, 30-hour range, somewhere in there, would be my guess.
Q And your hourly rate for this work is $550 an hour?
A That's correct.
Q Okay. Now, other than counsel, did anyone help you prepare your declaration?
A No.
Q Okay. And in preparing your declaration, you reviewed a number of materials, correct?
A That is correct.
Q Okay. And I'm just going to refer to Paragraph 4 of your declaration.
And you considered the asserted patents, their file histories, the parties' claim construction disclosures, filing in -- filings in the parallel PTAB proceedings, and any other documents referenced, discussed, or listed in your declaration, correct?
A Yes.
Q And you also have relied upon your own knowledge and experience in the relevant fields, correct?
A Certainly, yes.
Q And, finally, you reviewed the productions

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associated with the claim construction disclosures in this case, correct?
A Yes.
Q And to your knowledge, is that a complete list of the materials that you reviewed in the course of preparing your declaration?
A I believe it does represent everything. Nothing's coming to mind that wouldn't be contained within that. Obviously -- yeah, patents, file -- yeah, I believe that's a complete list.
Q Okay. Great.
And when you say that you reviewed the filings in the parallel PTAB proceedings, did you review all of them or a subset of them?
A I reviewed specific documents I believe I reference here within my declaration, and we can talk about those.
I don't know if that's a comprehensive list of all the documents or not; I couldn't characterize that.
Q So one of those documents that you reference is a declaration by XiFi's expert, Dr. Akl; is that correct?
A Yes.

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Q Okay. And do you recall if you also reviewed any of the declarations from Samsung's exhibit [sic], Dr. Almeroth?
A Yes.
Q You did review those?
A The documents that showed his analysis and opinions, yes.
Q Great. Thank you.
Have you reviewed any documents in the district court case related to infringement?
A Not that I recall, no.
Q Okay. Have you reviewed any internal Samsung documents?
A Not that I recall, no.
Q And, excuse me, that was a little unclear. Any, you know, documents produced by Samsung regarding Samsung's products?
A No, not to my recollection.
Q Okay. And did you speak with anyone at Samsung in the course of your representation -- or your retention?
A Not that I can recall for this case.
Q Okay. Have you spoken to Dr. Almeroth?
A I have not.
Q Okay. So when you prepared your

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declaration, you reviewed the 11 asserted patents?
A Yes.
Q And you didn't have any trouble understanding them, correct?
A I reviewed them from the perspective of a POSITA, and I do not recall having any issues while I was doing that in terms of the process of my review.
Q And you were able, in the context of the patents, their specification, claims, file histories to understand claim terms such as "virtual MAC interface"?
A Within the disclosures of the documents themselves, and, again, from the perspective of a POSITA using plain and ordinary meaning, yes.
Q And "virtual PHY interface," you were able to understand that term?
A As I discussed, yes.
Q Okay. And, for example, the term "transparent" or "transparently," you are able to understand that term?
A Again, as disclosed, based on my analysis from the perspective of a POSITA, I was able to understand and then provide my opinions on what was being disclosed.

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Q Understood. Thank you.
And, finally, you were able to understand, as they were used in the asserted patents, "association," and "disassociation"?
A The term shows up in the claim. I don't -- didn't see support anywhere in the specification for that.
I understand that Dr. Akl has taken a clarifying position on that term and how it's used within the claim.
But certainly, you know, based on that analysis, as I've discussed in my declaration, I would characterize that as my ability to understand how that's being used within the claim term.
Q Fair enough. Thank you.
So did you review the transcript of Dr. Akl's deposition that took place two days ago?
A I did not.
Q Okay. So I won't dive into that because I'm gathering you probably heard about it from counsel.
A That's correct.
Q Okay. So at the time of your declaration on the date that it was signed, the parties also

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exchanged and filed with the Court some agreed constructions.
Have you reviewed the parties' joint claim construction statement expressing these agreed constructions?
I can show it to you if that helps.
A It might help. Thank you.
Q Sure thing.
So, again, this would not have been available at the time of your declaration because it was coextensive. So I'm going to share my screen and -- I did not mark your CV, so let me just back up for a second. I just want to -- I want to keep my numbering.
So I'm just going to show you your CV and actually ask you a couple of questions about it.
A Okay.
Q And then we can jump back into the joint claim construction statement.
(WHEREUPON, Mahon Exhibit No. 2 was presented to the witness.)
BY MS. BACT:
Q Can you see your CV on the screen, Dr. Mahon?
A Yes.

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Q Okay. And I'm going to scroll through and let you see it. This is the same document that I emailed to you -- or that I emailed to your counsel who emailed it to you.
Is this document, now that I have scrolled to the bottom, your CV?
A Yes.
Q Okay.
MS. BACT: And I'll ask that this be marked as Exhibit 2.
BY MS. BACT:
Q And when I received this document from your counsel, Dr. Mahon, it had a file name that said: "Mark Mahon CV Mar 2025," which I interpreted as March 2025.
Does that sound right to you?
A That sounds correct, yes.
Q Okay. Is there anything that has happened since March of 2025 that ought to be updated on your CV for purposes of this case?
A I'm not sure the extent of that question. Technic- -- as far as my technical background or -- I have not changed jobs; I'm still teach -- a professor at the University teaching those courses and performing research in those areas.

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So not that I can think of.
Q Okay. That's fine.
So now I'm going to open up the joint claim construction and ask that this be marked by the court reporter as Exhibit 3.
(WHEREUPON, Mahon Exhibit No. 3 was presented to the witness.)
BY MS. BACT:
Q So I'm showing you a document that has a case header at the top with the case number that we just heard our video- -- videographer read earlier, Document 52, filed February 4, 2026, and it has the case caption on the front.
Do you agree with that, Dr. Mahon?
A Yes.
Q Okay. And it's called the "Joint Claim Construction Statement."
And I'm scrolling now to Page 2, and we can see Roman Numeral II: "Construction of the Claims and Terms to Which the Parties Agree."
Do you see that, Dr. Mahon?
A Yes, I do.
Q Okay. And have you seen this document before?
Would you like me to scroll further?

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A Yes, please, just to --
Q Okay. Let me show you the rest of it. So I've shown you Page 2, which is the first substantive page, and now I'm scrolling through Pages 3, which contains additional agreed constructions; Page 4, which begins the disputed constructions; Page 5, which continues the disputed constructions and has another Roman numeral claim construction hearing with some information that the parties have transmitted to the judge about that hearing.
A signature page -- or pages followed by evidentiary support that the parties have provided for the disputed constructions in an Exhibit A that begins at PDF Page 8 and continues until the end of the document at PDF Page 22.
Do you know if you've seen this document before, Dr. Mahon?
A I'm not recalling specifically seeing this document, particularly in that time frame, so I wouldn't be able to say yes definitively.
Q Okay. No problem.
So with the understanding that this may be the first time you're seeing this document, do you understand that the parties have agreed to certain

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constructions of certain terms?
A That's my understanding, yes.
Q Okay. And were you aware of what those constructions were that the parties agreed to prior to right now?
A In terms of what was -- had been agreed to, I certainly communicated with counsel about that, so I would say, based on that understanding, yes.
Q Okay. And do you have any issue with the construction for virtual MAC interface being a software or logical-based interface that is separately addressable from the recited actual MAC interfaces and that obscures the recited actual MAC interfaces from higher protocol stack layers?
MR. SCHMIDT: Objection to form. This is beyond the scope of the deposition and the witness's opinions.
And I'm going to caution the witness not to disclose any communications with counsel that you have that didn't form the basis of the opinions that you actually set forth in your declaration.
BY MS. BACT:
Q So I definitely don't want to hear from

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you about anything you discussed with counsel, but if you feel comfortable sharing whether you agree that this is a permissible construction for virtual MAC interface, please answer.
MR. SCHMIDT: Objection to form. Calls for a legal conclusion. Outside the scope.
BY THE WITNESS:
A I did not, to my recollection, make -- form an opinion for these -- all these terms, certainly within my declaration, and I would confine my answers with respect to what's contained in my declaration on any of the questions associated with this document, which, again, I would need time to be able to review to form an opinion.
And it's my understanding that we are here to discuss my opinions as articulated within my declaration in response to XiFi's opinions on the terms at issue within my declaration.
BY MS. BACT:
Q Understood. Thank you for clarifying.
So just to back out of that a little bit, you do understand that Samsung has agreed to the construction of "virtual MAC interface" I just read?

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A Well, what my -- I was saying previously was that I've obviously, since I filed my declaration, have had conversations with counsel regarding claim terms and claim analysis, I -- and my opinions on those.
I can't say with specificity that I have a specific understanding of all these terms, so I would have to fall back on what we're here to talk about today, which is my declaration.
Q Okay. Understood.
And I assume your answer would be the same if I went through any of the other terms that were agreed to by Samsung and XiFi on that document I just showed you, that we need not go through that exercise.
Would you agree that your answer would be similar, Dr. Mahon?
A It would be the same answer, yes.
Q Okay. No problem.
Okay. So coming back to your declaration. And now I'm referring to Paragraph 45 of your declaration.
A One second, please.
Q Sure. Take your time. Let me know when you're there.

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A Okay. I'm there.
Q Okay. Great.
And you say in your declaration: "A POSITA at the time of the invention would have been aware of the OSI model."
Did I read that correctly?
A Yes.
Q And when we're talking about the OSI model, we're talking about the Open Systems Interconnection model, correct?
A That's correct.
Q Okay. And in the paragraph above, 44, you refer to a document, the ISO/ED 7498-1 Information Technology - Open Systems Interconnection - Basic Reference Model: The Basic Model; is that correct?
A Yes.
Q Okay. And just backing up a little bit.
A POSITA would be familiar with the OSI model, but they would also be familiar with other similar models that would express wireless networking in the terms of a layer stack; isn't that correct?
MR. SCHMIDT: Objection to form.

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BY THE WITNESS:
A Could you repeat the question, please?
BY MS. BACT:
Q Let me rephrase.
Is the OSI model the only model that a POSITA at the time of the invention would have been familiar with?
A There are several models that a POSITA would be familiar with at the time of the invention.
Q Okay. And I'll -- I'm looking at your, sort of, screenshot of an image out of the basic reference model that is in between Paragraphs 44 and Paragraph 45 of your declaration.
And that expresses the layers of the OSI model, correct?
A This section is discussing the layers as disclosed within that document.
Q And the other models that you mentioned that a POSITA would be familiar with are also expressed in layers, correct?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A It depends upon the specific protocol. We could go to each one of those protocols and take a look at the actual documents that POSITAs use for either understanding or implementing within those protocols.
Layers, the concept of layers as disclosed in this document, certainly was known at the time of the invention.
BY MS. BACT:
Q Okay. So there were at least some other models known at the time of the invention that were expressed in layers, correct?
A Well, again, these layers -- the concept of what a POSITA would know with respect to a particular wireless protocol, the language often includes things such as layers, so within that context, a POSITA would be aware.
Q Okay. Thank you.
So if you're -- are you able to see the substance of your image clearly, or would you like me to pull up the actual document that you're quoting from so I can make it a bit bigger for us?
How would that work -- work best for you?
A So the doc- -- the image right above Paragraph 45?
Q Correct.
A I can see that. I can read that.

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Q Okay. So as we were just discussing, the OSI model is made up of layers in a layer stack, correct?
A A POSITA would understand the display of -- within this Section 6.1.3, for example of how that's portrayed as a stack, yes.
Q Okay. And at the bottom of the stack is the physical layer?
A Yes, the physical layer would be at the bottom of that.
Q And the layer above or layer 2 is the data link layer, correct?
A As portrayed, the next layer would be the data link layer as pictured here.
Q Right. So there are two sections that I'm looking at in the image that you reproduced. One of them is 6.1.2, and that lists the layers with a parenthetical that has a layer number next to it; is that correct?
A Yes.
Q And then 6.1.3 has an illustration of the layers with, you know, a sort of stack imagery; would you agree that that's fair?
A Yes.
Q Okay. And so when I'm talking about

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layer 2 as the data link layer, that's something I can take from Section 6.1.2, correct?
A I'm not sure if your question -- if you're saying does -- is the data link layer associated with layer 2 in this document, the answer is yes.
Q Right. Thank you for phrasing it more clearly than I did.
What I'm trying to say is that this document expresses that the data link layer can also be known as layer 2, given that parenthetical that follows the listing of data link layer; would you agree with that characterization?
A Yes.
Q Okay. And then 6.1.2 lists the network layer as layer 3, correct?
A Yes.
Q And it also displays it in 6.1.3 on top of the data link layer, correct?
A It shows that network layer in the position above the data link layer.
Q Great. Thank you.
And then the application layer is titled layer 7 in 6.1.2, correct?
A Yes.
Q And it's shown at the very top of the

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stack in 6.1.3?
A In that document, yes.
Q Okay. So then looking at your declaration, I'm looking at the very top of this page, which is part of Paragraph 44. You say: "Each layer in the hierarchical structure performs designated functions while providing services to the layer immediately above and receiving services from the layer immediately below."
Did I read that correctly?
A Yes.
Q Okay. And when you say, "the layer above," you mean, for example, the network layer sitting on top of the data link layer, correct?
Or, rephrasing, the network layer is immediately above the data link layer, correct?
A As the illustrated flow is concerned, yes.
Q Okay. And the physical layer is immediately below the data link layer, correct?
A Again, as illustrated, yes.
Q Okay. And when you say that the layer provides services to the layer immediately above and receives services from the layer immediately below, would you also agree that a layer cannot provide or receive services from a non-adjacent

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layer?
A This is a concept of abstractions for a POSITA to know how they could possibly implement a service or application within the OSI model.
So there's no stipulations that I'm aware of that would prevent a particular layer from communicating with the -- another layer. And a POSITA would understand there's certainly -- at the time of the invention, there were things -- concepts, implementation, specific ones known as cross-layer communications.
Q Okay. I'm going to show you what I'll ask that the court reporter mark as Exhibit 4.
(WHEREUPON, Mahon Exhibit No. 4 was presented to the witness.)
BY MS. BACT:
Q This is going to be the basic reference model that you were quoting and discussing in your declaration. It has the ISO/IEC 7498-1 nomenclature at the top, the same title I read before, and it is Bates XIFI_0028977, which I believe should be the same Bates that begins your citation.
Do you agree that this is the document you were quoting from in your declaration?

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And I'm happy to scroll through it if that's helpful to you.
A One second, please.
Yes, it's the same document.
Q Okay. Excellent. Thank you so much.
I am going to go to a different section of that document than you quoted from. I'm turning to Page 50 of the PDF, and I'd like you to focus on Section 7.5.4.2.2. I've zoomed in a little bit.
Can you see that section on your screen?
A I do have that open, yes.
Q Okay. Great.
And I'm just going to read that section into the record and ask you if I've read that correctly: "The control of interconnections of data circuits, which are in the physical layer, from the network layer require" -- "requires interaction between a network entity and a physical entity in the same open system. Since the reference model permits direct interaction only between adjacent layers, the network entity cannot interact directly with the physical entity. This interaction is thus described through the data link layer which intervenes transparently to

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convey the interaction between the network layer and the physical layer."
Did I read that section correctly?
A Yes.
Q Okay. And part of what this section that I just read says: "The reference model permits direct interaction only between adjacent layers."
Do you agree that that's expressed in this document?
A Yes.
Q Okay. So pursuant to the OSI model, any interactions between non-adjacent layers has to have an intervening interaction with an adjacent layer, correct?
A I'm sorry. Could you restate that question?
Q Sure.
So using the example in this section, we're talking about an interaction that's going -- an interconnection that's going to go from originating in the physical layer to arriving in the network layer.
Do you agree?
A Yes.
Q Okay. And this section says: "The

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network entity cannot interact directly with the physical entity"; is that accurate?
A Yes.
Q And then it further says: "This interaction is thus described through the data link layer which intervenes transparently to convey the interaction between the network layer and the physical layer"; is that accurate?
A Yes.
Q So do you agree that, for an interaction or an interconnection to take place between the physical layer and the network layer, the data link layer must intervene?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A So what's being disclosed in this is -- in this section of this document is the -- the conveyance of how this model is supposed to be understood by a POSITA.
It is, for example, saying that the data link layer is described, for example, as intervening. So it's communicating to a POSITA, based on the plain and ordinary meaning of these terms, that the data link layer's purpose is to provide the ability for those two layers within

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this model to talk to each other and to facilitate communication is what it's disclosing.
BY MS. BACT:
Q And that's because, and I quote: "The reference model permits direct interaction only between adjacent layers," correct?
A Well, those are -- that's the -- the words that are used within that paragraph; that's certainly the case.
Q And do you disagree with this document?
A I'm not sure I understand the context of that question.
Q Do you disagree that the OSI reference model permits direct interaction only between adjacent layers?
A Again, the words that are used here, I certainly say that the model permits direct interaction only between adjacent layers. I'm not saying that it doesn't say that.
Q And in your understanding of what a POSITA would understand at the time of the invention, would that be contrary to a POSITA's understanding?
A No, a POSITA would be familiar with this and understand what's being conveyed with respect

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to informing them of how the model was intended to provide a structure and framework within the abstractions of the layering concepts that are within the document.
So, no, it would actually be consistent with what I'm saying.
Q Okay. And are you aware of any other layer stack model -- for example, the other ones we were discussing earlier -- that would permit -- that would have a different rule, or would they be consistent with this rule?
A Well, we could look at each one in terms of the controlling document associated with the protocol itself, but usually the protocol -- or the documents that outline the protocols have statements like this in them, and a POSITA would understand what's being conveyed and what -- how that informs them for implementing the protocol.
So certainly I would expect to see this type of nomenclature in other models for other protocols.
Q Thank you.
And would you agree that it's fair to say that it would be unconventional in wireless networking, in 2013, to have a layer model that

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would allow direct interaction between non-adjacent layers?

A No, I wouldn't say -- I wouldn't characterize it that way. There's certainly enough -- there are many different models, and we'd have to go through each one.

I can't say that every single one would have the same language, the strict language that's in here.

Now, the understanding from a POSITA, we -- again, we'd have to go ahead and compare each one of those to what is actually understood by a POSITA from the documents that provide the reference model.

Q Okay. But, sitting here today, you can't think of a model that would have a contrary statement in it about communication between non-adjacent layers?

A What I would say is that a POSITA understood that these documents -- these reference documents provide them, again, an outline for how the model's being disclosed and trying to convey how that should be understood.

They would also understand that, for example, the OSI model has seven layers, and for

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decades that has basically been ignored. Most applications use a four or five-layered protocol stack for implementing the same thing that's disclosed here.

And that's an example of how the model is under -- these models are understood by a POSITA with helping them to design protocols that can interact with other equipment and systems that are being developed within this space.

Q Okay. So my question was: Sitting here today, you can't name a model that would have a contrary statement about communication being permitted between non-adjacent layers, and I take it that your answer is no?

A Well, I'm trying to provide you my answer, which is that the question from the perspective of a POSITA, first of all, I'd have to go look at every single one of those protocols to see if that specific language is in there.

But that's also a separate question of how that's understood by a POSITA in terms of implementing the particular protocol.

Q Okay. But I didn't ask you about that. I asked you if you could name a protocol that would have a rule that permits direct interaction

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between non-adjacent layers.

Can you think of one right now, Dr. Mahon?

A Well, my answer is that, again, permitting communications between different layers of the protocol, whatever protocol we were discussing, the model may include, again, similar language that says -- uses words such as "only" or "direct interaction," for example.

And as far as calling out one that does not include that, I would have to, again, go -- go review every single protocol to say whether my reference to it would be correct or not to look at these -- this specific language in the model itself.

Q Okay. Thank you. I appreciate that.

So I'm going to take down the basic reference model and take you back to your declaration.

And then if you could please scroll down to Paragraph 47 regarding the preamble. Let me know when you're there.

A I am there.

Q Okay. And it's your opinion that the preamble of the various independent claims of the asserted patents should be construed as limiting;

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is that correct?

A That is correct.

Q Okay. And looking to Paragraphs 49 and 50 of your declaration, the basis for your opinion that the preamble should be construed as limiting is that they provide antecedent basis for the terms recited in the body of the claims; is that fair to say?

A Yes.

Q Okay. And I believe that you list out the actual preamble in Paragraph 47 of your declaration.

Do you agree?

A Yes.

Q Okay. And I'll just read them for clarity.

You say: "The preamble in independent 1" -- "independent claim 1 of the '591, '976, '756, and '564 patents reads: 'A wireless networking device comprising'"; is that correct?

A That's correct.

Q And the next sentence in your declaration reads: "The preamble and independent claim 1 of the '337, '414, '105, and '143 patents reads: 'A

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method of improving the performance of a wireless networking device comprising the steps of'"; is that correct?

A That's correct.

Q Okay. And then the next sentence reads: "The preamble in independent claim 1 of the '933 and '177 patents reads: 'A method of improving the performance of circuitry comprising the steps of'"; is that correct?

A That's correct.

Q And, finally, the preamble in independent claim 1 of the '198 patent reads: "A method for improving the operation of circuitry that is adapted to be used in a wireless networking device, the method comprising the steps of."

Is that correct?

A That's correct.

Q Okay. And then in Paragraph 48, you refer to various of the patents' independent claim preambles, and you say that: "A POSITA reading the independent claims of the '591, '976, '756, '564, '337, '414, '105, '143, and '198 patents would understand that the 'wireless networking device' term in the body of these claims refers to the same 'wireless networking device' introduced

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in the preamble."

Is that correct?

A Yes.

Q And then you finish the paragraph by saying: "A POSITA would recognize that the 'circuitry' term in the body of the claims of the '933, '177, and '198 patents refers to the same circuitry introduced in the preamble."

Is that correct?

A Yes.

Q Okay. And when we just read out those preambles, they included additional language beyond the terms "wireless networking device," and "circuitry," correct?

A Yes.

Q Okay. And it's your opinion that the only terms that provide antecedent basis to the body of the claim are "wireless networking device" and "circuitry," correct?

A Those are the terms I'm pointing to, yes.

Q Okay. And none of the rest of the language is part of what provides antecedent basis, correct?

A I'm pointing to just those specific terms within the preambles as providing antecedent

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basis.

Q Okay. And in your declaration from Paragraphs 47 to 50, which is the entirety of the section regarding the preamble, that -- those two terms provide antecedent basis is the sole basis of your opinion that the preambles are limiting, correct?

A As I say that -- in that Paragraph 50, that's my understanding from counsel based on how that antecedent basis can be formed, and, yes, that is specifically what I am limiting to -- my opinion to within that -- those sections.

Q Okay. Thank you.

MS. BACT: So I'm about to continue to scroll through your declaration and shift gears to wireless networking device.

We've been going for a little under an hour. Just please do let me know if you want a break. This will, you know, probably take us over an hour, But if that's okay with you, we can continue.

If anybody else, including our wonderful reporter or videographer, needs a break, shout it out.

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(WHEREUPON, discussion was had off the stenographic record.)

MS. BACT: So for the next section, I'm just going to pull up and ask to be marked two of the asserted patents.

I'm first going to be asking that we mark the -- hold on. I'll just pull it up.

(WHEREUPON, Mahon Exhibit No. 5 was presented to the witness.)

BY MS. BACT:

Q So, Dr. Mahon, let me know when you see a document on your screen.

A The '591 patent; is that correct?

Q Yes, U.S. Patent Number 11,818,591 to Manapragada.

Do you agree that this is the '591 patent asserted in this case?

A Yes.

Q Okay. Great.

MS. BACT: I'll ask that this be marked as Exhibit 5.

And I'm going to take that down and just quickly put up another patent so we can use those together.

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(WHEREUPON, Mahon Exhibit No. 6 was presented to the witness.)
BY MS. BACT:
Q Dr. Mahon, let me know when you can see the document on your screen.
A I see it.
Q Okay. Great.
And this is U.S. Patent Number 11,856,414 to Manapragada.
Do you agree?
A Yes.
Q And this is the '414 patent asserted in this case, correct?
A Yes.
Q Great.
MS. BACT: So I'll ask that this be marked as Exhibit 6.
BY MS. BACT:
Q Okay. So I'm going to take that down and just take us back to your declaration.
A Oops. One second, please.
Q And -- I closed it. Let me reopen your declaration. My apologies.
All right. Well, I'm not going to put it up on the screen because I understand we're both

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looking at it, but I wanted to make sure I could look at it with you.
And then I'll go to the "Wireless Networking Device" section of your declaration, which begins on Page 15 at Paragraph 51.
Are you there with me?
A Yes.
Q Okay. Great.
So scrolling down to Paragraph 52, you opine that you disagree with XiFi's proposed construction because it does not meaningfully distinguish between the types of devices that a POSITA would recognize comprise a wireless network; is that correct?
A Yes.
Q Okay. And so it's your opinion that a proper construction of the term "wireless networking device," should distinguish meaningfully between the different types of different devices that a POSITA would recognize comprise a wireless network, correct?
A A proper construction would certainly clarify to a POSITA and fall within the POSITA's understanding within the plain and ordinary meaning that there are distinct devices within a

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network.
Q Okay. And looking at Paragraph 53, it's your opinion that each of the 11 patents are -- excuse me, the independent claims of each of the 11 patents include a distinction between a, quote, wireless networking device and a, quote, recipient?
A Yes.
Q Okay. What types of devices would a POSITA understand to be a wireless networking device?
A Well, I disclose in and discuss within my declaration that the wireless networking device -- and I have it here somewhere -- provides the capability for, as an example, other devices to access networks and networking capability.
Q And we'll get to that that you -- that is one of your opinions, but I believe you opine that a wireless networking device is an access point, correct -- or could be an access point?
A Certainly an access point is a wireless networking device from the perspective of a POSITA.
Q And a relay would also be a wireless networking device?

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A Yes.
Q Could an access point ever be a recipient?
A Within the context of the disclosures in the patent, you would have to look at the claim language with the functionality and the implementation that is occurring at that particular time if it's a narrow case.
But within the disclosures of the patent, it's certainly discussing only -- discussing the use of an access point in a relay, for example, as a wireless networking device and not illustrating it as a specific recipient, or limiting it to a recipient, I should say.
Q What type of device is a recipient?
A Well, to be consistent from the perspective of a POSITA within the disclosures of the patent, a recipient within the claims is a device that would -- a POSITA would consider, for example, an end-point device, would be something that would be able to be considered a recipient.
Q And let me see if I can find where you use that term.
Okay. So what types of devices would constitute a network end-point?
A An end-point to a POSITA is a device

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that's at the end of a wireless network. So it would be, for example, a user could be an end-point device and that could be -- that user could be a laptop, it could be a phone, it could be an electronic -- any basically electronic device that would be involved or requested access, for example, to a network and utilizing a network.

Q Okay. And could one of those end-point devices, like a phone or a laptop, ever be a wireless networking device?

A Well, if it was being used to provide other devices access to a network, within that context, it could be considered a wireless networking device.

Q Okay. So there are cases where you agree that those devices would be wireless networking devices, correct?

A As I stated, if it's providing networking capabilities to other devices connecting to it, then it would be a wireless networking device.

Q Okay. And we'll come back to that. I promise.

I'm going to share my screen to the -- show you some of the claims of the '414 patent, which is Exhibit 6.

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And so we've got -- let me know when you can see that on your screen.

A Okay.

Q It's a little small. I can make it bigger for you.

A That's fine.

Q Okay. Great.

So you see the number of the '414 patent at the top of the screen and that I'm showing you columns 15 and 16 of the patent; do you agree?

A Yes.

Q So I'll direct your attention to claim 14, which reads: "The method of claim 1, wherein the wireless networking device comprises a handheld computing device"; is that correct?

A Yes, that's correct.

Q Okay. And claim 15, which recites: "The method of claim 14 wherein the handheld computing device comprises a tablet."

Is that correct?

A That's correct.

Q Okay. And then we've also got claim 22: "Where the method of claim 1, wherein the wireless networking device comprises a telephone," correct?

A That's correct.

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Q Okay. So the patent actually contemplates that those devices that we just discussed are, in fact, wireless networking devices at least some of the time, correct?

A It's contemplating that, yes.

Q Okay. And, in fact, it would have to be the case for independent claim 1 to include those devices as wireless -- wireless networking devices because there are dependent claims that explicitly recite those devices, correct?

A That's correct.

Q Okay. So coming back to your declaration you say in Paragraph 53 that: "The preamble of claim 1 of the '591 patent, which is representative of other claims for this analysis, recites a wireless networking device comprising the further limitations of the claim. Specifically, the wireless networking device comprises, a, quote, processing interface and, quote, transceivers that are associated with, quote, actual MAC and, quote, actual PHY interfaces."

Do you agree that that's what your declaration reads?

A Yes.

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Q Okay. So now I'm going to pull up the '591 patent. We can look at it together.

Let me know when you see the '591 patent.

A Okay. I have it.

Q Okay. I'm going to make it bigger so it's readable. Does that feel readable to you?

A Yes, I can read it.

Q Okay. I am going to go down to column 3. I've got some figures to go through. There we go.

Column 3. So this section is referring to Figure 1, if you read along with me at about line 12. It says: "Further referring to Figure 1."

So this section will be describing Figure 1; do you agree?

A Yes.

Q And we could refer to this as the Figure 1 embodiment; is that fair to say?

A It is addressed to Figure 1, so it would be certainly understood to be a particular discussion of a -- the embodiment of Figure 1.

Q Okay. So I can give you some time to look this over, but at about Line 13, it says: "The process layer includes a decision block 106..." and it continues down.

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Would you agree that this paragraph describes the process layer?
A It is discussing the process layer as -- as stated here, "the process layer includes..." and it goes through the various components.
So it's certainly talking about -- and referencing that figure specifically detailing the blocks that are indicated that are within that process layer, so yes.
Q And earlier we just discussed that the wireless networking device has to include a processing interface. Would a POSITA understand the process layer described here to be a processing interface?
A Well, the -- a POSITA reading this with respect to what's disclosed is that you have something that's being referred to as a -- a processed layer.
And specifically it says, -- which is consistent with the understanding of a POSITA -- is that these elements interface with each other, and, therefore, they provide interfaces.
So within that context, it's discussing both of those aspects of terms that are familiar to a POSITA, so I guess that would be my best

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answer to that question.
Q Okay. Would a POSITA generally understand "layer" and "interface" to be interchangeable terms?
A I would say in general not, but you -- it depends on context. Certainly, functional blocks, and, as discussed here, layers, they have to interface with each other. It's possible that you could use the nomenclature as -- within that context of being interchangeable, but that's in general.
You think of an interface as something that is what it says, which is it's a -- an element of something that is communicating or interfacing with something else.
So that's generally how it would be understood by a POSITA.
Q Okay. So we can agree that the paragraph we just looked at describes the process layer of the Figure 1 embodiment, or it partially describes the process layer of the Figure 1 embodiment, correct?
A It is discussing the process layer, yes.
Q Okay. And I'm going to scroll down. And the next paragraph beginning at line 33 and going

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to line 41 continues to discuss various components of the process layer that were originally referenced above, correct?
A Yes, it's still continuing the discussion associated with that Figure 1.
Q Okay. So we've got a process layer that's described here.
Then we go to the next paragraph beginning at line 42 through line 51. And this includes a description of an actual MAC layer and an actual PHY layer, correct?
A Yes.
Q And the actual MAC layer and actual PHY layer are associated with transceiver resources, correct?
A Yes, that's what's stated in that section.
Q Okay. So going back to the elements of a wireless networking device that you listed in Paragraph 53 of your declaration, would a POSITA recognize a process layer, actual MAC, actual PHY layers, and transceivers in this description?
A You said Paragraph 53?
Q Mm-hm -- yes. Excuse me. I should verbalize as well.
A And could you reask the question, please?

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Q Sure. Looking at the description in the specification between column 3, line 12 and column 3, line 51, would a POSITA recognize the structures you listed in Paragraph 53: The processing interface, transceivers, and actual MAC and actual PHY interfaces?
A Well, if I understand your question, certainly I'm referencing those terms in Paragraph 53 with respect to my analysis of the distinctions between a wireless networking device and a recipient, and those elements are discussed with respect to the disclosures in the specification associated with Figure 1.
If I understand that's your question, then certainly those terms are encompassed there.
Q Yes, that was my question, are the four terms that you noted make up a wireless networking device disclosed in that description we just looked at together. And you agree that they are, correct?
A Yes, those terms are discussed in that section of the spec.
Q Okay. Thank you so much.
Okay. I'm going to scroll down to the paragraph after we've just been looking at. We

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ended looking at line 51, and we'll skip just a little bit down to line 63.

And I will read you this section:

"Additionally, the wireless networking system may be employed and/or embedded into a variety of electronic devices, including wireless access points, base stations, handhelds, tablets, computers, telephones, televisions, DVD players, BluRay players, media players, storage devices, or any such devices that use wireless networks to send and receive data including standalone add-on devices such as dongles that serve as wireless interfaces between devices."

Did I read that correctly?

A Yes, you read that correctly.

Q Okay. And this says that the wireless networking system -- I'm scrolling back down to column 3, line 63 -- may be employed and/or embedded into any of those devices that I just listed, correct?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A So what I -- it certainly uses those -- that language. And, specifically, I think I have a discussion of this in my declaration regarding

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this term -- or at least associated with this disclosure.

I know Dr. Akl has it in his declaration, and the -- what's being disclosed here certainly is consistent with my analysis and my declaration of the distinction between the devices and actually supports my understanding from the perspective of a POSITA that there is a distinction between a wireless networking device and a recipient, or a user, for example.

BY MS. BACT:

Q Okay. But you agree that the specification states that the Figure 1 embodiment can be embedded into, quote, any such device that use wireless networks to send and receive data?

A What's being disclosed here is --

MR. SCHMIDT: Objection -- hold on. Objection to form.

THE WITNESS: Sorry.

BY THE WITNESS:

A What's being disclosed here is, again, based on my analysis. And from the perspective of a POSITA, the plain and ordinary meaning is that a networking capability can be embedded in a device to make it a wireless networking device, which,

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again, would -- is distinct from a recipient as disclosed within the spec, or a user, and my claim term analysis is consistent with that.

BY MS. BACT:

Q Okay. So I'm looking for a, sort of, more straightforward answer to my question, which is that: Would a POSITA in possession of this description of the Figure 1 embodiment understand that the wireless networking system of Figure 1 may be employed and/or embedded into any such devices that use wireless networks to send and receive data, including standalone add-on devices, et cetera; yes-or-no, please, Dr. Mahon?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Well, again, I -- I'm answering that question specifically saying that what's being disclosed is that that capability can be embedded and it's consistent, and even specifically says that those devices have the capability of -- to serve as wireless interfaces between devices.

So it's disclosing to a POSITA, that if you want to be consistent with what the -- is being disclosed within this Figure 1 and processing interface, that if you are -- want the

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device and/or the device serves as a wireless interface between devices, then you would include this into the device.

BY MS. BACT:

Q Can you direct me to where in the '591 patent it says: "Serves as an interface"?

A It's line -- you had just read it previously. The sentence three -- one, two, three --

Q I see.

A -- on column 4.

Q "Such as dongles that serve as wireless interfaces between devices."

So would you agree with me, Dr. Mahon, that "such as" is an example?

A Well, specifically, this -- end of this paragraph going from column 3 to 4, is -- is the way this is being disclosed is a list of devices and it includes a dongle. And that it's saying that those devices that were just listed serve as wireless interfaces between devices, which is consistent with the claim term "wireless networking devices" and how a POSITA would understand it.

Q So it's your opinion that the phrase "that

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serve as wireless interface between devices" applies to the entire list and not just to dongles?

A Well, it's certainly not just restricting it to dongles, and that is consistent with both the way that I read that as well as the understanding of a POSITA with respect to what's being disclosed here in columns 3 and 4.

Q So you disagree that the Figure 1 embodiment would be able to be embedded into any such device that you -- devices that use wireless networks to send and receive data?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A No, I didn't say that. I'm saying that --

BY MS. BACT:

Q Would you answer --

A I'm saying that it's consistent with the -- my answer is consistent with the device including the capability of serving as an interface between devices.

And certainly the device if you're embedding it into is one of the devices such as a tablet or a phone that is receiving data, it's not inconsistent with that, and it's -- it's a

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coherent read of what's being disclosed in 3 and 4 from the perspective of a POSITA.

Q So I'm asking a little bit of a different question. Because I don't disagree -- you know, and my opinion doesn't matter, but I certainly understand that it could include something that serves as a wireless interface between devices, but I'm asking you a different question.

I'm going to ask it, and I'm going to try to be as clear as possible.

Do you agree that a person of skill in the art, reading columns 3 and 4 of the '591 patent, would understand that the wireless networking system of Figure 1 may be employed and/or embedded into any such devices that use wireless networks to send and receive data?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Again, consistent with what I've said, that what's being disclosed there, is you can take this system, you can embed it in a device in order to allow that device to provide wireless network access to other devices. And so it's -- that's what's being disclosed there.

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BY MS. BACT:

Q Where is it being disclosed that it needs to provide network access to another device?

A It's being disclosed, both from the perspective of a -- the plain and ordinary meaning of the terms what wireless networking device is, as well as what's specifically presented here as read by a POSITA, that it serves as a wireless interface between devices.

It's all consistent.

Q So it is your opinion that all of those devices, in order to be a wireless networking device, must serve as a wireless interface between devices?

A It provides wireless network access to other devices, yes.

Q Because it -- this portion of the specification includes the phrase "including standalone add-on devices such as dongles that serve as wireless interfaces between devices"?

A No, my opinion's formed on the entire disclosure, and that's consistent with my analysis of the entire disclosure. There's nothing inconsistent with that last -- well, with the last sentence in that paragraph that ends on top of

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column 4.

Q So other than the phrase at the top of column 4: "Including standalone add-on devices such as 'dongles' that serve as wireless interfaces between devices," what disclosure do you rely on for your opinion that a wireless networking device must provide network access to another device?

A It's my perspective and analysis from a POSITA in what's being disclosed as the wireless networking system and how it's disclosed in this part of the specification, and I'm saying that, based on that analysis, this section we've been talking about from column 3 to 4, provides additional support to my analysis.

Q Thank you, Dr. Mahon.

And I'm asking you where in column 3 and 4 you find that support. You can take your time.

A I'm saying every -- everything from -- all the lines we've been looking at, from 13 through the end of 4-3.

Q Can you give me an example of a few lines that include support for your position that a wireless networking device must provide network access to another device?

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A What's -- the entirety would be what's being disclosed is that process. It's to provide wireless networking capability. That term has meaning to a POSITA, and what's being disclosed in columns 3 and 4 is consistent with that.

Q So other than the line "including standalone add-on devices such as 'dongles' that serve as wireless interfaces between devices," you're unable to point to specific lines within columns 3 and 4 that support your position that a wireless networking device must provide network access to another device?

MR. SCHMIDT: Objection to form. That's a mischaracterization. And it's argumentative.

MS. BACT: He can --

BY THE WITNESS:

A I agree --

MS. BACT: -- answer.

BY THE WITNESS:

A I agree it's a mischaracterization of what I've said several times, is -- which is I'm reading this from the perspective of a POSITA in the plain and ordinary meaning of what a wireless networking device is, and what I've said is everything there is consistent and that particular

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phrase is included within that consistent understanding.

BY MS. BACT:

Q So, Dr. Mahon, let's assume -- and it's actually the case -- I am not a POSITA. I would like you to point me to any phrase, any phrase that you want to, in columns 3 and 4 and explain to me why that phrase supports or helps support your opinion that a wireless networking device must provide network access to another device?

A Well, as I discuss in my declaration which, again, is consistent with how a POSITA is reading the disclosures and the invention in the -- in the patent's claims of, number one, you need to be consistent with providing distinctions between types of networking -- types of devices, what is being disclosed as the inventive networking capability within this patent or within the patents.

So it's all consistent within there.

Q So I'd definitely like to dig into why you believe that there has to be a distinction between the types of devices, but I'm still not understanding where that is coming from in the Figure 1 embodiment as expressed in columns 3, 4,

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and even in column 2 if you want to go back to that.

A Well, I don't know how else to explain it other than what's being disclosed here, and as we've gone through several times is -- with respect to Figure 1 and the embodiment, and then what's disclosed throughout these columns is consistent with the devices that are including this wireless networking system, which the system is being embedded in any one of these devices, is providing networking capability to other devices.

It's providing an interface so that those other devices can access networking services.

Q So I'm -- you earlier said I mischaracterized you when I said, I believe, something like: Other than the phrase at the top of column 4 "including standalone add-on devices such as 'dongles' that serve as wireless interfaces between devices," you cannot point me to a specific selection within columns 3 and 4 that supports the idea, in your opinion, that a wireless networking device does -- must provide network access to another device.

And I am offering you the opportunity now to explain how I've mischaracterized you and to

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point me to a selection of text anywhere in the Figure 1 embodiment, including back to column 2 if you'd like, that supports your opinion that a wireless networking device must provide network access to another device other than the phrase at the top of column 4: "Including standalone add-on devices such as 'dongles' that serve as wireless interfaces between devices."

A That was --

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A I'm saying that the phrase that you're trying to exclude -- which is fine -- if I exclude that, it's -- my opinion is still consistent from the perspective of a POSITA of what's being disclosed here.

That particular phrase that -- if you exclude that, it's -- it's still consistent, meaning what's being disclosed here is a networking capability, that word means something; and that -- that -- end of that paragraph that's at the top of para- -- column 4 just emphasizes that.

If it wasn't there, my analysis would be the same; it just provides additional support.

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BY MS. BACT:
Q Okay. And I think this may be where we've misunderstood each other. I'm not trying to say that we're going to exclude that phrase. I understand that phrase is part of the disclosure and that you're relying on that phrase.
I'm asking you if there are any other particular phrases that you can point to within the description of the Figure 1 embodiment that explains why you have the opinion that a wireless networking device must provide network access to another device.
And if that is the only phrase within the Figure 1 embodiment that you would point to specifically, that's fine; please just specify that.
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A Yeah, I'm not narrowing my opinion to just that phrase and/or -- I'm just pointing to that as, you know, that's consistent with my understanding of what's being disclosed here. That's the only thing I would -- the reason I brought that up. Not to say that that's what I'm relying on.

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BY MS. BACT:
Q So you're not relying on that phrase?
MR. SCHMIDT: Objection to form. That's a mischaracterization.
BY MS. BACT:
Q Are you relying on that phrase --
A Well, it's --
Q -- "including standalone add-on devices such as 'dongles' that serve as wireless interfaces between devices"?
A My opinion, again, from the perspective of a POSITA in the plain and ordinary meaning of what's being disclosed, is that -- that phrase, that end of -- that paragraph is consistent with that understanding.
Q Okay. So you -- that phrase is consistent with the understanding you put forward in your opinion.
Are there other phrases that you will point me to in the description of Figure 1 that particularly support your opinion that wireless networking devices must provide network access to another device?
A Well, again, if we go back to my declaration contained within my analysis of

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wireless networking device, it's comprehensive within that -- my opinions that are there, this is consistent with those opinions.
Q Okay. And, just summarizing, Dr. Mahon -- and thank you for bearing with me -- after this entire discussion that we've had, you have not pointed me to any specific phrases in the description of the Figure 1 embodiment other than the phrase "including standalone add-on devices such as 'dongles' that serve as wireless interfaces between devices," that supports your opinion that wireless networking devices must provide network access to other devices.
Is that a fair statement, Dr. Mahon?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A Again, I think that is rearranging and trying to recharacterize what I'm saying. I'm saying that the entire disclosure there is consistent from the perspective of a POSITA in the plain and ordinary meaning of the term "wireless networking device" and how Figure 1 is an embodiment of the wireless networking system in a -- in a device to provide that --

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BY MS. BACT:
Q Okay.
A -- that capability.
Q Excuse me for interrupting you there at the end.
And I'm asking you something just a little bit different, Dr. Mahon. I'm asking you: Have you, in this discussion that we've been having about the Figure 1 embodiment, pointed me to a specific disclosure within the description of Figure 1 embodiment in the common specification, other than the phrase "including standalone add-on devices such as 'dongles' that serve as wireless interfaces between devices," for your opinion, that a wireless networking device must provide network access to another device?
MR. SCHMIDT: Objection to form. Asked and answered.
BY THE WITNESS:
A Yeah, I'm going back -- I don't know how else to explain it other than it's consistent with my analysis from the perspective of a POSITA, reading the embodiment of Figure 1 that's disclosed, and so I'm pointing to the entire embodiment from the perspective of a POSITA.

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I have a discussion of my analysis of what the "wireless networking device" term means, And that's all consistent from my perspective.
BY MS. BACT:
Q I understand that you're continuing to give me the same answer to my question, Dr. Mahon, but you have not answered it.
My question is: Have you provided me any specific citation within the description of Figure 1 embodiment, other than the entirety of the description beyond the sentence "including standalone add-on devices such as 'dongles' that serve as wireless interfaces between devices" that supports your opinion that wireless networking devices must provide network access to another device?
MR. SCHMIDT: Objection to form. Asked and answered.
BY THE WITNESS:
A And my answer is consistent, which is: The entire disclosure there is what I'm pointing to during our discussion, and my opinions, as disclosed in my declaration, are consistent with that answer.

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BY MS. BACT:
Q So you are telling me that the entire disclosure of Figure 1 is consistent with your opinion. Please list the aspects of the description of the Figure 1 embodiment that you rely on.
A My analysis is based on what's disclosed in the patent specification, including this section. I include that in terms of my analysis and understanding of what this term means with respect to what's being disclosed in the claim terms and the specifications. And I discuss that in my declaration, and, therefore, this section is consistent with that opinion.
Q Okay. So it's the entire disclosure is consistent with your opinion is your answer; is that fair?
A Well, if we look at my opinion and you want to point me to something that -- specific to discuss, if that's what this process was about, I would say, yes, my opinion is consistent with what's being disclosed here as far as this embodiment.
If there's a certain aspect of the embodiment that my opinion in my declaration in

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that section on wireless networking device is -- is inconsistent with, we can discuss that. I don't see it from the perspective of a POSITA.
Q Okay. I mean, I think the record will be clear that you did not point to any specific portions or any specific reasons why the Figure 1 embodiment does not -- it doesn't matter. I don't need to argue to you. I still believe you didn't answer my question, but I'm not going to beat a dead horse.
MS. BACT: It might be a good time to take a meal break, seeing that we are just a couple of minutes before your requested time, Dr. Mahon.
THE WITNESS: That would be great.
MS. BACT: How long would you like?
THE WITNESS: Say, how about quarter after or 20 after the hour?
MS. BACT: Okay. So let's say 20 after the hour.
MR. SCHMIDT: And just before we go off the record, I disagree and I object to the statement by counsel about the witness's testimony.
MS. BACT: I can withdraw that statement. I don't need to have that there.

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THE VIDEOGRAPHER: Off the record at 10:42 a.m.
(WHEREUPON, a recess was had.)
THE VIDEOGRAPHER: Back on the record at 11:19 a.m.
BY MS. BACT:
Q Welcome back, Dr. Mahon.
During the break, did you speak with your counsel?
A I did not speak with him directly, no.
Q Okay. Did you speak with him indirectly?
A No, I didn't have any substantive discussion with counsel.
Q Okay. So I'm going to move on within the topic of wireless networking device to your declaration at Paragraph 55.
Will you --
A 50 --
Q -- let me know when you're there.
A 55?
Yes, I'm there.
Q Okay. So in Paragraph 55 you opine: "A POSITA would understand that the distinction between a 'wireless networking device' and a 'recipient' is more than just a matter of network

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perspective from which the claim is drafted."
Did I read that correctly?
A Yes.
Q And can you tell me what you mean by "a matter of network perspective"?
A From what a POSITA understands what the word "network" is, as well as how it operates.
Q Okay. Do you -- so you go on to say -- or sorry. Let me back up.
In the paragraph prior, 54, you're talking about the distinction between a wireless networking device, which is the subject of the claim, and a recipient device with which the wireless networking device associates and ultimately communicates; is that correct?
A That is what I state in that paragraph, yes.
Q So when you're talking about a matter of network perspective, are you talking about who's the transmitter and who's the receiver, or something like that, or is that not where you're going?
A It's comprehensive of that. Meaning, how a network operates, what devices are traditionally found, and how they have been used, and what

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those -- how those devices function within a network. So it's comprehensive within that, yes.
Q I'm just trying to understand your opinion about the distinction between the wireless networking device and the recipient, and I take it that your opinion is -- and correct me if I'm mischaracterizing -- that the wireless networking device has, you know, the claimed qualities that are recited of transmitting to the recipient, and the recipient is the receiver of the transmission from the wireless networking device; is that correct?
A Well, what I say in the sentence specifically that you were pointing to and then within my opinions as disclosed in this section is how that term, the "wireless networking device," is disclosed within the claims and also within the claim itself using the term "recipient," and what's disclosed in the patent specification with respect to "user," for example.
And then also what's disclosed in the -- the specification associated with the embodiments and inventive aspects of the patent for providing capabilities or providing a wireless networking system for devices.

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So, therefore, my answer to your question is when I say it's from the -- what -- the network perspective, it's not just you point to a structure or, you know, a layout of a network and say, well, that's -- that's a networking device because it's located here.
Well, what function does it perform? How does it relate to a POSITA's understanding of that device with respect to what's being disclosed in the claim and in the specification?
Q Okay. So let me just see if I can try to understand your opinion.
It's your opinion that, because of the functions assigned to a wireless networking device and a recipient, they are different and distinct from one another; is that correct?
A They are -- they are different, as disclosed within the -- in how the wireless networking device is disclosed within the claim and the specification, that it's clear, based on my analysis, that there needs to be a distinction between the term "wireless networking device," and, for example, "recipient" or "user" based on what's disclosed from the perspective of a POSITA in the plain and ordinary meaning of those terms

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given what's disclosed, yes.
Q Okay. Thank you.
So that is your opinion, and now I'm going to try to understand a little bit of the why behind your opinion.
So in that Paragraph 55, where I was just directing you, you said it's more than just a matter of network perspective from which the claim is drafted.
And then you follow up by saying: "Elsewhere, the independent claims recite that the wireless networking device's utilization of the available bandwidth of its transceiver does not prevent other wireless networking devices from utilizing a range of frequencies corresponding to the remaining portion of the bandwidth availability of those transceivers"; is that correct?
A Yes.
Q Okay. So part of the basis of your opinion that there's a distinction between a "wireless networking device" and a "recipient" is that the claim recites, quote, other wireless networking devices; is that correct?
A Well, as I amplify my opinion that --

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based on my analysis: "The claims" -- as I have here in the last sentence, for example -- "contemplate other wireless networking devices within the wireless network even though the recited association of the wireless networking device is with the recipient."

So I'm pointing to that quote that you just asked me about, as well as other aspects of what are in the claims, as well as within the specification of saying, yes, this is definitely being disclosed as a distinct device from a "recipient" or a "user."

Q Okay. And, functionally, the recited "other wireless networking devices" are engaged in the same functions as the claimed wireless networking device; would you agree?

A They -- the quote I have is "other wireless" -- "other wireless networking devices," which would be associated with, again, analysis of the claim term that we're talking about.

So, yes, they would be considered to have the disclosed wireless networking system in them to provide that capability.

Q Right. And we can actually look at the claim language that you're quoting if that's okay with you.

Let me put back up Exhibit 5, which is the '591 patent. And I have it displayed at a small zoom right now just so we can agree that I'm showing you Exhibit 5, the '591 patent from its header at the top, and I'm showing you columns 11 and 12.

Is that correct?

A You are, yes.

Q And we can see at the bottom of the screen that claim 1 begins at the bottom of claim -- column 11?

A That is -- that is correct.

Q Okay. And I'm just scrolling back up to the top of column 12. I'm going to make it bigger for everybody.

And the language that you quoted: "Does not prevent other wireless networking devices from utilizing a range of frequencies corresponding to the remaining portion of the bandwidth availability."

I'm going to highlight.

So do you see where I've highlighted on my screen, the language I just read from column 12, lines 47 through 50?

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A Yes, I do see that.

Q Okay. And that's an accurate representation of the quoted material that you included in your declaration?

A That's correct.

Q Okay. And when we look at the rest of the sentence about what the, quote, other wireless networking devices are doing, we see that they are utilizing a range of frequencies corresponding to the remaining portion of the bandwidth availability of the first, second, and third wireless transceivers for data transmission purposes, correct?

A Correct.

Q Okay. And I just read that language through line -- what is it? -- 51 of column 12, correct?

A Correct.

Q Okay. So the other wireless networking devices that are recited in the claim are transmitting data, correct?

A It's disclosing that the other device is consistent with the contemplated wireless networking devices, meaning the other wireless networking devices have a transceiver for data transmission. So yes.

Q Okay. And, presumably, they are transmitting to a recipient, right?

A Well, they're performing a transmission. In terms of whether it's to another wireless networking device or a recipient, it -- you know, that's not discussed here, but certainly there's somebody else receiving that wireless transmission.

Q So would you agree with me, Dr. Mahon, if I said that the claimed wireless networking device, you know, of claim 1 that says, you know, "a wireless networking device comprising," that wireless networking device is transmitting data to a recipient, correct?

A Well, as I point out, the distinction of the language and then also within claim 1 that we're talking about here, certainly at lines -- in column 12, lines 19 through, looks like, 24, it's talking about an association between a recipient and the first MAC and PHY interfaces, et cetera. So the term is -- the term "recipient" is being used within the claim itself here.

And as far as generically wireless transmission of data, it's going to be --

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someone's going to be receiving that data.
So I'm not sure if you're specifically talking about this part of the claim element or if you're just talking about in general, if data transmission is received by some other -- is intended to be received by some other wireless component within a given context, but the answer to the latter would be, yes, it's certainly -- somebody is receiving -- intended to receive it.
Q Okay. Great.
And what I was just thinking of was a little bit further down in the claim where we see that, at line 35-ish of column 12: "Preparing the first data stream for simultaneous transmission to the recipient" and that entire paragraph explains the transmission of a data stream to a recipient.
Would you agree with me, given the recitation of claim 1 that we both just cited to, that the wireless networking device claimed in claim 1 is transmitting data to a recipient, at least as part of its function?
A Yes, that's what's being disclosed here. You have data for transmission to a recipient as discussed in claim 1.
Q Okay. Great.

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So the wireless networking device of claim 1 and then the other wireless networking devices also recited in claim 1, are both transmitting data to their respective recipients, correct?
A Certainly, the -- yeah, the claim is talking about the section of the claim we're talking about is you're utilizing frequencies that aren't going to interfere with other trans- -- other wireless networking devices transmitting.
So the general understanding would be those devices would be transmitting data to either each other or some other device.
Q I'm sorry. A wireless networking device could transmit data to another wireless networking device?
A Well, there's no restriction on that in this claim in terms of a wireless networking device sending data to another wireless receiver, whatever that wireless receiver's function is --
Q And that --
A -- whether it's the claimed wireless networking device or a recipient, as disclosed as we've discussed within the spec and the distinction between the wireless networking device

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and the recipient, both can be receiving transmissions.
Q Okay. So I'm going to take this down -- well -- I'll put it back up if we need it.
So I want to come back to your declaration then. And you -- you know, you're describing the basis for your opinion that a POSITA would understand that -- the distinction between a wireless networking device, and a recipient is more than just a matter of network perspective from which the claim is drafted.
So we talked about the fact that the claims recite a "wireless networking device," they recite a "recipient," and they recite "other wireless networking devices."
And is that part of the support for your distinction between a wireless networking device and a recipient?
A I'm citing to, again, in terms of amplifying my analysis here and opinion is that the wireless networking device is being used, and as we just looked at in claim 1 for the purposes of creating an association with a recipient and that -- consistent with the claims, as well as the specification, is that there's a distinction

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between the wireless networking device and a recipient.
But, yes, I am pointing to the examples, and, specifically, yes, claim 1 does contain those disclosures that we've been discussing.
Q Okay. And then another part of your analysis that follows from this begins in the next paragraph, 56, where you describe that there are embodiments of the specification that describe something called a "user"; is that correct?
A Yes.
Q Okay. And then 57 you cite to the Figure 7 embodiment; is that correct?
A Yes.
Q Okay. And on the next page where Paragraph 57 carries over, you actually reproduce Figure 7; is that correct?
A Yes, I do.
Q Okay. So you state that: "Node 612A, for example, includes multiple radios A1 and A2," citing the '591 patent at columns 6, 58 through 60.
Do you agree?
A Yes.
Q Okay. And then, would you characterize

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these radios as access points?
Or let me withdraw and rephrase.
And then you state that Radio 1 is, quote, able to broadcast and receive signals within its coverage area to users that are in the area 614, thereby serving as a wireless access point for that area, again, quoting the '591 patent; is that correct?
A Yes.
Q Okay. So A1 and A2 are radios serving as access points, correct?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A The specification discloses that relay radio A2 is a -- well, is a relay. So it's acting as a relay in this disclosed system.
BY MS. BACT:
Q Okay. Thank you for that clarification.
Would you agree that it is your opinion that A1 and A2, being an access point and a relay respectively, are wireless networking devices of the asserted patents?
A Yes.
Q Okay. And if you could look at Figure 7 itself in the middle of Page 17, can you locate A1

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and A2?
A Okay. I see them.
Q And there's a double-headed arrow between them, correct?
A Yes, there is.
Q What does a double-headed arrow mean to a POSITA?
A Well, it depends upon the context. Here, based on the fact that A2 is a relay, it's -- to a POSITA, reading the specification and then looking at this diagram, illustration, Figure 7 is that A1 is with -- or I should say, A2 is within the propagation range of A1, and it's receiving A1.
And then as a relay, as further illustrated here, it's going to relay that message on to, in this case, B1 or this -- this second area.
So that's what the double-headed arrow is signifying to a POSITA.
Q So A2 is receiving a transmission from A1, and then relaying that transmission to B1?
A A2 is acting as a relay, which means it's sensing that signal coming out of A1, and it's basically copying that signal and passing it on.
As part of that process, it's performing a

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receiving function. It has to decode a wireless signal.
Q And would you say that A1 is acting as a wireless networking device when it transmits to A2?
A Well, an access point is understood by a POSITA to be a wireless networking device as disclosed within the claim terms. So A1 is certainly acting as a wireless networking device within this figure.
Q And is A2 acting as a wireless networking device?
A Again, as I discuss within this section of my declaration that A2 is being disclosed as a relay and it is providing a relay capability, which, with respect to the other devices, it's relaying that signal to, yes, it's performing a function of a wireless networking device.
Q Okay. And when A1 is acting as a wireless networking device in this scenario, who is the recipient?
A Well, in Figure A1 -- I'm sorry, Figure 7, A1 is being disclosed -- and I do cite to this, that there's user, U1, in order to access the internet is using A1 as an access point.

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So within the claim terms of recipient and user and, again, how that's disclosed within the claims and the specification, my answer would be, in this case, U1.
Q So imagine I cover up the bottom of the circles and we just are looking at the transmission from A1 to A2 to B1. Is A1 acting as a wireless networking device when it transmits to A2?
A Well, A1 is an access point.
Q Uh-huh.
A And, again, that is a term of art. So term of art says it's a wireless networking device, which means devices use it to connect to networks. That's how Wi-Fi and other wireless systems work with an access point.
It's going to transmit whether there's a relay there or not. It's -- you know, if a relay is there, well, then the signal is being duplicated and sent on its merry way. So that doesn't affect how a POSITA understands A1 in the disclosure here.
Q Well, so is it -- when I say, when it -- is it acting as the wireless networking device of claim 1, I mean, is it doing the steps of claim 1

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when it transmits to A2?
A Well, as I discuss in my declaration, certainly, A1 is -- is encompassed within the understanding of a POSITA with what a wireless networking device is, as disclosed in claim 1.
The recipient, as we've discussed in claim 1 and within the understanding of how that is disclosed in the claims and in the patent specification, A1 is acting like a wireless networking device.
If you're asking me if A2 is the distinct recipient that I'm talking about in my declaration, the answer's no.
Q So if A1 transmits to A2 who relays to B1, is that consistent with performing claim 1 by this embodiment?
A Well, that functionality is consistent with what a wireless networking device is.
Q Okay. And is it performing the steps of claim 1?
A Well, this illustration is specifically just disclosing and providing to a POSITA of how the inventive aspect is maybe used within a given environment and providing, quite frankly, context to what the claim terms mean, which is exactly why

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I'm discussing it.
So my answer is: Within that context, the A1 being access point, it being a wireless networking device, this is an illustration of what the con- -- inventive concepts or what the -- what is being disclosed in the claim is doing and how it can be understood.
Q Okay. So let me just ask one more time and see if I can get an answer that is what I'm looking for, and otherwise we can move on.
In the portion of Figure 7 that depicts A1 transmitting to A2 which relays to B1, would you identify a wireless networking device and recipient as you see it in terms of the construction that you've offered?
A And as I've tried to articulate, again, there's a distinction within the patent specification associated with wireless networking device and the devices in general, including a recipient being different than that wireless networking device.
So Figure 7 is disclosing aspects of that including the users, as we've discussed. But that particular functionality that you just mentioned, that trace functionality, if you're just focusing

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on that and narrowing scope to that, that's just an aspect of it that would be informing a POSITA of what a wireless networking device is doing.
Are A2 and -- I mean, sorry, A2 and B1 as well as the other devices receiving signals from each other? Sure.
Q So you do not -- so they're receiving signals, but you do or do not think they are recipients?
A I -- as I've said before, no, they're -- based on my analysis, they are not recipients in terms of what that term -- how that is being used, specifically within the claims and the distinction between the types of devices within the specification and within the claims as understood by a POSITA.
Q Okay. And when you say "in the specification," where do you mean?
A Just the entire -- I'm just referring to the entire disclosures of the specification. Which I'm pointing out specific disclosures here, that's what we've been talking about, that support my understanding and my analysis of what those claim terms mean, and that the entire specification as well as the claims support a

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distinction between those devices as opposed to just saying all those devices are the same. They're not, based on my analysis.
Q Okay. So you mentioned the users, U1, U2, and U3, correct?
A Yes, I do point to those.
Q Okay. And we mentioned earlier that a user is not just a person; it's a person holding a device, right?
A I don't remember that. I -- certainly, a user in this context is a device. Whether there's someone holding it there, I don't -- I don't see it pictured.
Q Fair enough. A user is not -- a user must involve a device, correct?
A Yes, that's reasonable. I know of no one that can receive -- human, that can receive a wireless signal by themselves without some form of electronics.
Q Okay. That -- that's all I was looking for. Sorry if that got a little absurd.
Okay. And you also quote at the bottom of Paragraph 57: "User U1 thus may access the internet via radio A1," quoting column 7, lines 2 through 3 of the '591 patent; is that correct?

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A Yes.
Q Okay. And so what does that mean to access the internet?
A Well, it would be understood by a POSITA, the general term means being able to send and receive data to go out to the internet to obtain services or to have your data delivered to somewhere, or receive data from some other server somewhere in the internet.
It means being able to access the internet wirelessly, is what literally it says.
Q So when U1 sends data to the internet, that's received by somebody else or some other device, correct?
A So the internet, obviously, is a distributed system. In order for it to get your data to be handled by that distributed system or, quote/unquote, internet, you have to have some type of access to that structure, that infra- -- that structure that provides that.
So, yes, A1 is providing a mechanism for taking the transmitted signal from U1 and passing it on to the -- further on to the various routers and switches within the system that make up the internet.

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Q Okay. And for the first leg of the communication, U1 sends a transmission and A1 receives it, correct?
A As depicted here, U1 is using A1 as an access point, which means it's sending data to A1 in order to have that relayed on, whether it's through A2 or through -- directly through another point of presence from an internet service provider to get to the internet.
Q Okay. So is it your position that if something is relayed on, that it is not received by the device that is performing the relay function?
A No, I didn't say that. What I said was it -- the signal's being transmitted. A1 is obviously receiving that signal, decoding it, and then doing what it has to do in order to interact with next element within the network.
And access points are well-known to use modems and other things to send data in order to get that data to the internet.
Q Okay. So moving on a little bit in your declaration.
In Paragraph 60 you say: "On the other hand, the network includes, quote, users, which

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may comprise network end-points. This class of devices do not necessarily provide or relay network access to other devices, but, rather, may be mere consumers of network services"; is that correct?
A That is correct.
Q Okay. And so in the situation that we were just discussing where U1 was, say, a phone sending an email, is that being a mere consumer of network service?
A Well, within that context of if I'm a -- if I'm using my phone and it's only sending or receiving data or a mere consumer of data of network or -- and/or network services, in that context, that's a user and it's a recipient because, in that context, that I'm talking about here, it's just an end-point; it's not providing network access to any other devices.
Q Okay. So when I'm send -- I'm User 1, me and my cell phone are User 1, okay -- or my cell phone. We don't have to make me a part of it. Not -- no human.
My cell phone, Rebecca's cell phone is User 1. I send you an email. Is my phone sending you an email a mere consumer of network services

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when I send the email?
A If, again, within what I'm talking about here is it's an end-point, then yes.
Q So I understand your conclusion is that an end-point is not a wireless networking device, but what is the basis for that conclusion?
A Based on how the term "wireless networking device" is disclosed within the claims and in the patent and my understanding from the perspective of a POSITA, that that is providing networking.
And in your example, if that phone is not providing networking capability to other devices, then it's what I'm talking about here, which is it's just a mere consumer of data. So the answer would be yes.
Q Okay. And what is the basis in the specification? You know, think of it, what is your hook for your conclusion that my phone has to provide networking to another device to be more than a mere end-point?
A Well, I'm talking about here -- again, my entire discussion is about the distinction between, as disclosed, of wireless networking device and what that term means. And when I say: "On the other hand, the network includes users

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which may comprise networking end-points, this class of devices do not necessarily provide or relay network access to other devices, but, rather, may be mere consumers," so I'm pointing out that that class of devices, which means that it's an end-point, is not acting as a relay, it's not acting as an access point, in that case, then it's distinct from the wireless -- claimed wireless networking device -- or distinction I should say, it's consistent with the understanding of the distinction of the term from a recipient" or a "user."

Q So you say that "this class of devices," meaning users, "do not necessarily provide or relay access to other devices." But they could, correct?

A If the wireless networking system is embedded in that device, certainly it could potentially then turn around and provide network access to other devices, so yes.

Q So why does it need to provide network access?

A Well, I'm drawing a distinction in my -- again, trying to illustrate my understanding from the perspective of a POSITA of how the term

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"wireless networking device" is used within the claims and specification.

And I'm just pointing that out from a plain and ordinary meaning of the -- these various terms in the context of the disclosure, is that you have distinct capabilities of devices within the context of a network, and you need to take that into account when you're doing your analysis of what these claim terms mean.

Q Okay. I understand you're making the distinction; and I'm asking why are you making the distinction.

On what do you base the distinction?

A I'm basing my distinction on what I'm pointing to as evidence of my analysis.

Q And is there any -- could you list three things for me that you're pointing to as elements of your analysis for why there's a distinction?

A Well, my analysis would be comprehensive of everything in Paragraph 51 through Paragraph 70 in this dec- -- my section of my declaration.

Q And, sitting here today, are you able to summarize that for me as to why you make the distinction?

A Well, I can go through this and summarize

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it, but I've been doing that I think consistently so far.

I'm saying there -- I'm looking and presenting evidence of how those terms are being used, how they're used within the context of the claim, the specification as understood by a POSITA, and then relying on disclosures and pointing directly to the specification.

And in this case, we were just talking about a figure within the specification that provides the POSITA context and understanding of what these terms mean.

I don't know how to better describe that.

Q And I just think we're not understanding each other because I see your explanation of Figure 7 as an example of how you apply the distinction, but you're not giving me a reason for why the patent makes that distinction.

So I'm asking you: What about Figure 7 compels the conclusion that a wireless networking device must provide network access to another device?

A I'm pointing to fig- -- my section of this -- my report in this declaration, pointing to Figure 7, is saying: "The specification discloses

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users as different than other devices within the network."

Okay. That's understood and that's clear.

So that supports my analysis. As well as what's being pointed to in the operation of A1, A2, B1, B2, et cetera, within Figure 7 is consistent with my analysis.

And I have a fulsome discussion here of how that is being discussed. And, again, those terms that are used in the claims within that perspective -- I'm not using this to say that this is -- I'm using this to provide contextual understanding from the perspective of a POSITA is what I'm doing here.

Q Okay. So would you agree that an access point is performing different functions than a relay?

A You'd have to -- if you're not limiting the context, then yes. If you're limiting the context, meaning can an access point be programmed to be only used as a relay? Theoretically, in implementation, sure, you can do that, But that's -- that's not, I don't think, the question you're asking.

Q Okay. Does A1 perform different functions

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than A2 in the context of Figure 7?
A As disclosed here, A1 is providing access to users within its area of operation. A2 specifically discloses a relay.
As far as that's concerned, those are two specific functions that are different from each other for A1 and A2.
Q And U1 is also performing a different function from A1, which is also different from A2, correct?
A Correct.
Q And you have opined that A1 and A2 are wireless networking devices, but U1 is not?
A Within this context, U1 is not a wireless networking device.
Q Because it has different functions from A1?
A Well, with -- again, with respect to how that claim term is being used and understood, it is not providing the capability that A1 is providing or A2 is, for example, which those devices, as we've discussed before, fall under the context and scope of "wireless networking device" where U1, this provides, again, contextual understanding that that is different from the

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claimed wireless networking device.
Q So would you agree that A1 and A2 have some overlap in function?
A As for -- as far as the purposes of those devices within a wireless networking system and under general capability, sure, they both have overlapping capabilities and provide overlapping functions.
Q And what about A1 and U1; do they also have some overlapping functions?
A Do they both have baseband processors, do they both have A to DCs and D to ACs and antennas. They're going to have those components.
As part of those components and transmitting and receiving signals, and the signal processing, sure, they're going to have similar functionality with -- within that context.
Q Okay. So moving on a little bit in your declaration.
In Paragraph 66, you discuss two modes of 802.11: "Infrastructure mode involving clients communicating with the network through one or more wireless access points; and, on the other hand, ad hoc mode involving devices that can directly communication" -- I assume you mean "directly

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communicate" -- "amongst themselves without the need for an access point."
Is that correct?
A That's correct.
Q Okay. And going back to Figure 7 now, is Figure 7 an example of ad hoc mode or infrastructure mode?
A This is infrastructure mode.
Q Okay. And that's because the user is communicating with the access point, correct?
A To a POSITA, that's clearly disclosing an infrastructure mode for 802.11, yes, because there's an access point, you have different BSSIDs depicted to a POSITA, so, yes, that's infrastructure.
Q Okay. Thanks.
I am going to bring up another exhibit and ask you to look at it with me.
Okay.
A What exhibit number is this?
Q This is Exhibit 7.
MS. BACT: And I'll ask that the court reporter mark it as such.
(WHEREUPON, Mahon Exhibit No. 7 was presented to the witness.)

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BY MS. BACT:
Q If you can see, this is an International Patent World -- WO 2013/126859 to Chincholi.
Do you see that?
A Yes, I do.
Q Okay. And have you seen this document before?
A Yes, I have.
Q Okay. Great. And you --
Okay. So I'm going to show you a figure in Chincholi, and if you would like, just let me know; we can look at the description of the figure.
Can you see Figure 1 of -- excuse me, Figure 1A of Chincholi on your screen?
A Yes, I do.
Q And this figure depicts a bunch of devices labeled 102a through 102D that look kind of like old cell phones; would you agree with that?
A Certainly, it's -- they do look like old cell phones. I'd have to go back to the specification to see what they're disclosed specifically as, but -- if they're cell phones or not, but, yes, that's --
Q And --

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A -- certainly what you understand --
Q We can -- we can do that in a moment.
And then we see 10 -- 114a and 114b that kind of look like towers; would you agree with that?
A It's specifically labeled a radio access network, which would be understood to be a base station or cell tower to a POSITA.
Q Okay. Great.
So let's just look at the specification just to confirm that understanding.
So I'm going to take you to PDF Page 9. We have been on PDF Page 93, but we're going to Page 9.
Is that text readable to you, or would you like it larger?
A Page 9?
Q Yes.
A I can see it.
Q Okay. I am going to make it larger on my own screen.
Now, I'm going to direct you to Paragraph 75, and that's where I see a definition of the 114a and b that are called a base station, and then it says: "By way of example, the base

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stations 114a, 114b may be a base station" -- or excuse me -- "a base transceiver station, a Node-B, an eNode B..." and it goes on and -- listing a number of things including an access point and a wireless router and the like.
Do you agree?
A Yes, it does disclose that.
Q Okay. And then one paragraph back, in Paragraph 74, we see the definition for those devices that looked like old cell phones, 102a through d, correct?
A Yes.
Q And those are wireless transmit receive units, and they could be -- I'm looking down towards the bottom of the paragraph, it could include user equipment, a mobile station, a fixed or mobile subscriber unit, a pager, a cellular telephone, a personal digital assistant, a smartphone, a laptop, et cetera, et cetera.
Do you agree?
A Yes.
Q Okay. So now I'm going to take us back to Page 93 and Figure 1a.
Are you there, Dr. Mahon?
A Yes.

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Q What mode would this be depicting, infrastructure mode or ad hoc mode?
MR. SCHMIDT: Objection to form. This is outside the scope.
BY THE WITNESS:
A So this is a general -- just a general depiction of wireless capabilities within the reference.
And I didn't rely on this to form my opinions other than to check the reference for what's being -- how the reference was cited in terms of others' opinions.
So, certainly, we could talk about this, but, again, it's -- it is outside the scope of my declaration. I didn't rely on this. If you want to cite to something in my declaration that is relevant and germane to understanding the difference between infrastructure and ad hoc networks within 802.11, I'd be happy to discuss those.
BY MS. BACT:
Q Well, I -- I just want to know if a POSITA in possession of this -- which is a document that XiFi cited as part of what it was relying on for its claim construction opinions in which you said

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you reviewed in that context in forming your opinions, if a POSITA in possession of this document looking at this image would understand it to be infrastructure mode or ad hoc mode?
A In --
MR. SCHMIDT: Counsel, did you represent that the witness testified that he relied on this document that you placed before him for his opinions? Because I think --
MS. BACT: I --
MR. SCHMIDT: -- that's a mischaracterization.
MS. BACT: No, I would say that he considered it because it was part of what XiFi listed on its 402 disclosure.
MR. SCHMIDT: Well, that's a mischaracterization that he considered or relied on or opined on this document --
MS. BACT: Okay. I --
MR. SCHMIDT: -- his declaration is clear. I mean, this is -- this is well outside of the scope of the witness's opinions.
MS. BACT: Okay. Well, it can be outside the scope, and you can raise that if you want to.

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BY MS. BACT:
Q But I would like an answer if you understand the question, Dr. Mahon.
Would a POSITA understand this image in Figure 1A to be an infrastructure mode or ad hoc mode?
A Well, my answer to that would be: In my declaration, I'm referring to the 802.11 disclosed architectures of infrastructure and ad hoc for 802.11 systems.
I didn't perform an analysis of this reference to see if what is disclosed is consistent with what would be comprehensive of 802.11 architecture discussions.
In general, the 802.11 infrastructure mode requires an access point. The ad hoc mode specifically does not.
And so I'll leave it at that, and if somebody else wants to perform the analysis or you want me to later on perform an analysis and come back to you, I'd be happy to do that.
BY MS. BACT:
Q So, for example, if Dr. Almeroth performed an analysis of this image, would you agree with Dr. Almeroth's analysis?

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MR. SCHMIDT: Objection to form. Hypothetical.
BY THE WITNESS:
A I would have to see what his opinion was. I'd have to, again, look at this analysis and then compare it to both his analysis and then what is disclosed as far as I'm pointing to in the 802.11 spec to come up with an answer to that question.
BY MS. BACT:
Q Okay. Would you agree that the stations 102a through d are communicating with the base stations 114a through B?
A Well, again, I didn't -- I didn't rely on this document for any of my opinions in terms of, you know, what I present with -- in my declaration in this section, as well as any other part that I can recall.
Certainly, this is depicting a transmission going between the devices. Other than that, I don't -- I haven't performed an analysis. I haven't taken the time to perform a claim analysis with respect to the claim terms of this reference because it was not something that I cited to.
So, you know, I'll leave it at that.

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Q Mm-hm. Okay. One last question and then we can move on.
Does this figure, as a POSITA, from your perspective, depict any communication between the stations directly between the stations 102a through d with each other?
A Again, I --
MR. SCHMIDT: Objection to form. Scope.
BY THE WITNESS:
A I haven't -- I haven't read this -- the spec for that purpose. I haven't gone through and done an analysis, so I can't answer that question.
BY MS. BACT:
Q Would you like me to put the description back up?
A Well, you can certainly put it up. I'm going to have to read the entire disclosures in -- through the -- throughout the spec to make sure I'm not overlooking anything.
I don't know -- I can't recall whether -- I'd have to read the entire spec to make sure, it -- what it's disclosing about that functionality. You can do that if you want, but it's going to take me a lot of time to read through it.

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BY MS. BACT:
Q Okay. We don't have to do that.
So what I'm understanding is that you are, sitting here today with your expertise, unprepared to offer an opinion looking at this figure as to whether this figure -- a POSITA looking at this figure would understand the stations to be directly communicating with each other; is that correct?
A No, what I'm saying is I didn't perform an analysis on this, and it's out -- it's outside the scope of my declaration and my opinions of this specifically, especially in this section.
You're pointing to this figure, and certainly there are arrows or lightning bolts going between the devices and the access point. Other than that -- and what those devices appear to be, other than that, I can't characterize it more distinctly.
Q So it's your opinion in this case, is it not, that a POSITA would understand that the 802.11 modes of ad hoc mode versus infrastructure mode would be informative as to whether something qualified as a wireless networking device of the asserted patents; is that correct?

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A Well, I'm using --
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A I'm using the 802.11 disclosures as an illustration, specifically in this section, to discuss the fact from a -- that a POSITA would well aware of how 802.11 since the beginning has had an infrastructure mode and an ad hoc mode.
And, again, it provides additional context for the support of the differentiation of these devices within the entire idea of a network and that devices can have different capabilities and may be more limited in terms of what they can do within different architectures. That's why I'm pointing to this.
BY MS. BACT:
Q Okay. Well, let's just look at Paragraph 68 of your declaration.
Let me know when you're there.
A Okay. I'm there.
Q Okay. In the last sentence of 68 you say: "The client devices in the infrastructure mode, however, would not qualify as a wireless networking device, as they are merely end-users and do not relay or provide network access to

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another device."
Did I read that correctly?
A Yes.
Q Okay. So, in your opinion, a POSITA would have to understand whether a client device was in infrastructure mode or ad hoc mode to understand if that device will qualify as the wireless networking device of the asserted patents, correct?
A Well, I'm saying that as disclosed in the 802.11 standard of what a -- how a client is operating within infrastructure mode that a POSITA would understand, yes, that the clients are not be disclosed or fall under -- underneath a wireless networking device within the patent, so I'm pointing to that. And so that's consistent with that discussion.
Q So if a POSITA wanted to figure out if this figure depicted wireless networking devices of the asserted patents, would they be able to?
MR. SCHMIDT: What figure, Counsel?
MS. BACT: Figure 1A of Chincholi, Exhibit 7.
MR. SCHMIDT: Objection. Outside the scope.

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BY THE WITNESS:
A Thank you for asking that clarifying question because I thought you would be talking about Figure 423 from the 802.11 standard.
Again, I haven't -- I'd have to look at the disclosures within Chin- -- this reference, Chincholi. And taking the figure out of context, again, without doing an analysis and not having relied on it, I wouldn't be able to give you an answer to that question right.
BY MS. BACT:
Q Understood. I'm not asking you to perform an analysis; I'm saying that it's your opinion that this piece of, you know, prior art, if a POSITA wanted to compare it to the asserted patents, they would have to analyze whether this figure was an infrastructure mode or ad hoc mode, correct?
MR. SCHMIDT: Objection to form. Scope.
BY THE WITNESS:
A Again, I would have to do a comparison of what's disclosed within this reference and compare it to its disclosed mode with respect to Wi-Fi and say whether that maps to an infrastructure mode or not.

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I haven't performed that analysis. I would have to be able to have some time to do that to be able to give you an answer.
BY MS. BACT:
Q Okay. Well, let's back out. Let's zoom out a little.
I'm not only talking about Chincholi; I'm thinking about any system. Any -- in order to understand if a client device, like a phone, qualified as a wireless networking device of the asserted patents, it's your opinion, that were it to be in an 807.11 framework, a POSITA would have to analyze whether it were operating in infrastructure mode or ad hoc mode to determine if it's a wireless networking device?
MR. SCHMIDT: Objection, form.
BY THE WITNESS:
A Yeah, so my opinion here is with respect to the claim term and my analysis in my declaration, is that consistent with my analysis and the perspective of a POSITA, that the infrastructure and ad hoc modes are examples that provide, again, additional support for my analysis for a POSITA and how this claim term is used.
I am not using it as a filter for saying

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yes or no just based on that alone; it's within the entire context of my analysis and that this is consistent with that.

If you want to go down a rabbit hole of a given scenario, we'd have to provide a lot more detail to say whether or not that's, I guess, positive proof of one way or the other.

I just didn't -- my section of my report isn't -- it's not how it's presented; it's not how it's discussed here. I don't know if that answers your question, but that's what I understand you're asking.

BY MS. BACT:

Q So when you say: "The client devices in infrastructure mode, however, would not qualify as a wireless networking device," would that not suggest that a POSITA would have to determine whether or not the device was in infrastructure mode to determine if it were a wireless networking device?

A No, what I'm saying is that if the device is operating within the infrastructure mode, then it's within the infrastructure mode. And if it's a client in that mode, as illustrated here with 802.11 infrastructure mode, it's operating as --

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as I just said, a client device and, therefore, it would not fall under the scope of the claim term "wireless networking device."

Q Okay. So for a client device operating in 802.11 to be a wireless networking device, in your opinion, it has to be in ad hoc mode, correct?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Again, I didn't -- what I'm saying is ad hoc mode is an example of where an 802.11 specifically is saying that you don't have an access point; it's actually not operating in the infrastructure mode, so, therefore, this is a separate mode; and that the devices are allowed to communicate to each other directly; and, therefore, are providing some type of access to each other's datasets, for example, or sharing data. And that's a separate mode from the infrastructure mode.

And I think I say here -- let me just read my declaration.

Yeah, so within my declaration here within these paragraphs and specifically pointing to this to support my analysis that Samsung's construction is consistent, and it preserves the distinction

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between the devices, client devices, and using the ad-hoc-versus-infrastructure example within 802.11 itself, that it's -- that construction is consistent with this, it preserves the distinction between these devices as disclosed within 802.11, and that's why I'm pointing to it here, within these paragraphs.

Q Okay. And I just want to come back to something you said earlier, and I'm reading off my real-time, so I hope it's an accurate quote.

You said that: "When devices are in ad hoc mode, they are, quote, providing some type of access to each other's datasets, for example, or sharing data."

And that is sufficient, in your mind, to be providing network access; is that correct?

A No. Certainly, they're constructing a network within the context of providing network access to the internet, that's not happening here; that's specifically for the -- why the ad hoc mode is disclosed.

It's an ad hoc network, it's designed to be temporary, come up, share data, go away. Music, for example.

So I'm discussing that with respect to the

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ad hoc mode and certainly drawing a distinction between that and the infrastructure mode where there's a disclosed access point in a -- in a different construction.

Yes, they do send data to each other. Is that forming an ad hoc network? Yes. Is it providing network access while within that local ad hoc network? Yes.

Q Can you explain to me how sharing data or datasets provides network access?

A Well, ad hoc networks are point-to-point temporary networks that are set up; for example, for doing music sharing.

So if you have five students that are together in a room and they have pieces of -- or various downloads of music and they want to share, they can create an ad hoc network, they can share all their files together, and it goes away.

So that sets up a temporary network to do that sharing and then it -- is ephemeral; it goes away.

Q So let's look at the image that you have reproduced on Page 21 of your declaration.

There are two sub-images, one is of infrastructure mode, and one is of ad hoc mode;

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would you agree?
A Yes.
Q And there's -- the ad hoc mode picture is, like, three laptops with double-headed arrows connecting each of them; is that fair?
A Yes.
Q And that would be, for example, three college students in a room sharing music with each other?
A That could be, yes.
Q Okay. And within each laptop, how is it that they join the ad hoc network?
A They follow a protocol for establishing communications and deciding on how to -- how to share the data.
Q And is that within each laptop, or is one laptop doing that for all of them?
A Oh, with -- by definition, with respect to an ad hoc network, each node is coming and going and has to provide capabilities to communicate with other nodes.
There is no -- if you're asking whether there's a server within that system, no, there's no server within an ad hoc network.
Q So each laptop is providing its own

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network access, correct?
A No, it's -- what it's doing is connecting to other devices to -- to share data, which is, again, the collection of devices is forming, you know, quote/unquote, a network -- temporary network, to share that data.
Q So there's a connection between devices? Can you tell me more about that?
A Well, the 802.11 standard, which it points out here, very adroitly, is that since the ad hoc mode doesn't really provide much capability, it's not very popular because you're not accessing the internet. But what's happening is, is you have each device is communicating with adjacent devices within a given range based on the RF transmissions and agreements to join the ad hoc network.
And so each device is performing that functionality. They have to do it at the same time, otherwise they'll miss each other and can't form the, quote/unquote, ad hoc network that they want to.
Within those limitations, each one of them is following a procedure to be able to send out information to say: Hey, I'm here. Is anybody else there? Can I join?

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Yes, you -- you know, can you join?
That kind of thing. You agree to join the ad hoc network. You do whatever you need to do and then it goes away.
Q I'm just trying to understand which part of that description that you just gave me is one laptop providing the other laptop network access?
A Oh, I see what you're saying.
So if, for example, I'm laptop 2 and I'm receiving a piece of -- let's just say there's 50 laptops. If I'm laptop 2 and I'm receiving a chunk of data that's associated with a particular music file or video -- let's do video, it's easier because they're bigger -- a particular chunk of video from another laptop, let's say using laptop 1, and laptop 48 needs that chunk of data but they can't talk to laptop 1 because it's outside of range, well, laptop 2 can send that piece of chunk of data.
So, in that respect, it's taking information from one laptop, one device, and it's providing it to another device.
And so that happens within the ad hoc network, that data -- that's how data sharing works within an ad hoc network.

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Q Mm-hm. And so transmitting data -- so okay.
One device receives data from another device and then transmits it to a third device, and that is providing network access to the third device?
A Well, that's an example of how that data's shared. It's when the -- in the context of an ad hoc network.
And so, again, a -- if a particular wireless device within that ad hoc network is not talking directly to another device within that ad hoc network, it must get access -- and that's by design -- through an intermediary device, which either, you know, has to have that information you're after in order to be able to provide that -- that data.
And, again, that is -- it's time-dynamic, but that's how it works.
Q I'm sorry. I'm still not understanding.
So access to data is the same as access to a network?
A I'm not sure I understand your question.
Q I'm still not understanding how, for example, the wireless networking device of claim,

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you know, 22 of the '414 patent, which is a phone in ad hoc mode, under your interpretation satisfies the construction.

A So if the phone is operating in ad hoc mode and it's providing, as I said, network access -- which, in this case, is an ad hoc network -- to other devices, then it's satisfying that claim term.

What is the network? The network is the ad hoc network itself. And what's the internet? It's all the devices within the internet, the routers and the switches, for example.

So I'm pointing to that saying you have these devices, they're forming an ad hoc network, and a device within that context is providing capability through the network and to both -- well, to other devices within that network, and other devices within that network are using it to maintain, construct, obtain data within this ad hoc network.

Q So because they're both existing and they're both joining the network, they're providing network access to each other?

A That's one -- yeah, that's one way to describe it, yes. The network is set up. It

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didn't exist before. They have to agree to participate. What is that agreement? I have data to share, I'm willing to share it, I'm willing to consume.

I'm providing a -- basically, a relay function to another device that can't see you, for example, Device A. I'm Device B. I'm relaying whatever I get from Device A out to any other device that may want it and request it, so I'm communicating with those other devices. That forms a network.

Q Okay. And that's the only context in which a client device could be a wireless networking device of these patents, according to you; is that correct?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Yeah, I don't limit my opinion. This is just an example, a specific example to illustrate the distinctions.

There's other examples I'm sure I can come up with to say that this is when a -- any device that has the claimed wireless networking system embedded in it is acting as -- and providing network access to other devices.

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BY MS. BACT:

Q Okay. And when you say -- and you're quoting from the Tanenbaum textbook that you're reproducing in your declaration -- "Ad hoc networks are not very popular," what percentage of the time are devices employing 802.11 employing ad hoc mode?

A That is an impossible question to answer, but the standard itself is saying, us as engineers recognize that this is not a very popular mode because of the fact that it's ephemeral.

So I don't know -- I can't give you a specific number, but it's certainly not nearly the majority of the time; it's tiny.

But what exact -- I don't know. I don't think anybody's ever done a study on that.

Q You know, under 10 percent of the time 802.11 is used?

MR. SCHMIDT: Objection to form. Asked and answered.

BY THE WITNESS:

A Yeah, I wouldn't be able to provide a context. I don't know. I haven't seen in all my years an analysis of how often it's used other than the general characterization such as in the

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standard here.

Which, if you're an engineer and have been practicing in the field, you -- you can't disagree with that general statement, but I can't put a number on it either.

BY MS. BACT:

Q Okay. And the ad hoc and infrastructure modes, those are not mentioned in the specification, correct?

A The specification mentions 802.11 but not specifically these infrastructure or ad hoc modes, that I can recall. I can take a look, but I don't recall that being discussed.

Q Okay. And there's nothing else that we haven't already discussed that you can point to that would support your opinion that a recipient and a wireless networking device are distinct, correct?

MR. SCHMIDT: Objection to the form of the question.

BY THE WITNESS:

A Again, my entire section here is comprehensive of my analysis, which also included my examination of other support and opinions.

I'm not excluding those within this

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presentation of my -- my declaration. I think my declaration is clear of my opinion and how I formed my analysis, but I'm not using this to exclude things that I -- I'm relying on in terms of my experience or anything else like that.
BY MS. BACT:
Q Okay. That's a fair statement.
So can you --
(Reporter request for a break.)
(WHEREUPON, discussion was had off the stenographic record.)
BY MS. BACT:
Q You said an ad hoc network is an example of a client device serving as a wireless networking device of the asserted patents. And you said you could think of other examples.
What are those examples?
A Well, I said I could spend some time to think about it.
Certainly, any time a device is acting as a conduit for network access. Typically we think of our -- our device, let's say it's a, you know, a tablet or an iPad or something, and I'm using it to provide hot -- hotspot capability -- excuse me -- to some other device, certainly in that

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mode, it's -- it's implementing a network access for the other device that's connecting to it.
But, you know, I mean, there's just -- any time that mode is happening, then it's providing access to the network for a device connecting to it, so it's a wireless networking device.
Q Okay. And in terms of your declaration, ad hoc mode is the only example that you provided where a client device would be a wireless networking device of the patents, correct?
A Well, it's a specific example I pointed to within my -- that section of the declaration.
I didn't go through and do a voluminous -- because I didn't -- it's pretty clear, especially since we're talking about the 802.11 standard here within the patent and how it's used and disclosed, it's the strongest one, and I chose that one is the reason I put it here.
Q Okay.
MS. BACT: Let's take a break.
Michelle, how long would you like?
MS. REPORTER: Ten minutes would be great.
MS. BACT: Anybody want more than ten minutes?
THE WITNESS: I'm good.

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MS. BACT: Okay.
THE VIDEOGRAPHER: Off the record at 12:43 p.m.
(WHEREUPON, a recess was had.)
THE VIDEOGRAPHER: Back on the record at 12:56 p.m.
BY MS. BACT:
Q Okay. Welcome back, folks.
Dr. Mahon, just to double-check, did you speak substantively with your counsel about this case during the break?
A No, I did not.
Q Okay. And I'm very sorry to do this to all of you, but I am going to pop another exhibit, which is just the '105 patent from this case, into the chat.
Let me know if you have received that and can download it. I'm also going to put it on my screen.
A Let me take a second to download it.
Q Sure thing.
(WHEREUPON, Mahon Exhibit No. 14 was presented to the witness.)
BY THE WITNESS:
A Okay. I have the '105 patent.

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BY MS. BACT:
Q Great. And, just to confirm, I'm also sharing my screen to show you Patent Number 11,950,105 to Manapragada, the '105 patent in this case, correct?
A Correct.
Q Okay. And I'm just going to take you to claim 1 of the '105 patent, which is at column 12 -- or, I guess, column 11 into column 12, but I'm going to take you to a place in the end of the claim, the last limitation that begins at column 12, line 41, and goes through line 49, and I have that highlighted on my screen.
Do you see it either on my screen or your screen, Dr. Mahon?
A Yes, I do see it.
Q Okay. And this is similar to the limitation that we were looking at in the '591 patent that discusses the other wireless networking device.
And this one discusses, rather than "other wireless networking devices," it discusses "any wireless networking devices." So that's, I'm sure, a typo, but, you know, wireless networking devices other than the wireless networking device

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that is being claimed here.
And here it says: "It does not prevent any wireless networking device from utilizing a range of frequencies corresponding to the remaining portion of the bandwidth availability of the first wireless transceiver for data transmission or reception purposes."
Did I read that correctly with the exception of omitting the extra word "devices"?
A Yes.
Q Okay. So this claim 1 of the '105 patent refers to the "any wireless networking device" having data transmission or reception purpose, correct?
A That is correct.
Q Okay. So a wireless networking device can transmit and receive, correct?
A That's correct.
Q Okay. So, at some times, with a plain and ordinary meaning of the word, a wireless networking device would be a recipient of a data transmission, correct?
A As is discussed here, certainly it would be receiving, just like an access point does when it's connecting to an end-point user within a

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network, so yes.
Q Okay. Thank you.
And I appreciate all of your patience as we work through "wireless networking device," and I'm ready to move on to "bandwidth availabilities."
So I'll take you back to your declaration and your Section C beginning at Paragraph 71, which relates to the information regarding the "bandwidth availabilities" claim term.
Are you there with me?
A Yes.
Q Great.
MS. BACT: And, I'm sorry, just for the record, I would ask -- and I know it's out of order -- for the court reporter to mark the '105 patent as Exhibit 14. And hopefully, we'll fill in the rest as we go along.
BY MS. BACT:
Q So I'm now scrolling to Paragraph 72 and 73 of your declaration.
In Paragraph 73, you say: "The parties appear to agree that this term requires the information fed back or provided as information regarding the, quote, current bandwidth

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availability of wireless transceivers."
Is that correct?
A Yes.
Q Okay. So the parties agree on, quote, current, correct?
A That's my understanding, yes.
Q Okay. So that would not cover, for example, historical statistics or averages regarding bandwidth availability, correct?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A My understanding is that they've agreed that it involves current. As far as my understanding with respect to specific context, I don't -- I haven't performed an analysis of whether there's a context of what -- whether statistical can come into play under current or not.
So I haven't done that analysis, so I can't give you a specific answer to that question as of yet.
BY MS. BACT:
Q Fair enough.
So moving on to Paragraph 74, you say: "In my opinion, a POSITA would understand that the

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claim language clearly contemplates providing or feeding back information regarding current bandwidth availabilities of, quote, each of the wireless transceivers that are recited in their respective claims," correct?
A Yes, that's correct.
Q Okay. So let's talk about "each." I'm going to mark a couple more patents.
MS. BACT: So I'm pulling up on my screen what I'd ask to be marked as Exhibit 8.
(WHEREUPON, Mahon Exhibit No. 8 was presented to the witness.)
BY MS. BACT:
Q And can you either see that on my screen or that you've pulled up on your side, Dr. Mahon?
A One second, please.
Q Take your time.
A Okay. I have Exhibit 8 open.
Q Okay. And is that U.S. Patent 11,974,143 to Manapragada?
A That is correct.
Q And that's the asserted '143 patent in this case?
A Yes.
Q Okay.

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MS. BACT: So I'm just going to mark another one real quick so we can move through a little bit more quickly, hopefully.
BY MS. BACT:
Q I'm opening up Exhibit 9. If you could do the same, that would be great.
MS. BACT: And I ask that this be marked as Exhibit 9 at the reporter's convenience.
(WHEREUPON, Mahon Exhibit No. 9 was presented to the witness.)
BY MS. BACT:
Q Let me know when you're there, Dr. Mahon.
A I have it open.
Q Okay. Great.
And this is U.S. Patent 12,015,933 to Manapragada?
A That's correct.
Q Okay. Great.
And this is the asserted '933 patent in this case, correct?
A That's correct.
Q Okay. So now let's go -- sticking with Exhibit 9, let's scroll to claim 1, again beginning -- oh, this one actually begins in column 12.

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So I'm in column 12 -- and I'll make this bigger. And the claim term that we're looking at is in the limitation that's about 12-29 to 12-35, correct?
A I'm sorry. That you're highlighting, is that what you mean?
Q Yeah. We're talking about this feed information regarding the "bandwidth availabilities" term, right?
A That is within that column 12 within those lines that is contained within there, yes.
Q Okay. Great.
So just looking together at the rest of the claim, can I direct your attention to in the limitation prior to that that begins at about line 20, it says that -- or it claims: "The first and second wireless transceivers respectively have first and second bandwidth availability up to a first and second actual bandwidths."
Is that correct?
A Yes.
Q Okay. So when we're talking about "feeding the bandwidth availabilities," we're talking about that first and second bandwidth availability that we just looked at, correct?

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A Yes.
Q Okay. And now going on the other side of the claim language that we're thinking about for construction, the next limitation that starts at about 12-36 says: "Wherein, the processing interface is configured to, after the circuitry has been connected to the application interface and when the wireless networking device is being used..."
And then it goes on to list a number of functions. And I want to direct you to the one that begins at 12-47 marked with a little (b).
"(b): Identify at least one first portion of the first actual bandwidth of the first transceiver, the identified at least one first portion comprising a set of given resources."
Do you see that?
A I do.
Q Okay. And then looking at the (a) through (d) there, is there anything that ever talks about the second bandwidth availability?
Or the second actual bandwidth?
A One second.
That -- those lines, approximately 42 in that column all the way down to 63 --

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Q Mm-hmm.
A -- don't con- -- contain the word "second." It certainly is referencing a first portion of a bandwidth.
So I would say the second portion of the bandwidth is -- those words specifically don't show up, but it certainly discusses a first portion.
Q Right. So we -- and we have the first -- the first actual bandwidth is what's -- you know, there's a first portion of the first actual bandwidth.
And so, going back to the first limitation that we looked at together all the way up at line 24. So: "The first and second wireless transceivers respectively have a first and second bandwidth availability up to first and second actual bandwidths."
So would you agree that there are two transceivers, the first and second transceivers in this claim?
A Well, certainly, the claim right above those lines says specifically: "Associating first and second wireless transceivers with first and second actual PHY interfaces."

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So it's -- the language is saying "first and second wireless transceivers."

Q Okay. And each of those first and second transceivers has an associated bandwidth availability up to an actual bandwidth, right?

So the first transceiver has a first bandwidth availability up to a first actual bandwidth, and the second transceiver has a second actual bandwidth -- or second bandwidth availability up to a second actual bandwidth?

A So the claim at line 24 says it's a first and a second. In 1, as you mentioned: "First and second bandwidth availability up to a first and second actual bandwidths."

And then, 2: "Are adapted to emit radio signals in the first and second different bandwidth."

So it's clearly discussing first and second bandwidths, transmitting in those bandwidths, and that there is a first and second transceiver.

I mean, that's just kind of the plain and ordinary meaning. I'm not sure if you're asking a specific question that I'm not discerning here but...

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Q I guess I'm trying to ask you if you would agree, as a POSITA, that the first transceiver goes with the first bandwidth availability, which goes with the first actual bandwidth; and the second transceiver goes with the second bandwidth availability, which goes with the second actual bandwidth?

Is that how you read the claim language?

A Yes, I think in my declaration, I'm discussing that and -- with respect to -- I think your lead into this whole section was my analysis and support for that -- regarding each of the -- the current bandwidths for each of the wireless transceivers.

Q Okay. So we -- there are two transceivers recited with two bandwidth availabilities and two actual bandwidths, right? Each -- there's two of each.

But then when we come down to the functions that are described at 12-37 through 12-63, only the first actual bandwidth of the first wireless transceiver is discussed; we do not see any discussion of the second actual bandwidth of the second wireless transceiver; is that correct?

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A Well, there's no specific discussion of it within that -- those elements.

Q Okay. So there's no requirements in the claim for anything about the second actual bandwidth, correct?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Yeah, that's not the way I read it, certainly, within the context of the claim. Specifically, as I just pointed out, and as you pointed out, right above that discussing the first and second bandwidths, certainly based on my analysis, I don't -- I don't see it excluding the second bandwidth here.

It's not -- it's certainly only mentioning the first bandwidth. So I don't see it excluding it, though, and based on my analysis, as I have in my declaration, I discussed that.

BY MS. BACT:

Q Understood.

Can we agree that in these (a) through (d) functions recited in the limitations of claim 1 of the '933 patent from column 12, line 37 through line 63, only the first actual bandwidth of the first wireless transceiver has required functions

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which are to have a first portion of the first actual bandwidth identified and evaluated?

A Within the limitations associated with lines 37 through 63, it's addressing, based on the setup above that in the claim, the first portion being evaluated and identified within the system.

It does not discuss within that -- those lines and that limitation the second portion.

Q Okay. And just finishing out claim 1 -- and I'm sorry that it's across two pages -- looking at lines 65 -- or, excuse me, 63 through column 13, line 6, is there any mention of the second wireless transceiver, the second bandwidth portion, or the second actual bandwidth?

A Well, this is also a "wherein" clause, so it's obviously being amplified from the claim term so far, but within that -- those lines from column 12-64 -- 63 through 13-6, it is not talking about -- or it doesn't use the word "second." It doesn't address "second" within that -- those words of that claim --

Q Okay.

A -- at that portion.

Q Thank you. And apologies for talking over you at the end there.

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All right. Now let's go back to Exhibit 8, the '143 patent that we already marked together, and let's visit claim 1 again. And this one begins at the bottom of claim 11 and carries up to claim 12.

So I have that on my screen. I don't know if you're looking at it on my screen or your screen, but if my screen is too small for you, let me know.

A I have my own copy open.

Q Okay. Great.

Well, I'm looking at the top of column 12 at line 6. This patent has three transceivers, correct; the first, second, and third wireless transceivers?

A That's correct.

Q Okay. And then if we look at the little 2 in that same limitation at about line 10, we have a first, second, and third bandwidth availability up to a first, second, and third actual bandwidths, correct?

A Correct.

Q Okay. And then at around line 18, we see the feed information regarding the bandwidth availabilities, that language that we're talking

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about, correct -- that we're construing, correct?

A Yes, feed information regarding the bandwidths of the first, second, and third transceivers back, yes.

Q Okay. And then we have another "wherein the processing interface is configured to" section with a list of functions beginning at about column 12, line 23 and going down to column 12, line 43.

Do you see that?

A Yes.

Q Okay. And in this one, again, we have: "Identifying a -- at least a portion of the bandwidth available for communication of a first selected wireless transceiver of the first, second, and third wireless transceivers."

Do you see that?

A Yes.

Q Okay. So it's not saying which transceiver, but it's saying identify a portion for one of them, right?

A The language says: "Identify at least a portion of the bandwidth available for communication of a first selected receiver of the first, second, and third wireless transceivers."

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So it's saying that that portion is of a first selected transceiver from the three transceivers is what it's saying.

Q Right. So we're choosing one out of the three, and that's happening first, right?

A Yes.

Q Okay. And in this section that we're looking at with a little 1 through little 4, are we talking about any of the other transceivers, anything happening with them, or is it just that first selected transceiver?

A Well, outside of the context that obviously when you're selecting one of the transceivers, it's between the three, and those -- all three are involved as part of that selection, otherwise you wouldn't be selecting between three.

Let me just keep reading here to make sure I'm not overlooking something.

It does not mention anything other than that first selection.

Q Okay. And so then if we continue down to the next portion of the claim beginning at about line 46 of -- excuse me, line 44 of column 12 and extending to about line 58 of column 12, this refers to a second selected wireless transceiver,

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correct?

A Yes.

Q Okay. And it involves identifying at least a portion of bandwidth available for communication of that second selected wireless transceiver?

A It says "a selected," which is once it's selected, it would be the -- yes.

Q Sorry. Thank you for clarifying.

So in the section we looked at above, we were talking about a first selected transceiver; in the section we're looking at here, we're talking about the second selected transceiver; and each of those as having an identi- -- a portion of bandwidth available identified from its resources, correct?

A Yes.

Q Okay. And then if you look at the rest of claim 1, which extends to the bottom of column 12 and then all the way through column 13, line 14 or 13, it's hard to tell which, there's no mention of a third selected transceiver, correct?

A It's discussing -- it is not discussing a third selection within those lines of the claim.

Q Okay. Thank you.

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Shifting gears a little bit back to your declaration. So moving down to Paragraph 78, you reproduce Figure 4 of the common specification in this portion of your declaration, correct?

A That's correct.

Q And is it your opinion that Figure 4 is an illustration of feeding back information regarding the bandwidth availabilities?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Give me a second to review my declaration in this section.

BY MS. BACT:

Q Sure thing.

A Okay. Would you reask your question, please?

Q Sure. My question was: Is it your opinion that Figure 4 is an illustration of feeding back information regarding the bandwidth availabilities?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A So I'm pointing to Figure 4 for my analysis of the -- providing what's -- what's -- the claim terms are requiring feeding

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back information -- feeding back or providing information regarding current bandwidths availabilities and of each wireless transceiver.

And then I'm using Figure 4 for support and -- let me just look at this.

Specifically I'm citing to the virtual MAC and PHY layers; performing an evaluation; and that the transceiver resources are depicted.

Let's see...

Q I might direct you to Paragraph 79 of your declaration.

A Right. And I'm just there. So here I'm saying the Figure 4 explains how the virtual MAC interfaces with the virtual PHY to determine device availability.

And then I'm citing to another section, which says: That involves a determination at the PHY layer as to the actual availability of initially assigned transceiver resources.

And then I'm supporting that with a cite to the fact that: "Should a given resource be unavailable as through insufficient bandwidth or already being used, a replacement resource may be identified and assigned, thus, again, a POSITA would understand the intrinsic evidence to

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describe a system in which information regarding the bandwidth availabilities of each of the wireless transceivers is fed back or provided to the virtual MAC to enable pre-transceiver evaluation."

So if I remember your question specifically, I'm saying here that based on my analysis and what I see within the spec is that the system is disclosing or used as support for the -- the bandwidth availabilities of each of the wireless transceivers being fed back to the virtual MAC is what I'm pointing to Figure 4 for here.

Q Okay. And so I understand that you're using it as support for Samsung's construction and your opinion that it should be each transceiver, but my question was, more generally, does this depict the feeding back of the information regarding bandwidth availabilities that is the claim term that we're construing?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A So I'm pointing to the disclosures in the spec with regard to Figure 4; I'm not -- and I'm not pointing to a specific element here, meaning

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an arrow or something to say it's being fed back based on this.

I'm pointing to the actual description as well as what's illustrated in the Figure 4 to come to that conclusion or support my analysis.

So if you're asking me for something in -- if it's illustrated in Figure 4 that provides me detail of saying, yeah, it's being fed back, I would have to say I would -- looking at this figure, I have to read the spec to see what's going on to be able to make that determination, and that's what I did in my declaration.

BY MS. BACT:

Q Okay. I didn't mean this to be a gotcha; I just wanted this to be a placesetter, okay?

So you cite to Figure 4. Let's pull up the '591 patent, which is the one that you're citing, Exhibit 5, and let's go to the sections that you're citing, which is about the end of column 4.

A One second, please.

Q Yeah. Take your time.

And there's a spot at about line 45 that says: "Referring to Figure 4."

Let me know when you're there.

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A This is column 4?
Q Yes, column 4 about line 45.
A Line 45: "Referring to Figure 4."
Q And if you're able to look at Figure 4 and the spec at the same time, whether it's the Figure 4 that's reproduced in your declaration or otherwise, that would be wonderful, but --
A Okay.
Q -- we can flip back and forth if that's something that you need to do.
A Okay.
Q So you say in 78 of your declaration that: "Figure 4 and its associated description explains how the virtual MAC and PHY layers involve an evaluation of availability transceiver resources to meet peak bandwidth demands of applications running in the application layer."
And that's '591 patent at 445 to 48.
Do you see that either in your declaration or in the patent?
A Yes.
Q Okay. And then you say: "The transceiver resources in Figure 4 illustrated as Device 1 and Device 2," citing to lines 50 and 51 of the patent spec, correct?

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A That's correct.
Q Okay. And then moving on in the spec and in your declaration: "The virtual MAC 302 interfaces with the virtual PHY 304 to determine device availability, which involves a determination at the PHY layer as to the actual availability of the initially assigned transceiver resources," correct?
A Yes --
Q I'm referring -- I'm reading from your declaration in Paragraph 79, and that's quoting column 4, 52 through 56 of the patent.
A Yes, I do see that, and that's correct.
Q Okay. So let's go back to Figure 4 together. We can look at after Paragraph 78 in your declaration or I can move it -- go in the patent.
Oh, it's so big.
Okay. So I've got Figure 4 on my screen, and you can look at it wherever it suits you best. Do you see at the bottom the structures labeled "Device 1" and "Device 2"?
A Yes.
Q And we discussed that those are the transceiver resources, correct?

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A Yes.
Q Okay. And within those transceiver resources, there's a little box that says: [As read] "PHY: RF1 available. Yes" in Device 1. And in Device 2, it says: [As read] "PHY RF2 available. No."
Do you agree?
A I do.
Q Okay. And then from those Device 1 and 2, there are arrows connecting up to the virtual PHY, correct?
A There are arrows from Device 1 to up to the box that is titled "virtual PHY," correct.
Q Great. And so then when we look within that box that says "Virtual PHY," it replicates that information that we got below that Device 1 is available yes and Device 2 is available no, right?
A Yes.
Q Okay. And so what do you take the line that is -- or the line that comes from the two devices going up to the virtual PHY to be?
A Well, I take it to be an illustration of what's disclosed in the specification, which we just read through in terms of the cite for the --

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my analysis of that information being provided -- or used within the MAC and PHY layers 302 and 304 and obtained from the -- based upon the transceiver resources from Device 1 and 2 -- or of Device 1 and 2 resources is what I take it to mean.
Q Mm-hm. And the specification says -- and this is quoted in your declaration at Paragraph 79 -- that this involves a determination at the PHY layer as to the actual availability of the initially assigned transceiver resources, correct?
A That is what the patent discloses, yes.
Q Okay. And then that information is communicated to the virtual PHY?
Or let me put it this way: The virtual PHY obtains the information to do the evaluation of the resources -- withdrawn. Hold on.
So there's a determination at the PHY layer, and then that information is provided to the virtual PHY, correct?
A The determination is done at the PHY layer itself, and then, based upon the disclosures we've been talking about, that is provided to the virtual PHY layer.

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Q Okay. So we've been in Paragraphs 78 and 79 -- and, I'm sorry. I've been assuming I was sharing my screen, but I haven't been --

A I've been --

Q -- that correct -- you've been looking at your own. I'm sorry. I thought I was showing you Figure 4, and I haven't been; I apologize. Thank you for looking at it on your screen.

Okay. So moving on to Paragraph 80, you state: "This conclusion is also consistent with the prosecution history. For example, during the prosecution of the application that became the '756 patent, the applicant submitted an August 15th, 2024 preliminary amendment arguing in connection with Figure 1 that each actual" -- excuse me -- "that, quote, each actual MAC and each actual PHY in a particular wireless networking device communicates directly with the processing layer, brackets, shown by the two-way arrow in Figure 1 connecting the MAC 114 and PHY 116 with process layer 104, close brackets, to allow it to receive information regarding bandwidth availabilities from the wireless transceiver associated with each MAC/PHY pair."

Did I read that correctly?

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A That's correct.

Q Okay. And it's your opinion that this selection from the file history would inform a POSITA's understanding of the scope of this claim term?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Well, I'm using this to specifically reference support for analysis of -- of the claim term which is whether each actual MAC and each actual PHY are involved because the construction is each of the wireless transceivers proposed by Samsung versus what's proposed by XiFi.

And the claim terms themselves don't use the word directly, but that's used in that reference that I cite to.

But I'm citing to that for support for each -- the word "each" in -- or if there were -- yeah, "each" being required as part of the claim construction.

BY MS. BACT:

Q Thank you. I'm asking you something more general, which is whether you think this selection of the file history that you quoted is helpful in informing a POSITA as to the scope of the claim

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term?

MR. SCHMIDT: Objection. It's asked and answered.

BY THE WITNESS:

A Yeah, I -- so my analysis is that, again, based on what the claim terms -- the words the claim terms use and the proposed constructions is that, based on the proposed constructions, you know, my opinion is obviously that Samsung's construction should be accepted because of the clarity; it doesn't add additional complications or, basically, confuse the plain and ordinary meaning.

I'm pointing to those disclosures as support, but I'm not saying that those are what inform me; I'm saying that those also provided additional context for my evaluation as to whether whose opinion was more correct in terms of how a POSITA would -- would understand the claim terms.

So it's within only the scope that I'm talking about here in Paragraph 80, not expanded as a general statement.

BY MS. BACT:

Q Okay. But you used the text that you quoted to provide additional context for your

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evaluation as to how a POSITA would understand the claim terms?

A I did use it, yes, to provide additional context and to make a determination of whether the proposed constructions provided clarity or added ambiguity or added additional elements that shouldn't have been there, so yes.

Q Okay. Great. Thank you.

And so like I had just read out loud when I read that text, there were some brackets, correct?

A Let me just get back there. Sorry.

Q No problem. It's in Paragraph 80. When you quoted that selection, you bracketed some text; is that correct?

A I -- there are brackets, yes, within that quote.

Q Okay. So I just want to look at that original source. I'm going to pull it up.

MS. BACT: Do you -- this is going to be, please, marked as Exhibit 10.

(WHEREUPON, Mahon Exhibit No. 10 was presented to the witness.)

BY MS. BACT:

Q And can you see on your screen a lovely

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certificate of the File History of Patent Number 12,169,756?
A Sorry. One second, please.
Q Take your time.
A Okay. I do see the seal application number, yes, ending in '267.
Q And the patent number a little bit below that ending in '756, correct?
A Correct.
Q Okay. Great.
And this has the Bates number XIFI_0012343, which is the begin Bates that you cited in Paragraph 80 of your declaration, correct?
A Correct.
Q Okay. And I will represent to you that we have excerpted this file history. This is only those particular August 15th, 2024 preliminary amendments and applicant remarks that you referred to, so that's what's beginning on the next page.
And I'm just going to scroll to the page that you cited, which is 13817. And if you're doing that on your own screen, let me know when you get there.
A Okay. I am on 817.

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Q Okay. And you see the numbered Paragraph Number 1 at the top?
A Yes.
Q Okay. And so the text that you quoted is in the final sentence of the paragraph, correct? Where it says: "Each actual MAC..." and continues?
A Yes.
Q Okay. And so the -- I'm just going to read this to you fully.
"A two-way arrow connects the dashed box with a, quote, process layer 104. This discloses that each actual MAC and each actual PHY in a particular wireless networking device communicates directly with the processing layer to allow it to receive information regarding bandwidth availabilities from the wireless transceiver associated with each MAC-PHY pair."
Did I read that correctly?
A Yes.
Q Okay. Great.
So when you bracketed that text, you basically brought down that sentence into the text, the sentence beginning "a two-way arrow..." down into the text of the next sentence, correct?

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A Yes.
Q Okay. And flipping back a page, this is reciting new claims 16 and 17, correct?
A Yes.
Q Okay. So I'm going to take this down. And let's look together at the '756 patent. I'm opening up what I'll ask the -- be marked as Exhibit 11.
(WHEREUPON, Mahon Exhibit No. 11 was presented to the witness.)
BY MS. BACT:
Q Let me know when you're looking at Exhibit 11, Dr. Mahon.
A I have it open.
Q Okay. And this is U.S. Patent 12,169,756 to Manapragada, correct?
A Yes.
Q Okay. And that is the asserted '756 patent in this case?
A Yes.
Q Okay. And we were just looking at the file history for this patent, right?
A Correct.
Q Okay. So let's look at those dependent claims. Scrolling down. And they actually ended

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up being 15 and 16, not 16 and 17, I believe.
Let's see if you agree with me.
So looking at claim 15, it says: "The wireless networking device of claim 1, wherein the information provided by the resource monitoring interface to the virtual MAC interface is received by the resource monitoring interface directly from at least one of the first and second actual PHY interfaces."
Did I read that correctly?
A "MAC interfaces," yes.
Q I was reading claim 15, which says --
A Oh.
Q -- "PHY interfaces."
Do you see that?
A I do.
Q And then the -- because I think we are on the same page. The next claim is identical except it says: "From at least one of the first and second actual MAC interfaces in claim 16," correct?
A Correct.
Q Okay. So in each of these, the resource monitor and interface is providing to the virtual MAC interface only -- from only one of the first

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and second interfaces, whether it's MAC or PHY, correct?
MR. SCHMIDT: Objection to form.
BY MS. BACT:
Q Well, let me --
A It says --
Q -- one at a time.
A It says: "At least one of the first and second." So it's saying that it's taking it from, again, one of the first and second actual PHY. So it has to be at least and it's from both.
Q It's from both? How is it from both?
A Well, at least one of. So it has -- it's looking at both, first and second actual MAC interfaces. So it's -- it's monitoring interface directly from at least one of the first and second. So --
Q So, for example, looking -- oh, excuse me, Dr. Mahon. Go ahead.
A No, all I'm saying is it has that conjunctive term in there of "at least one of the first and second."
Q Right. So let's say I'm looking at claim 15, and the resource monitoring interface provides to the virtual MAC interface the

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information directly from one and only one actual MAC -- actual PHY interface; does that satisfy claim 15?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A Okay. So in my -- trying to relate your question to the opinion I have in my declaration and how you're asking for clarification based on my opinion as expressed, and so I'm going to have to take the -- ask you to repeat that after I do a review of what I have disclosed here because it's out of context that I can recall.
So ask your question again, please.
BY MS. BACT:
Q Sure. So in the context of claim 15, if there is a wireless networking device of claim 1 wherein the resource monitoring interface provides the recited information to the virtual MAC interface and that information is received by the resource monitoring interface directly from one and only one of the actual PHY interfaces, does that meet claim 15?
MR. SCHMIDT: Objection to form. Scope.
BY THE WITNESS:
A My analysis of the proposed claim

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constructions, I discuss whether the construction of current bandwidths should be included, whether -- current bandwidth availabilities, and specifically both parties agreeing to that each -- well, seemingly agree that each of the -- from each of the wireless transceivers. And then further discuss the additional language on XiFi's construction with respect to the spec.
I don't have an -- I didn't provide a specific opinion that I could see that is supporting what you're asking in terms of one and only one. My opinion is that it has to be back -- based on the claim constructions, proposed claim constructions and the disclosures that the bandwidth availabilities have to be from each of the wireless transceivers, or the information regarding the current availabilities.
And that you're -- you're pointing to claim 15 and 16 and whether a particular construction which isn't there would be consistent, I would have to take some time to do that analysis.
I don't -- I don't recall citing to -- or mentioning anything that would lead to that conclusion in my analysis that you're -- you're

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pulling from.
BY MS. BACT:
Q So you cited to file history excerpts that relate to these claims; and you said that the file history remarks that supported the allowance of these claims support your construction; and these are dependent claims which have to make sense with your construction; would you agree?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A My construction is associated with the claim terms that were asked to be construed -- or to be clarified and my analysis of each one of those. I think my opinion is consistent with both -- with the issued patent and the patents as they stand.
As far as pointing back to the file histories, it's, again, for additional context, which I rely on those. I don't -- again, I don't recall discussing those specific claim elements or that -- those claim elements within that context.
So I'd have to go back, again, to look at that to see if there's anything that I would add to it, but I think my opinion is consistent with what has been proposed and what is disclosed as

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far as that claim language is concerned and that Samsung's construction is more consistent with that.

BY MS. BACT:

Q Okay. So in Paragraph 23 of your declaration, you're reciting some legal standards that you understand from counsel and you say: "I am informed that a patent may include two types of claims: Independent claims and dependent claims. An independent claim stands alone and includes only the limitations it recites. A dependent claim incorporates all limitations of the independent claim upon which it depends, plus the additionally recited limitations."

Did I read that correctly?

A Yes.

Q Okay. So claim 15 and claim 16 depend from claim 1 of the '756 patent, correct?

A Correct.

Q Okay. So they include all of the limitations of claim 1, plus the "wherein" language that is included explicitly in those claims, correct?

A Well, the entirety of claim 1, correct.

Q And then the additional information that's

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in each of the claims, right?

A The additional "whereins" in the independent claims, yes.

Q Okay. Great.

So would you agree that a dependent claim has to satisfy the independent claim?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A So the dependent claim incorporates everything from the independent claim, and that it further narrows the independent claim.

BY MS. BACT:

Q So let me ask it this way: If I infringe claim 15, I'm necessarily infringing claim 1, correct? I definitely do all the stuff in claim 1 if I'm doing claim 15?

A Correct.

Q Okay. So claim 15 says that claim 1 can be satisfied in a particularly narrow way if the resource monitoring interface gives information to the virtual MAC that it has received -- that the resource monitoring interface has received from at least one of the first and second actual PHY interfaces, correct?

MR. SCHMIDT: Objection to form.

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BY THE WITNESS:

A Okay. So certainly claim 15 adds the additional "wherein" clause. As far as my analysis of the claim terms with respect to the proposed constructions, I discuss the requirements as I've analyzed them. And specifically, I guess, I would -- I think I address what you're talking about here in my Paragraph 88 regarding the proposed construction and trying to -- pointing out support for XiFi's position.

But my analysis of that position associated with the "at least" language and how that plays into the requirements as understood by a person of ordinary skill in the art of the terms themselves overall, that it adds ambiguity based upon how those terms would be understood.

So you're asking me of -- to do an analysis which my opinion doesn't address. I don't have -- I don't have an analysis of -- I actually have the opposite analysis in my -- in my declaration.

So certainly claim 15 has language that you're citing to; and, yes, it's dependent on claim 1.

I'm not sure how that addresses my

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analysis and construction of what adds either additional ambiguity or what adds clarity to the claim constructions I guess is what I'm saying.

Q Okay. Thank you, Dr. Mahon.

So you mentioned Paragraph 88 of your construction and that addresses XiFi's proposed construction which does include the words "at least"; is that correct?

A Correct. That they must be obtained directly from at least the recited actual PHY and the recited actual MAC interfaces.

Q Okay. And, just to be clear, that's XiFi's proposed construction, not the claim language of claims 15 and 16 of the '756 patent, correct?

A Yes.

Q Okay. And is it fair to say that your opinion does not contain an analysis of claims 15 and 16 of the '756 patent?

A I didn't do a claim analysis -- claim-by-claim analysis; I did an analysis of the proposed constructions and the terms and how they're disclosed. And, in that context, I reviewed the specifications, but, no, I did not provide an analysis of claims 15 and 16.

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Q Okay. Like, for example, in Paragraph 65 of your analysis, you -- of your declaration, rather, you provide some discussion of the dependent claims in regard to the term "wireless networking device" and you specifically cite particular dependent claims and how they're consistent with your construction, correct?
A In the -- yes, in the context of how the claims either narrow or -- yeah, narrow the construction of an independent claim.
Q And you did not do a discussion in your declaration of claims 15 and 16 of the '756 patent with regard to the information regarding "bandwidth availabilities" claim term, correct?
A I did not provide a specific analysis. As I said, my analysis is based on the entire patent, but I did not exclude 15 and 16. I did not do a specific analysis on that.
Just on the proposed claim constructions with respect to the entire specification of disclosures and whether, from a POSITA's perspective of what those terms mean, which construction is more consistent and adds clarity versus possible ambiguity to the constructions, that's all.

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Q Okay. Let's talk about Paragraph 88 since you raised it.
Now, in Paragraph 88 of your construction, you say -- and I'm reading the second sentence of that --
A One second, please.
Q Sorry?
A I'm just getting back there.
Q Let me know when you're there, please.
A I'm there.
Q Second sentence of Paragraph 88 of your construction: "XiFi's proposal that the information fed back or provided must be, quote, obtained directly from at least the recited actual PHY interfaces, and the recited actual MAC interfaces seems to require that this information be obtained directly from both the actual PHY interfaces and actual MAC interfaces."
Did I read that correctly?
A Yes.
Q And the quote that you are quoting begins at "obtained" and ends at "interfaces," right?
A That is correct.
Q And the words "must be" are not within the quote, correct?

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As it's reproduced on Paragraph 88, correct?
MR. SCHMIDT: Counsel, what are you referring to when you say "must be"?
MS. BACT: Thank you for asking for clarity. Let me rephrase.
BY MS. BACT:
Q You used the words "must be" directly before the quoted material in the second sentence of Paragraph 88 of your declaration, correct?
A I do use those words, yes.
Q Okay. But those are not within the quotation marks, correct?
A Those are outside the quotation marks.
Q Okay. Please turn to Page 23 of your declaration, and let me know when you're there.
A 23?
Q Page 23.
A Yes.
Q Paragraph 72, do you see the competing constructions for the bandwidth availabilities term?
A Yes, I do.
Q Okay. And you quoted a portion of XiFi's construction that began at "obtained directly,"

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correct?
A Yes.
Q And what are the two words directly before "obtained directly" in XiFi's actual construction?
A "Can be."
Q Is it your opinion that "can be" and "must be" have the same meaning?
A Well, "can" is the ability; "must" is a requirement. And based on my reading of XiFi's position, the reason I used the word "must be" is my characterization of their position --
Q Okay.
A -- in that analysis.
Q Excuse me for talking over you.
So XiFi's construction says "can be," which is an ability, correct?
A Yes.
Q Versus your characterization "must be," which is a requirement, correct?
A Well, I'm not reading into XiFi's construction; I'm just saying based on and -- when I present this, that it's certainly clear that's what they're saying. I'm not trying to read into their construction and add words into the construction; I'm trying to interpret their

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construction in context, and so --
Q Well, you said "can be" is a -- an ability, correct? Or did you say a capacity?
Let me scroll back.
A No, "can" means basically you are -- you have the ability to; meaning if you -- if you can do something, you have the ability to do something.
Q Okay. So XiFi's construction is that the information regarding current bandwidth availabilities of the recited transceivers has the ability to be obtained directly from at least the recited actual PHY interfaces and the ac- -- the recited actual MAC interfaces.
Is that fair to swap out "can be" with an "ability to"?
MR. SCHMIDT: Objection to form.
BY THE WITNESS:
A Yeah, I'm not -- I'm not trying to -- again, I'm not trying to change their construction; this is just my opinion based on my analysis.
And I'm just pointing out here of that particular element of their construction, that obtained directly from, only makes sense from --

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based on my analysis that it has to happen based on the construction and a POSITA's perspective of, if that's a requirement, then I further go on here to point out how that adds additional ambiguity to what should be a clarifying construction.
So I wouldn't characterize it as, yeah, I'm -- I need to swap out words or I should have swapped out words, I'm just going to -- it's the way I constructed the sentence based upon my analysis. I'm not trying to add additional language to their construction or misconstrue their construction.
BY MS. BACT:
Q Okay. Well, Dr. Mahon, let's just back up a minute because you said "can be" means an ability to, correct?
A I did say that, yes.
Q And you said "must be" means a requirement for?
A The word "must" in terms of the word itself, yes.
Q Okay. And you said that XiFi's construction, and I quote, seems to require that this information be obtained directly from both the actual PHY interfaces and actual MAC

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interfaces. That's what you said, correct?
A Yeah, it seems to require, yes.
Q And that's because you said the words "must be," correct?
A I used the word "must be," yes. And, again, that's part of my analysis for how I viewed the proposed terms within the -- the proposed constructions in support for those prose -- proposed constructions.
And it -- I'm pointing out in this entire paragraph that it's a little unclear to me exactly what's being required and what isn't, and that's the language I chose to use to make that distinction.
So, yes, I used both those words at those -- both places in that sentence.
Q Okay. And, just to be clear, XiFi used the words "can be," correct?
MR. SCHMIDT: Objection. That question has been asked and answered multiple times now, and the construction and the declaration speaks for itself.
BY THE WITNESS:
A Yeah, and I'll just repeat that I'm not -- they're outside the quote for a reason. I am

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giving my opinion of my analysis here, and I -- those are the words I used to articulate my opinion.
The constructions are what they are. I'm not trying to change them other than do the analysis, and that's what I present here in this paragraph.
BY MS. BACT:
Q I just want to talk briefly about a couple of paragraphs we skipped over in your declaration, 86 and 87. Can you tell me when you're looking at Paragraph 86.
A Okay. I'm there.
Q Okay. Great.
So in this paragraph, you are discussing certain structures. And you say that: "The specification describes how the, quote, virtual PHY layer may include a, quote, RF block or multiple, quote, RF blocks to denote the virtual use of two sets of allocated transceiver resources," correct?
A Yes.
Q Okay. And then you discuss that the RF blocks communicate directly with the ultra streaming block about the actual resource

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availability and the ultra streaming block sends information back to the decision block in the virtual block layer, correct?
A Yes.
Q Okay. And then you also quote that the virtual PHY RF block may communicate with the virtual MAC decision block and/or the processing block?
A Yes.
Q Okay. So the RF block that you discuss is part of the virtual PHY, correct?
(Reporter's request for a recess.)
BY THE WITNESS:
A Ask your question again, please?
BY MS. BACT:
Q Sure. As you say in the second sentence of Paragraph 86, the RF block is included within the virtual PHY layer, correct?
A Yeah, the cited section of the '591 patent states that the virtual PHY layer 304 may include an RF block 112.
Q Okay. Excellent. And then the other structures that are recited in this paragraph include the ultra streaming block, correct?
A Yes.

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Q And do you agree that the ultra streaming block is part of the virtual MAC?
A It says it can include that or may include, yes.
Q Okay. And then, additionally, this discusses the decision block, correct?
A That -- oh, and specifically it says: "The disclosure is actually the virtual MAC management layer may include the decision block and that" -- to answer your question, that the information -- let's see -- "sends the information back to the decision block in the virtual MAC."
And that is...
Yes, that's in the patent specification discloses that the decision block in the virtual MAC layer, so yes.
Q Okay. And the same is true of the processing block that you also mention, correct?
A The virtual MAC decision block and/or the processing block -- processing block. And you're asking specifically about the processing block?
Q Right. So if I could direct you to column 4 of the '591 patent which you're quoting from at about line 33.
You can let me know when you're there.

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A Okay.
Q Are you there?
A Yes.
Q Okay. "The virtual MAC management layer 302 may include the decision block 106, the processing block 108, and the ultra streaming block 110. The virtual PHY layer 304 may include the RF block 112."
Did I read that correctly?
A Yes.
Q And these are the structures that you discussed in Paragraph 86, correct?
A Correct.
Q So all of these structures are in the virtual MAC or the virtual PHY, correct?
A Yes.
Q And none of them are in the actual MAC interface, right?
A What's being disclosed here is only discussing the virtual MAC or virtual PHY. It's not specifically mentioning the actual PHY or MAC here.
Q Thank you very much. You anticipated my next question and answered it, so we can skip that. Thank you very much.

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If you would turn to Paragraph --
(Reporter's request for a recess.)
MS. BACT: Yes. Let's take a break for Michelle. I'm so sorry.
(WHEREUPON, discussion was had off the stenographic record.)
THE VIDEOGRAPHER: Off the record at 2:26 p.m.
(WHEREUPON, a recess was had.)
THE VIDEOGRAPHER: Back on the record at 2:37 p.m.
BY MS. BACT:
Q Okay. Welcome back, Dr. Mahon.
Did you substantively discuss this case with your counsel in the break?
A I did not.
Q Okay. Great.
So I just want to talk about one more paragraph of your declaration with regard to the "bandwidth availabilities" term, and that is Paragraph 87.
If you could tell me when you're there.
A Okay. I'm there.
Q Okay. Great. In that paragraph, you state that the specification further provides that

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various ways for determining availability of resources include common memory, host interfaces, common threads and/or cues or other data structures.

Is that correct?

A That's correct.

Q Okay. And you are citing to column 8, lines 14 through 17 of the '591 patent?

A Yes.

Q Okay. Could you go there, please, which is Exhibit 5. I can share my screen, but you are --

A I'm there.

Q You're there? Okay. Great. Me too.

So I just read you that sentence from 14 to 17, and now I'm going to read you the sentence immediately before it, which begins at column 8, line 11.

"While not explicitly shown in Figure 8, the ultra streaming block carries out a monitoring function more fully described below that feeds back wireless resource availability to the decision block 716."

Did I read that correctly?

A Yes.

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Q Is it fair to say that the sentence that you quote in your declaration is characterizing various ways that the ultra streaming block carries out its monitoring function?

A It's within that context, and I'm referring to it also within that context of saying that, in general, in both these paragraphs, 86 and 87, that other elements in terms of the overall feedback can be involved or other -- yeah, other entities.

Q Okay. And the ultra streaming block and the decision block are the structures that are mentioned in the sentence that I just read, correct?

A Correct.

Q And those are both part of the virtual MAC, correct?

A Yes.

Q Okay. That's all I wanted to ask you about bandwidth availabilities.

So if we can shift gears and continue on in your declaration. And I do want to move as quickly as possible, especially based on, you know, changing circumstances, but let's talk about "without requiring disassociation" very briefly.

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A Okay.

Q I am looking at Paragraph 91 of your declaration.

Let me know when you're there.

A I'm there.

Q Okay. You say that you disagree with XiFi's proposed construction because it does not give sufficient meaning to how a POSITA would understand, quote, without requiring the disassociation of the recipient in the context of the claims, the extrinsic evidence, and XiFi's statements in the parallel PTAB proceedings, correct?

A That is correct.

Q Okay. And, rather, you think Samsung's construction, "while maintaining association of the recipient," is more accurate, correct?

A Yes, based upon, again, the references that I cite.

Q Okay. And XiFi's construction, to be clear, is plain and ordinary meaning, correct?

A Yes.

Q You have a section in your declaration about legal standards, correct?

A Yes, I do.

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Q And that's from Paragraph 22 to Paragraph 33?

A Yes.

Q Okay. And do you discuss within that what a negative limitation is?

A I don't discuss that within that section of my report.

Q Okay. And do you discuss that elsewhere in your report?

A Within this section associated with the "construing without requiring the disassociation of the recipient," yes.

Q What is a negative limitation?

A It's --

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Yeah, so I'm -- I'm not a lawyer, but my understanding of it is is that a negative limitation is requiring something that -- to not happen or is saying that, in order for -- to meet this claim construction or element, you don't do something.

So it negates a function or action or element or capability, I guess you could say.

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BY MS. BACT:
Q Okay. And what's a positive limitation?
A Well, that would include specific functionality like we've been discussing for other claim terms that requires this or it requires that.
Q So you state in Paragraph 99 of your declaration that: "The plain and ordinary meaning of the term, quote, without requiring disassociation standing alone could be interpreted broadly to simply preclude a system mandating or, quote, requiring disassociation. Thus, allowing for a system that does, in fact, disassociate despite no requirement to do so"; is that fair?
A Well, those -- that's what I state there in that paragraph, yes.
Q Okay. But you say that because of what XiFi said in its POPRs at the PTAB, a person of ordinary skill in the art would understand XiFi to have rejected this interpretation, correct?
A That they did so based on my analysis, and I provide that support here.
Q Okay. Well, let's look at that support together. So you --
A I'm sorry, Counsel. I would also say

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that, based upon my understanding of the changing circumstances, that this is really a moot point between the parties is what my understanding is; that we agree on, essentially, the construction associated with this term.
Q Thanks very much. I understand that we said that we were still going to ask the questions in the deposition while this is being worked out. Okay?
A Okay.
Q But you may well be right, and that could certainly be something that happens in the near future.
So I'm just going to pull up another exhibit, which is the -- XiFi's PGR -- POPR, sorry, Patent Owner's Preliminary Response from PGR2025-00069, which is the one that you cite.
And I'll show it to you and ask that it be marked as Exhibit 12.
(WHEREUPON, Mahon Exhibit No. 12 was presented to the witness.)
BY MS. BACT:
Q Can you see that, Dr. Mahon?
A Yes, I can.
Q Okay. So this document bears the PGR

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number that I just read. It relates to Patent Number 12,250,564, which is the '564 patent asserted in this case. Do you agree?
A Yes.
Q So I'm just going to scroll to the page that you cite, which is 76 and note 17. Let's see if I can get there a little faster.
A Page 76, right?
Q Page 76, note 17. That is the cite.
A Okay.
Q Okay. And then you cite this language: "Rather than describing an exclusion or an absence, a POSITA would understand the, quote, without requiring disassociation limitation in light of the entire claim to be one of two alternative choices for system configuration, quote, make before break rather than break before make."
Is that correct?
A Yes.
Q And then it goes on after citations: "Any fact, quote, without requiring disassociation is a positive limitation indicating to a POSITA that a system would imply, quote, make before break."
Is that correct?

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A That's correct.
Q So can you tell me if anywhere in that footnote that I just read to you if the word "maintaining" is present?
MR. SCHMIDT: I'm going to object and note that the document speaks for itself.
MS. BACT: Well, I'm looking for the statement that supports Dr. Mahon's proposal, and I want to know if the word in the proposal is present in the statements about --
MR. SCHMIDT: I'll stipulate that the word "maintaining" is not in the footnote, Counsel. Okay?
MS. BACT: Sure.
BY MS. BACT:
Q All right. Let's just take a look at the declaration that was cited in that document.
You reference that it's supported by expert testimony in Paragraph 98. And I'm now going to pull up what I'm going to mark as Exhibit 13.
(WHEREUPON, Mahon Exhibit No. 13 was presented to the witness.)
BY MS. BACT:
Q Which is the declaration of Dr. Robert

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Akl, who is XiFi's expert in the same PGR.
Do you see that document?
A One second, please.
Q Take your time.
A Okay. I have it open.
Q Okay. And there is a reference to Paragraph 119 in the POPR. I'm going to take us to that section and ask us to look at 118 and 119.
A I'm sorry. This is in Dr. Akl's declaration?
Q Yeah, this is in Dr. Akl's declaration.
A Okay.
Q So we've got 118 and 119 -- or, sorry, rather let's...
Okay. Well, let's start with 119, which is what was cited.
This paragraph says: "I also disagree with Dr. Almeroth's opinion that without requiring disassociation as a negative limitation based on the word without, in quotes, recites Dr. Almeroth. My understanding is that a negative limitation states what it excludes. The quote without requiring disassociation is not indicating to a POSITA a set of choices that are unavailable, but rather indicates to the POSITA that the system is,

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quote, make before break as opposed to break before make; any fact the POSITA would understand without requiring disassociation as a positive command to implement make before break system."
Is that a fair reading of that paragraph?
A Yes.
Q Okay. And does that include the word "maintain"?
MR. SCHMIDT: Objection. Document speaks for itself.
BY MS. BACT:
Q Okay. There's no statement, you agree, Dr. Mahon, that XiFi said that without requiring disassociation means maintaining an association?
MR. SCHMIDT: You could confirm the words on the page, Doctor.
BY THE WITNESS:
A Yes, the meaning I can confirm those -- the words in Paragraph 119 are what they are, so I don't know how else to -- again, how else to go beyond.
In terms of my opinion contained in the paragraphs we're looking at, I -- my analysis is what it is. And with respect to the documents that we're looking at and how I formed my opinion

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based on that and what my opinion is based on the analysis, I certainly agree that, you know, 119 has words in it, and, again, I'll affirm that those words -- 119 contain the words that they contain.
BY MS. BACT:
Q Okay. And I'm just coming back to what you declared in your declaration, that a person of ordinary skill in the art would have understood XiFi's statements in the POPR to have rejected what you deem the plain and ordinary meaning of the term. And I want to understand what statements XiFi made in the POPR that you were relying on.
Is it merely the quoted language that you replicated in Paragraph 98?
A My analysis cites to that language based on the evidence -- so multiple documents, multiple pieces of evidence, Dr. Akl's declaration, what was said as far as from XiFi and the documents I cite, and the understanding a POSITA, how they would understand that, and then I present my opinions in this declaration based on that.
BY MS. BACT:
Q So you're relying on statements by XiFi,

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but you can't read them to me, for example?
MR. SCHMIDT: Objection. Mischaracterization.
BY THE WITNESS:
A Yeah, so --
BY MS. BACT:
Q Okay. I'm asking a different question.
When you wrote this declaration and you swore to it and you signed it and you said that XiFi rejected the plain and ordinary meaning of "without requiring disassociation" based on its statements in the POPR, exactly what statements were those?
A I state in Paragraph 99: "A person of ordinary skill in the art would understand XiFi's statements in the POPR to have rejected this interpretation."
And right above that I go through the discussion of how the -- this was discussed in the POPR, as well as cite to specific quotes from the POPR, as well as Dr. Akl.
And then taking that into account, for example, saying that the -- the limitation can be taken one of two ways, and the one way it should be taken is make before break, not break before

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make. And if that's the case and those are your options, you're excluding one possible option.

And then you're saying that it's make before break; well, make before break means you're connecting to something before you break it, and then that would -- based on my analysis of what they're relying on for the term "disassociation."

So I'm -- I'm citing to it and I'm citing support to it specifically, so I don't know how you can say that I'm not citing to specific things within the -- either the POPR or the declaration to come to the conclusion from the perspective of a POSITA.

BY MS. BACT:

Q So it's your testimony today that by saying "make before break," that's equivalent to "while maintaining an association"?

A What I'm saying is that, to a POSITA, it's well-known what make before break means for decades, and that --

Q So --

A -- make before break means you are maintaining a connection before you break the connection.

Q Are you required to maintain the

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connection or can you maintain the connection?

A The term "make before break" means just that, you make the connection before you break the connection in wireless systems.

Q Okay. So let's look at Paragraph 101 of your declaration.

Tell me when you're there.

A Okay. I'm there.

Q And that quotes XiFi's complaint that refers to something called "make without break"; do you agree?

A Yes.

Q And is it your opinion that make without break is equivalent to make before break?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A I am pointing to that as XiFi's explanation. Certainly, just from the perspective of a POSITA and the ordinary understanding of what they have of the words "make without break" in the context of a wireless system, it's certainly consistent with their understanding; that is "make without break."

I haven't done an analysis on possible uses of "without." I don't recall anything from

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any wireless context that would say that make without break, how it might be construed within this context and comparing it to that, but, certainly, make without break could -- could take into various possibilities.

Certainly make before break would be part of that possible -- possible understanding.

BY MS. BACT:

Q And do you agree that the language you quote on Paragraph 101 contrasts "make without break" with "break before make"?

A While that does cite to "which allows, for example, a switch between bands to be made without needing to first break the current association." So it's talking specifically about that within that citation.

Q I was going to look at that language with you. Thank you.

So when XiFi defined "make without break," they defined it as "a switch between bands to be made without needing to first break the current association," correct?

A Yes.

Q And that's not the same as "while maintaining the association," correct?

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MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A So ask the question again, please.

BY MS. BACT:

Q Sure. Without needing to first break the current association is not the same as "while maintaining the current association," correct?

A I'm sorry. Where is -- where is the language "needing" in this paragraph?

Q Sure. It's in the last sentence of the quoted text that you bolded --

A I see.

Q -- Paragraph 101.

So XiFi said: "Make without break is a switch between bands to be made without needing to first break the current association." And then Samsung's construction is: "Maintaining the association."

And my question is: "Maintaining association" is not the same as "without needing to break the current association," correct?

A Well, from the perspective of a POSITA, that's not clearly distinct. Again, that's why the positions here are, quite frankly, a little bit, on XiFi's side, muddled.

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Certainly that's within the possibility of meaning the same thing to a POSITA.

Q So at 99 you said: "Without requiring stand" -- "without requiring disassociation, standing alone could be interpreted broadly to simply preclude a system mandating or requiring disassociation, thus allowing for a system that does, in fact, associate despite no requirement to do so."

You said that, correct?

A Yes. I'm pointing out the broad aspect of what this could mean, yes.

Q And that's not different, correct, from a switch between bands being made without needing to first break the first -- the current association, correct?

You can associate, but you don't have to?

A Well, certainly, again, I'm -- I'm discussing from the perspective of a POSITA here how the ambiguity associated with the proposed construction and whether the actual limitation is a negative limitation or not and what has been stated by both XiFi and Dr. Akl.

And I -- basically, I'm performing an analysis on what a POSITA would understand here.

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Certainly my analysis within these paragraphs say that, based on all of the evidence, it -- the construction that seems to be reasonable is as proposed with "while maintaining an association" based on all that context.

Specifically does the word "without requiring," what does that mean? Again, it could mean multiple things. And so in that context, the meaning that seems to be most representative of all the evidence is Samsung's construction from the perspective of a POSITA, but I have a hard time characterizing it any other way than that.

Q And when you say "ambiguity" with XiFi's construction, you acknowledge that XiFi's construction is plain and ordinary meaning, correct?

A And -- yes, and that the construction that Samsung has presented is also based on plain and ordinary meaning of the terms based on the evidence and the perspective of a POSITA, yes.

Q Okay. But you said that there was ambiguity in the construction, and I've been trying to understand what you meant by that.

A Well, I mean, if you examine the evidence in the case, what does XiFi mean by plain and ordinary meaning.

And then I go through the analysis in this section of that and how I understand it from the perspective of a POSITA and what's been disclosed and why that is ambiguous and could be taken apparently multiple ways and what positions have finally been taken that, in order to clarify that, that Samsung's proposed construction is reasonable.

And, again, pointing to what Dr. Akl said in his deposition apparently, it certainly seems to align with what Samsung is proposing as reasonable language to clarify what that term means.

Q And, again, you haven't read the transcript of Dr. Akl's deposition, right?

A Correct.

Q And you had not considered Dr. Akl's deposition when you wrote this declaration?

A That's correct.

Q We can move on.

So the final term of the day: "Different bands of frequencies." That begins in your declaration at Paragraph 104.

So in Paragraph 107 of your declaration --

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let me know when you're there.

A I'm there.

Q You say: "A POSITA understands that the ranges of frequencies available for these types of wireless networks are regulated by local government agencies; e.g. in the United States, the Federal Communications Commission or FCC, and are often formalized in industry standards."

Is that correct?

A Yes.

Q Okay. So when you say "they're often formalized in industry standards," they are not always, correct?

A I can't think of a single hertz within the available spectrum that some standardization organization hasn't claimed to and/or have to follow the FCC rules.

So I guess the answer to that question is there's no free spectrum. There's allocate -- there's spectrum that's allocated for multiple uses and -- by the public, an ISM band for example, but it's still an allocated band for that purpose.

Q Okay. But you said "often formalized in industry standards"; you didn't say "always

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formalized in industry standards"?
A I did not.
Q Okay. And in Paragraph 108, you discuss this in the Wi-Fi context. And a POSITA would know that a Wi-Fi network may operate within any one of the so-called 2.4 gigahertz band, the 5 gigahertz band, and the 6 gigahertz band; is that correct?
A That's correct.
Q Okay. And within the 5 gigahertz band, wouldn't a POSITA be aware of high and low bands within the 5-gigahertz band?
A There are sub-bands in the 5-gigahertz band, yes.
Q Okay. And those are well-known?
A Sub-bands? Yes.
Q Okay. And are those described in the standard?
A Those are allocated based on the 5-gigahertz band being the band in which Wi-Fi was approved, and those are the bands that Wi-Fi was approved to operate in. So that's incorporated into the standard, those sub-bands within the 5-gigahertz band.
Q Okay. And would a person of skill in the

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art understand those sub-bands to be two different bands?
A No, they would understand it based on what's disclosed here within the use of the bands in the patents and the references to the band use in the patents that they would understand those distinctly as sub-bands within the 5-gigahertz band.
And that's what I'm pointing to and actually pointing out. Not specifically mentioning that 5 gigahertz has sub-bands, but that's what I'm pointing out in these paragraphs.
Q Mm-hm. Okay. Looking at 109, you cite some remarks that say -- include the phrase "for example, 2.4 gigahertz, 5 gigahertz, and 6 gigahertz" as different bands of frequencies, correct?
A I'm sorry. Which paragraph are you looking at?
Q I'm looking at the block text in the middle of Paragraph 109 of your declaration, and it says, quote: Wi-Fi radios emit radio waves in different bands of frequencies, such as, for example, 2.4 gigahertz, 5 gigahertz, and 6 gigahertz; is that correct?

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A Correct.
Q Okay. And you understand "for example" to mean providing one or more instances of a particular thing, correct?
A "For example" does provide examples which would be a particular instance of something, yes.
Q Right. And "for example" would not need to provide the total set of something, correct?
A Well, it -- I don't know the context, but certainly a POSITA reading this is taking that as saying, hey, here's examples of what we're talking about, and those are three that are mentioned within Wi-Fi.
Q Okay. Here are examples of what we're talking about. That's great.
So I'm scrolling ahead to Paragraph 114 of your declaration, and I'm going to just read from it to you, and you can tell me if it's correct.
"I understand that XiFi has contended that different bands of frequencies/different bands" -- excuse me. I'll start again.
You say: "I understand that XiFi has contended that different bands of frequencies/bands of frequencies being different/frequency bands being different from

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each other requires no construction and instead should be interpreted according to its plain and ordinary meaning. Apparently this is because XiFi intends to read different bands of frequencies to refer to any arbitrary range of frequencies."
Did I read that correctly?
A Yes.
Q On what do you base the last sentence beginning "apparently"?
A Based upon what I've seen in terms of what's being presented, I would have to go back and look for particular cites for that, but certainly that in -- those -- that evidence supported this -- my opinion in this statement --
Q Okay.
A -- just not recalling; I'd have to go back and look.
Q Okay. So XiFi's construction of this term is plain and ordinary meaning, correct?
A That's their proposed construction, yes.
Q And do you agree that plain and ordinary meaning is that meaning as understood by a person of ordinary skill in the art at the time of the invention?
A Yes, and in the context of what's being

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disclosed and/or in this -- other evidence that could be presented of what those words mean by the parties, yes.

Q So the meaning of the term as proposed by XiFi would be constrained by the understanding of a POSITA at the time of the invention, correct?

A My analysis is based on a POSITA at the time of the new invention, yes.

Q Well, I'm saying -- I'm asking you a little bit of a different question, which is: You know, you're saying XiFi intends to read different bands of frequencies to refer to any arbitrary range of frequencies, and I'm asking you, isn't XiFi's proposal for plain and ordinary meaning going to mean that the term is not arbitrary, but, rather, contain -- constrained by the understanding of a person of skill in the art at the time of the invention?

MR. SCHMIDT: Objection to form.

BY THE WITNESS:

A Yeah, you'd have to ask -- well, you guys would have to tell me what you plan to assert based on plain and ordinary meaning.

We wouldn't be talking about this if the parties didn't have a disagreement on what these

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could mean in the context of the evidence to date in case, so which is why I had to look at it.

And, again, taking that into account, it's, again, my analysis and/or, I guess, my implication is that it seems to be XiFi is going to make that argument. And this is my analysis based on my understanding of that, as well as here's the plain and ordinary meaning of these terms and which one is more consistent with the proposed construction.

BY MS. BACT:

Q So it's your understanding that when a party proposes plain and ordinary meaning for a term, they can incorporate any arbitrary meaning of that term?

MR. SCHMIDT: Objection --

BY THE WITNESS:

A Well, they can --

MR. SCHMIDT: -- form.

BY THE WITNESS:

A I don't -- I don't know what's permitted by the Court. I do -- I do know that I've run into cases where certainly two people have a disagreement on plain and ordinary meaning because one is focusing or trying to encompass something

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else, which, again, in light of all the evidence and what's presented in the patent specification and the claim language, that there's disagreements.

Plain and ordinary meaning is -- you know, that term is designed to be: Okay, what does a POSITA understand. And that's how I did my analysis at the time of the -- you know, with respect to the time of the invention.

I can't characterize other than what I've read and what I've seen of what XiFi is going to ultimately -- what position they're going to take on what that term means.

Q Okay. So you don't actually know what XiFi is intending to convey by saying "plain and ordinary meaning"?

A Well, what I'm saying is the evidence that I've looked at appears to say they're leaning -- or trying to articulate a context and a meaning that encompasses sub-bands or arbitrary chunks of frequency within a given band, which is inconsistent with the use of the terms.

And, if that's the case, well, here's my opinion based on that analysis -- or my understanding.

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Q Okay. I think we can move on. I'm going to bring back up the '591 patent one last time.

Could you join me in column 12 of the '591 patent in your favorite format, whether it's my shared screen or on your own.

A This is what exhibit, Exhibit 1?

Q Exhibit 5.

A Oh, Exhibit 5. Oh, one second.

Q Take your time.

A Exhibit 5. And where am I going?

Q The bottom of column 12 to claims 4 and 5.

A Claims 4 and 5, okay.

Q Are you there?

A Yes.

Q Okay. So claim 4 of the '591 patent recites: "The wireless networking device of claim 1 wherein at least one of the first, second, and third wireless frequency bands are specified in at least one member of the IEEE 802.11 standards."

Did I read that correctly?

A Yes.

Q Okay. So if only one of the first, second, and third frequency bands are specified in the 802.11 standard, claim 4 could be met,

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correct?
A At least one of the bands are within the 802.11, then, yes, the claim element 4 -- I mean claim 4 can be satisfied by the fact that one is in the 802.11 bands.
Q So the other two bands that are recited, the second and third bands, do not need to be within the 802.11 standard, correct?
A It doesn't provide that stipulation.
Q But it could be met with only one being within the 802.11 standard, correct?
A Well, it says at least one, so yes.
Q Okay.
MS. BACT: I think that's all I have.
MR. SCHMIDT: Pass the witness?
MS. REPORTER: Anything else on the record?
MR. SCHMIDT: Have you passed the witness?
MS. BACT: Yeah.
MR. SCHMIDT: I have no questions. Reserve the right to review and sign.
THE VIDEOGRAPHER: If there's no more questions, I'll take us off the record.
This concludes this video-recorded deposition of Dr. Mark Mahon. Going off the

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record at 3:20 p.m.
(WHEREUPON, discussion was had off the record.)
(WHEREUPON, the deposition was concluded at 3:21 p.m. CST.)

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ACKNOWLEDGMENT OF DEPONENT

I, MARK MAHON, Ph.D., do hereby acknowledge that I have read and examined the foregoing testimony and the same is a true, correct, and complete transcription of the testimony given by me and any corrections appear on the attached errata sheet signed by me.

_____ _____
(SIGNATURE) (DATE)

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CERTIFICATE OF REPORTER

I, MICHELLE M. YOHLER, a Certified Shorthand Reporter within and for the County of Will, State of Illinois, do hereby certify:
That previous to the commencement of the examination of the witness, the witness was duly sworn to testify the whole truth concerning the matters herein;
That the foregoing deposition transcript was reported stenographically by me, was thereafter reduced to typewriting under my personal direction and constitutes a true record of the testimony given and the proceedings had;
That the said deposition was taken remotely before me at the time and place specified;
That I am not a relative or employee or attorney or counsel, nor a relative or employee of such attorney or counsel for any of the parties hereto, nor interested directly or indirectly in the outcome of this action.

IN WITNESS WHEREOF, I do hereunto set my hand and affix my seal of office at Chicago, Illinois, this 3rd day of march, 2026.

Michelle M. Yohler

Michelle M. Yohler, CSR, RMR, CRR
Certified Shorthand Reporter
CSR No.: 84-4531

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