Transcript of Michael Allen Jensen, Ph.D.

Date: January 18, 2023
Case: Samsung Electronics Co., Ltd., et al. -v- Smart Mobile Technologies, LLC (PTAB)

Planet Depos
Phone: 888-433-3767
Fax: 888-503-3767
Email: transcripts@planetdepos.com
www.planetdepos.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD.

Petitioner,

v.

SMART MOBILE TECHNOLOGIES, LLC

Patent Owner,

Case IPR2022-00766

U.S. Patent No. 8,824,434

REMOTE DEPOSITION OF

MICHAEL ALLEN JENSEN, PhD

January 18, 2023

Reported by: Susan S. Klinger, RMR-CRR, CSR

Job No. 478281

January 18, 2023

8:32 a.m.

Remote Deposition of MICHAEL ALLEN JENSEN, PhD, held remotely before Susan S. Klinger, a Registered Merit Reporter and Certified Realtime Reporter of the State of Texas.

A P P E A R A N C E S:

Attorneys for Petitioner:

Aamir A. Kazi, Esquire
FISH & RICHARDSON
1180 Peachtree Street NE
21st Floor
Atlanta, Georgia 30309
404.724.2811
Kasi@fr.com

Sangki Park, Esquire
FISH & RICHARDSON
60 South 6th Street
Minneapolis, Minnesota 55402
612.638.5763
Spark@fr.com

Attorneys for Patent Owner:

Steve Udick, Esquire
SKIERMONT DERBY, LLP
1601 Elm Street, Suite 4400
Dallas, Texas 75201
214.978.6600
Sudick@skiermontderb.com

A P P E A R A N C E S: (cont.)

and

Rex Hwang, Esquire
SKIERMONT DERBY, LLP
633 West Fifth Street, Suite 5800
Los Angeles, California 90071
213.788.4500
Rhwant@skiermontderby.com

and

Philip J. Graves, Esquire
GRAVES & SHAW, LLP
355 s. Grand Avenue, Suit3 2450
Los Angeles, California 90071
213.204.5101
Pgraves@gravesshaw.com

Also Present:

Don Lane, PD Tech
Mike Martinez, PD Tech

I N D E X

E X H I B I T S

P R O C E E D I N G S

REMOTE TECHNICIAN: Thank you to everyone for joining this proceeding, which we anticipate will run smoothly. Please remember to speak slowly and do your best not to talk over one another.

Please be aware we are recording this proceeding for backup purposes. Any off the record discussions should be had away from the computer. Please remember to mute your mic for those conversations. Please have your video enabled to help the reporter identify who is speaking.

If you are unable to connect with video and are connecting via phone, please identify yourself each time before speaking.

We will provide a complimentary unedited recording of this deposition with the purchase of a transcript. I apologize in advance for any technical related interruptions, thank you.

MICHAEL ALLEN JENSEN, PhD,

having been first duly sworn testified as follows:

EXAMINATION

BY MR. UDICK:

Q Good morning, Dr. Jensen.

A Good morning, counsel.

Q Could you please state your name and work address for the record?

A Yes. My full name is Michael Allen Jensen. My work address is 240 Engineering Building, Brigham Young University, Provo, Utah.

Q Great. And I believe from your declaration you have -- you have been deposed before; is that correct?

A Yes, sir.

Q About how many times?

A About a half a dozen times.

Q So it is not a new process to you, but I will still go over some of the rules especially in the Zoom post travel for deposition world.

A Okay.

Q As the -- as the reporter or as the technician stated in the read on, one of the things we really have to do in this world is

making sure that we -- we give a big pause between the questions and answers, so that we're not speaking over each other. It is very difficult for the reporter to understand that or to capture that during the deposition.

And that we also make sure that responses we give are verbal, so head nods don't get recorded, head shakes don't get recorded, that we verbalize yes or no.

A Okay.

Q And we will try to break every hour or so. Obviously if you need a break before then, just let me know. The only -- the only thing I will ask if there is a question pending we -- we finish up that question before we -- we take the break.

A No problem.

Q And if I ask a question that you don't understand, which will inevitably occur today, just let me know and I will try to rephrase it, okay?

A Of course.

Q And if you do answer my question, I am

going to assume that you understood it; is that okay?

A Yes, that is fine.

Q And just the final wrap-ups, do you understand that you are under oath today?

A I do.

Q And are you currently taking any medication that would affect your ability to give -- to testify fully and completely today?

A No, sir.

Q Great. About how many expert reports or expert declarations have you submitted in litigation in the past?

A Well, as I think you know a number in this particular case, I think a half a dozen here. I've basically been deposed -- it is similar to the number of depositions I've had prior to this case, so maybe a half a dozen.

Q So if we exclude -- if I say SMT for Smart Mobile Technologies; is that okay?

A That is just fine.

Q Outside of the SMT matters that you

obviously have some declarations on, prior to that, you have about six expert reports or declarations; is that correct?

A That's approximate. I didn't do a count, but that would be approximate, yes.

Q Great. And then around the same number of depositions?

A Yes, sir.

Q Have you ever testified at a trial?

A No.

Q What about at a hearing?

A I gave a tech brief to a judge in one case.

Q Was that along the same or around the same time as the claim construction hearing?

A I don't remember the details of the timing. It was not a claim construction hearing. It was scheduled just for me to give the judge a tech brief.

Q Understood. Thank you. So we're going to spend a lot of time obviously on your declaration today. Do you have a printed copy of that in

front of you?

A I do have a printed copy in front of me as a backup, yes.

Q Okay. Would you -- would you like to utilize that? Is that better than reviewing something on screen?

A Well, I have an electronic, a clean electronic copy also in front of me, which tends to be easier for me to navigate. So if you share, that is another way. I -- I think I prefer to look at the screen while we're talking. And so I think that is my preferred format is the one that I have up in my PDF reader right now.

Q Perfect. So what I will do, then, I will -- we will mark your declaration as the first exhibit in the deposition. We will put it on screen to ensure that the copy that we -- that we all agree on is the same one that we're all looking at maybe on our own native version. Then I think it will be free to kind of review the native version that you have stored on your computer, the clean copy.

Does that work for you?

A That is -- that is just fine.

MR. UDICK: And so Mr. Lane, do you mind introducing doc 4 and just screen share for that one?

REMOTE TECHNICIAN: Understood, please standby.

(Exhibit 1 marked.)

Q And Mr. Lane if you could provide Dr. Jensen with control.

A It looks like I have control.

Q Dr. Jensen, if you would quickly review that declaration and let me know that it matches both the declaration that was submitted in this IPR and the clean version of the declaration that you have natively on your computer.

MR. UDICK: While he's doing that, for the record this will be Exhibit 1 or Jensen 1, which is marked as Samsung 1003, or instead of marked -- previously labeled as Samsung 1003.

THE WITNESS: So based on just a really quick review, obviously not detail, this matches

what I submitted and what I -- the native copy I have on my screen.

Q Great. And so I will endeavor to point you to where in the declaration I'm referring, just obviously so that we can be on the same page. The only ask I will have is that if you need to find some additional context that is not kind of immediately in the next paragraph or the paragraph before it, that you just let me know that, hey, I've had to go to this other section.

A Okay.

Q Does that work?

A Yes, that is just fine.

Q Great. And so looking at your declaration, did you write this declaration?

A So I did receive assistance from counsel in some of the drafting work and especially some of the figures and modifications of figures, but this declaration -- I edited everything in this declaration, those parts that I didn't write myself in the initial draft. And this represents my opinion or my opinions.

Q Were there parts of the initial draft that you wrote yourself?

A Oh, yes.

Q What parts were those?

A A lot of parts. I don't know that I could sit here today and say -- we can go through in detail, but -- but a great number of this -- a great fraction of this I -- I drafted. And then other pieces, you know, of course were provided by counsel after -- after me sharing with them my opinions and then me having a chance to edit some of that.

So if we want to go through in detail we can. And I can do my best to recall what I drafted and what I did not in the original draft.

Q Sure. From a broad perspective, do you recall there being any major sections or -- or bulk pieces that you remember initially drafting?

A Well, obviously all of the stuff about myself I drafted about my qualifications and my experience. Things like listing all of the art upon which I relied, the references upon which I

relied, counsel drafted those kinds of things with me reviewing it and ensuring it matched what I had done.

Obviously the legal standards, level of ordinary skill in the art was something I expressed my opinion, but counsel helped to draft legal standards. Counsel drafted -- you know, I'm not an expert in legal standards.

Some of the overview things was largely done by -- by them and then as we get into sort of the -- the kind of the mappings and things, then it was a lot more collaborative with me writing sections and them writing sections. So I don't -- that is where it is going to get a little fuzzier to my recollection of who did what on the original draft.

Q Sure, understood. That -- that is helpful, thank you.

So you mentioned materials relied on. If you would, I believe if we look at paragraph 21 of your -- of your declaration and 22 it lists what I understand to be the references relied on. Please

take a look at that and let me know.

A Yeah, paragraph 21, I mean other than, of course, the '434 patent itself and the prosecution file, history file, these -- yeah, I've reviewed this list many times. These are the references that I relied on.

Q Great. And I do note that in 22 it says, I have also reviewed some cited supporting references and documentation in forming my opinions below. The use of the word cited there suggests to me that there may be further citations within the declaration that are materials that you also relied on; is that correct?

A Yeah. Again, I would have to go back in detail on this particular declaration, as you know I wrote several. And there were times where in those declarations I would just bring some supporting reference in which may not appear in the list.

I don't recall in this particular declaration if there are any of those or not, but yes, that -- that is a practice that I sometimes,

would just bring in a reference to support, document an opinion that I would cite there without including it in the list similar to the list in 21. I just don't recall the details in this particular one. We would have to take those one-by-one to ensure that I'm precise on that.

Q That is fair. In reality all I wanted to make sure is that anything that you relied on in forming your opinion, it is cited in your declaration either bulleted in the list or cited somewhere else in the declaration; is that correct?

A Unless I made an error or oversight, that was absolutely my intention to cite everything I've relied on.

Q And if -- obviously if during the course of the deposition you realize that an oversight or something occurred, will you let me know?

A I will.

Q Great. And in 23, paragraph 23 you identify that counsel has informed me that the earliest possible priority date to which the

challenged claims of the '434 patent are entitled is the December 16th, 1996, quote, the critical date.

Do you see that?

A Yes, sir.

Q And it says, I have therefore used that critical date in my analysis below; right?

A Yes.

Q And what do you mean you have used that critical date in your analysis below?

A It is my understanding and counsel has informed me that art that we might use to assess the validity of a patent needs to have been in the public domain and available before that critical date. So that is -- that is the -- that is the way I look at that.

Q Got it. And 26, paragraph 26 kind of is a top line of a summary of the conclusions of your opinions that are in this declaration; is that correct?

A Yes, sir. That is -- that's right, just a short summary.

Q And in 23 again, counsel has informed me that I should consider these materials through the lens of one of ordinary skill in the art related to the '434 patent at the time of the earliest possible priority date of the '434.

Do you see that?

A I do.

Q And did you -- did you do that?

A Yes, sir.

Q Did you consider the materials that you relied on through the lens of one of ordinary skill in the art related to the '434 patent at the time of the -- of the critical date?

A Yes, sir, I did. And elsewhere in my declaration I have given a definition of one of ordinary skill in the art. And I used that as a lens through which I viewed the patent and the prior art that I have -- that I have referenced.

Q Perfect. And that is actually where we're going in 27. 27 identifies the -- the -- your definition of person of ordinary skill in the art; is that correct?

A Yes, sir.

Q And that is a person that would have a bachelor's degree in electrical engineering, computer engineering, computer science or related field and at least two years of experience related to the design or development of wireless communication systems or the equivalent. And then additional graduate education could substitute for professional experience or the converse; correct?

A Yes, sir.

Q How did you go about determining what you believe to be the level of ordinary skill in the art?

A Well, looking at the '434 patent and what it was teaching, the concepts that it was teaching and particularly the concepts embodied in the claims in the '434 patent.

And based on my years of experience obviously working with graduates in these kinds of fields and working with those in industry and having my own company that deals with sort of not wireless communication systems, but radar systems

which are a very close cousin to wireless communication systems, just my experience on what kind of background it would take for somebody to understand the architectures and systems and capabilities that were defined in the -- in the claims and in the specification of the '434 patent.

Q Regarding the references, the prior art references that you relied on, did you conduct any -- any searches for those pieces of prior art?

A Yeah, I conducted a lot of searching for prior art in this case, yes. So again, I don't recall exactly which references I identified and which counsel I identified, but yes, I did searching and identified many of the references that are listed there.

Q But as -- do you -- when I -- so I'm going to use the term prior art references. And those are the references that are -- so in 26, Gillig, Rose, Billström, Byrne and Wong. I'm going to call this the primary references, the ones that you base your opinions or you cite primarily for

your opinions?

A Yes.

Q Do you remember if -- if you identified any of these primary references in your searches?

A If I did, the only one would be Billström. I don't recall the others. I know I did not identify those, Gillig, Rose and the other ones listed in paragraph 26.

Q And what -- what -- from your recollection, leads you to believe that Billström could have been one that you identified?

A Just some -- some other work I had been doing at the time on the kinds of technologies, GSM and -- and, you know, IP kind of layovers on GSM and other kinds of cellular technologies that I've been working on at the time.

I had a bunch of references like Billström, and I just don't recall if that was one that I brought in from some of that other experience or if that is one that was found by counsel. I just don't recall.

Q Got it.

A I think that is a typo. It is Billström, but it said Billstöm in there, that is a typo.

Q About how many hours do you believe you spent working on your -- on this declaration?

A That is a great question. I have not done an accounting. Overall in the family of patents here that I've looked at it has been hundreds of hours. I would have to go back and do a detailed accounting of how many of those hours were devoted to this particular declaration. I just don't have that, I'm sorry. Tens of hours, but I'm confident in that, but I'm not confident in going into any more detail than that.

Q Understood. And so going to paragraph 30 under claim construction, you indicate that counsel has informed you and you understand that the words of the claim should be interpreted as they would have been interpreted by one of ordinary skill in the art at the time the invention was made. And then you -- you then reference that the date you will use is the earliest priority date or the critical date; is

that correct?

A Yes, sir, that's correct.

Q And did you -- did you interpret the -- the words of the claims as counsel instructed or informed you?

A Yes, I did or at least that was -- I tried as hard as I could to do that. So yes, that was my intent and that is what I tried to do.

Q Great. And so my understanding is that your -- your opinions are that each of the claims of the '434 patent are rendered obvious by one or more of the primary references that you have identified; is that correct?

A Yeah. This summary in paragraph 26 that is -- that is exactly the summary, that all the claims are rendered obvious by one or more of the primary references as you referred to them.

Q And your understanding of obviousness obviously came from counsel; is that correct?

A Yes, of course.

Q And that is your understanding of the standard for obviousness is -- is detailed in

paragraphs 31 through 44 of your declaration; is that correct?

A Yes.

Q And as it says in the top line on 31, that you're informed by counsel and understand that all prior art references are to be looked at from the viewpoint of a person of ordinary skill in the art at the time of the invention. And that this viewpoint prevents one from using his or her own insight or hindsight in deciding whether a claim is obviousness -- or is obvious; correct?

A I see that, yes.

Q What methodology did you use to put yourself in a position of a person of ordinary skill in the art as of the critical date?

A Well, obviously I was involved in the industry at that time, and prior to that time. So I sort of knew where the industry was going, I knew what practitioners in the industry were doing.

And just doing my best to remember sort of what the state of technology was at that time as

well as, of course, reviewing as I reviewed the references and other literature to remind myself of the state of technology at that time. What people would have been trying to do, what the -- where the industry was going. And just put myself just sort of back in that timeframe as I viewed the claims and the other parts of the '434 patent as well as the art.

Q And in the -- so December 16th, 1996 at that time what was your -- what were you doing in 1996 professionally?

A I was a relatively young professor here in Brigham Young University of electrical and computer engineering. I came -- I came roughly two years prior to that, to the university.

Q So at that time you would have already had your PhD; correct?

A Yes, sir. I was completed with my PhD, yes, sir.

Q And it would have been it looks like approximately two years after your PhD?

A That's exactly right.

Q Had you spent any time in industry following -- so strike that.

Have you spent any time in industry after completing any of your degrees before receiving your PhD?

A No. Only -- only as a consultant to industry, never as a full-time employee of industry.

Q So at the time of the critical date that is December 16th, 1996, you would be greater -- you would have a greater than ordinary skill of the art in the time of that invention; is that correct?

A Yeah. With the PhD and the consulting I had done and with the interactions I had with industry during my PhD and during my early years, I would say that I had a greater than ordinary skill in the art at that time.

Q And certainly as a Dean and IEEE fellow, at the time you were writing the declaration you far exceeded the level of ordinary skill in the art. Would that be fair?

A Well, I will say I likely exceeded the level of ordinary skill in the art. And I throw in there, of course, having had a company now for more than 20 years, which has helped me even further better understand the industry, yes.

Q And so what methodology did you use to ensure that you were looking at the art through the lens of someone with only the ordinary skill in the art at the time of the invention and not your greater than ordinary skill in the art?

A Yes. I think I already sort of answered that, but let me -- let me give it again and maybe be more precise about this.

Obviously I teach students, so I know what a bachelor's degree, say, in electrical or computer engineering looks like and what their skills would be. I have employees that work with me. I understand what they learn in the first two years of their employment at my company. And of course, I worked in and interacted with a lot of people in -- in, you know, the wireless industry throughout my career.

So I have a pretty strong grasp on -- on what somebody based on my definition of, say, a bachelor's degree and two years of experience, I have a pretty firm grasp on what kind of skill level they have.

And so it is always a challenge to put yourself in those shoes and remember what it feels like to do that, but I did my best knowing full well, kind of, what their capabilities were to say okay, how would I look at this if I were one of these, you know, had this sort of level of background.

Q Sure. And you said in your company you have interacted with individuals that more or less meet that definition, someone with a Bachelor's degree and approximately two years of experience in the industry?

A Yes, sir.

Q What type of tasks are they given in your company? Strike that.

What are individuals with that level of experience responsible for?

A At that point they're moving into higher levels of responsibility or they may not be a system architect yet at this point. But you know, in the first six months they're working on some sub design. So as they get to sort of the two-year point and a demonstrated capability in just designing some component of the system and working on that, they're starting to work at a higher level.

Understand maybe they're only designing some piece based on their expertise, but they're understanding the architecture into which their piece will fit and how their design is going to impact that architecture and the overall functioning of the system.

So they have got to sort of have that higher level of understanding of how those systems function rather than relying on a more senior engineer to help them understand how they need to do their design in order to ensure it functions well with the rest of the system.

So that is probably the biggest

characteristic of somebody at that point in their career. They've understood the architecture, they've understood the implications on the system performance and -- and -- and now they can do their design within that context.

Q So they might be designing a subcomponent, but understanding that I can't create some ridiculous power demand that isn't -- isn't feasible based on the other demands of the rest of the system as an example; right?

A Yes, that -- that -- that is a great kind of example or maybe the latency in my communications with the other parts in the system would destroy really the goal of the system or something like that, yes.

Q Great. And in several of your opinions on obviousness you combine certain references; is that correct?

A Yes, sir.

Q And part of that -- that is what -- the legal language is a motivation to combine. Does that sound familiar?

A Yeah, does legal motivation -- I'm sorry, can you rephrase that, I'm sorry.

Q Sure. You have heard the term motivation to combine in regards to legal standards; correct?

A Yes, sir.

Q And that there are some legal standards associated with showing a motivation to combine certain references; correct?

A Yes, sir.

Q And these are in your opinions on obviousness as well; right?

A Yes. Again, I'm not an expert in all of the legal, so I always have to refer back to -- but yes, I am aware of that and I use what counsel told me.

Q Sure.

A I'm aware -- I'm aware of that. I'm aware of that requirement, yes, sir.

Q And so for example, paragraph 33 of your declaration describes that you were informed by counsel that when a patented invention is a combination of known elements, the Court must

return -- a Court must determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patents at issue by considering the teaching of the prior art references, the effects of demands known to people working in the field or present in the marketplace and the background, knowledge possessed by a person having the ordinary skill in the art; correct?

A Yes, sir.

Q And what was your understanding in apply -- so strike that.

Did you apply that standard in your analysis of the prior art references?

A Yes, I did.

Q And so in applying that standard, what was your understanding of the need for an apparent reason to combine the known elements in the fashion claimed by the patent at issue?

A So the way I did this was obviously looking at the patent at issue here at '434 and what it was teaching. Obviously in the prior art

references that I have there were claims where a reference might not render that obvious by itself or there might be questions as to whether it might.

And then looking, of course, at what -- the reference I was looking at, would there be motivation for somebody who is reading that reference to go off and find other capabilities in the art that might augment the capabilities or what is taught in that kind of initial reference.

Why would they do that in order to arrive at sort of the same outcome as the '434 patent in this particular case had -- had already arrived at.

So I looked even for, maybe even to extend that farther looking for hooks within or looking for things said in, say, the original reference that might motivate somebody to go off and find other capabilities or other kind of synergistic, compatible kinds of things that they would work with it.

Q And did you also consider the effects of

demands known to people in the field or present in the marketplace?

A Yes, I did. I did consider that.

Q Great. And how did you -- so in 34, in paragraph 34 and I think earlier we mentioned the word hindsight. And so at the bottom of 34 you -- you were informed by counsel and understand that it is improper to use hindsight in an obviousness analysis and that a patent's claim should not be used as a road map; correct?

A Yes, sir.

Q How did you go about guarding against improperly using hindsight in your obviousness analysis?

A Similar to what I discussed previously, you have got to go back, remind yourself at what the state of the art was at the time here of the critical date, 1996, as well as where the industry was moving at that time so that somebody who was in the industry, where would that current be taking them.

And just -- just, again, just constantly

reminding myself of the state of technology and the currents and the directions in the industry at that time. And it is -- yeah, it is a constant effort to make sure you are reminding yourself of that as you are applying this kind of analysis.

Q Got you. And just so we're on the same page, so in your definition of a person of ordinary skill, it is two years of experience related to the design or development of wireless communication systems. What -- when you use that, the term wireless communication systems, what do you mean there?

A Well, I mean, I think it is fairly clear. I think for this particular case, they would likely have been in the cellular industry for wireless communications. The '434 patent though, of course, as other, like, talks about other technologies, kind of WiFi, even citizens band radio, other things, but I think it would have been most helpful if they would have had some good exposure to the cellular industry, WiFi industry, those kind of industries and where they were

headed at the time.

Q And this is why I ask because I -- I initially read that as the design or development of wireless communication systems. Does that mean the design or development of cellular communication systems?

A Well, I wouldn't want to just limit it to that, because there is a lot of cross fertilization in wireless and design.

Q Sure.

A I look at where I was at that time. I was designing for WiFi, I was designing for cellular, I was designing for -- you know, even at one point earlier than that for pager systems, right.

So there is a lot of cross fertilization of these wireless communication systems, and they all borrow from each other, because they're all trying to accomplish similar goals. But the most spot on I think for really understanding what the '434 patent was trying to teach, cellular would have been the most spot on.

Q Sure. And I -- you know, in fact I did

not mean to attempt to limit the -- that to cellular. I think my question was a little -- was I was going for something different, which is when I read that, it would be the design or development of. So let's use cellular as an example, and I agree that it is not limited there in the way you use it.

But would it be the design or development of a whole cellular communication system, so everything from the back end to the front end?

A Well, I think again, now, I understand what you are asking. And thank you for the clarification.

I think it would have been atypical for somebody with two years of experience to have been the chief architect. As I said, that is consistent with what I said 10 minutes ago about a person of ordinary skill in the art.

But to be aware of -- to be aware of that system architecture and to understand how their may be more -- design piece might fit into that would be more consistent with what I intended by

that person of ordinary skill in the art, because it would be strange for them to be an entire -- they would be quite advanced to be an entire architect in the system.

Q Got it. And that is why I was unsure, because the word system to me means, you know, for -- if we use GSM, for an example, someone that would be in the design or development of GSM as a whole, for example. And which seems very advanced, so that is why I asked the question.

A Yeah, yeah, I think -- I think that that is fair. And obviously as you get to the people who are the system architects, they have got a lot more visibility and experience. And of course those individuals it would -- you would render the combinations more obvious I would say, so yeah.

Q And when -- to what extent does the design or development of wireless communication systems involve the design or development of a handset itself, you know, the entire device?

A So certainly to an extent. Wireless communication systems largely, independent of

whether they're a mobile or a more fixed kind of system, the elements of that are the same, but there are considerations in a mobile unit obviously that you need to be aware of, like, the power consumption and size and weight, all of those things. How do you package things in more compactly and dissipate the heat are all of those considerations.

And so a person of ordinary skill in the art really to -- to grasp maybe some of the nuanced pieces of how to do the things in the '434 patent in a mobile handset would need to have some of their experience be in that realm. But the overall architecture taught in the '434 patent doesn't really deal with those specifics.

And so, you know, could we add a little, subtract a little from kind of their experience. Yeah, I think overall I have hit the target pretty close here.

Q Got it. So for example, would a person of ordinary skill in the art, you know, that individual be equally able to design a component

for the RF communication system. So picking up a channel scheme and design the audio circuitry for the decoding circuitry to turn it into voice or to turn it into audio?

A So in my experience, those two things are closely related. So that would -- that would be very -- that would not be strange at all for somebody to have after two years of experience be able to say, take those two systems and be able to design them equally well.

There might be other pieces that they would have less familiarity with, just sort of depending on the architecture, you know, maybe the microcontroller, the microprocessor, how that is all coded. They might have a little less experience there and may not be kind of, you know, front and center there.

So I think maybe at a higher level, at sort of two years of experience you are going to have expertise in some -- in some areas and less in others, but you're hopefully understanding how the whole system fits together and works together.

Q Understood, thank you. And so if we turn to 36, there is a statement that says, I've been informed by counsel and understand that obviousness analysis recognizes that market demand rather than scientific literature often drives innovation, and then a motivation to combine references may be supplied by the direction of the marketplace.

Do you see that?

A I do, yes.

Q In your analysis of the motivation to combine the references was -- did you ever identify that -- that a motivation to combine was supplied by the direction of the marketplace?

A Well, I don't recall if in my declaration I explicitly identify that. My own experience says that at -- at the time of the critical date, I know where the industry was going. I know where the market was going. I know what people were trying to be able to do. And I would certainly say that, I talked about the current of the marketplace, if you will, of 5 or 10 minutes ago.

That was certainly happening at the time of the critical date.

And some of this technology and some of the motivations to combine and get additional capabilities certainly would have been driven by the market, but I don't recall -- I don't recall putting that into my declaration.

Q And do you know why you didn't?

A You know, I don't recall exactly. I don't think it was a highly deliberate decision. I was rather looking at sort of the technologies and the fact that you would do this.

But I think -- I think to say maybe, maybe I've over spoken by saying I didn't do it, because certainly the idea of bringing in additional capability into a wireless system, you know, when you have a reference which maybe teaches a basic functionality and then we enhance it with another reference, is certainly driven by what I knew the marketplace was doing at the time.

So while I may not have been as explicit with my language, that is certainly implicit and

sort of why it would have made sense to add this additional capability to these kinds of mobile devices at the time.

Q So is it -- are you saying that there are -- there are things that you considered that are not in your report to form your opinion?

A I'm sorry to have cut you off.

I would say -- I would say it differently. I would consider it more implicit in my report than maybe as explicit as it could have been.

Q Do you recall any -- any -- any specific instances where you implicitly use the direction of the marketplace?

A Yes.

Q What -- where would those be and what opinions were those?

A Well, again, so maybe we have to get a little bit more into the detail here of some of the references, but when you take references like Gillig or Byrne that I sort of used as sort of a core reference in -- you know, two different core references that can stand by themselves and then

recognize from the time that Gillig made his disclosure and invention to the time that the critical date where was the industry going.

Gillig says here is some systems you can use, here is some -- here is some examples of things you could use to -- to implement a cellular system. But by the time of the critical date, the cellular systems had advanced significantly beyond what DynaTAC, that Gillig had at his sort of fingertips at the time of his invention.

So the marketplace was taking us into directions that would have taken a person of ordinary skill in the art at the time of the critical date of the '434 patent, the marketplace was taking everybody towards these enhanced capabilities, because the demands of the users and the demands of the marketplace were there driving that.

So there is an example, right. And I think we can -- we can probably point -- not probably, we can point to several such examples of -- of the industry taking us very naturally in

a direction at this time.

Q So in 43, paragraph 43 you detail a bit more that the prior art teachings are properly combined where one of ordinary skill in the art having the understanding and knowledge reflected in the prior art and motivated by the general problem facing the inventor would have been led to make the combination of elements recited in the claims; right?

A Yes, sir.

Q Then the prior art references themselves or any need or problem known in the field of endeavor at the time can provide a reason for combining the elements of the multiple prior art references; right?

A I see that, yes, sir.

Q And you applied that standard in forming your opinions that are in your declaration?

A Again, yes. I tried very hard to apply this. I think I succeeded.

Q And so, the next section moves over to the '434 patent; correct?

A That's correct.
Q If we would -- do you have a copy of the '434 patent?
A I do.
MR. UDICK: So Mr. Lane, actually I don't think in our folder we have the '434 patent. Can I drop that into the chat just so we can mark it?
REMOTE TECHNICIAN: Yes, sir, that would work perfectly.
Q My apologies, actually we're just under 8 minutes. If you want to take a first bio break of 5 or 10 minutes and that way I can get this going as well and kind of get two birds with one stone?
A Okay, with me.
MR. KAZI: Sounds good.
Q Great, go off for a quick 10 minutes.
A Okay.
(Recess, 9:24 to 9:37 a.m.)
MR. UDICK: Let's do appearances. So for the patent owner it is Steven Udick. With me is Rex Hwang and we're with Skiermont.
MR. GRAVES: Philip Graves of Graves &

Shaw.

MR. KAZI: This is Aamir Kazi with the law firm of Fish & Richardson here on behalf of Samsung and also on behalf of the witness. And here with me is Sangki Park.

Q Great. Dr. Jensen, while we're waiting on the exhibit, I will just ask a couple of other questions before we get to the '434.

A Please.

MR. HWANG: Do we need appearances for other attorneys as well?

MR. UDICK: Rex, I already got yours on.

MR. HWANG: Okay.

Q Dr. Jensen, do you recall when you first learned about potentially being an expert with respect to the '434 patent?

A I don't recall to be honest. I mean 18, 24 months ago, somewhere in there, 18 months. I don't remember to be honest.

Q Some -- some time ago though?

A Yes, it is long enough ago that I have forgotten.

Q Do you remember how you learned about potentially being an expert witness?

A I was contacted by counsel for Samsung. They asked me some questions to see if I would be a good match, made some deliberations and got back to me.

Q When they asked you those questions, had you already agreed to be an expert?

A No, no. Initially it was just finding out about my background a little bit.

Q Do you remember what those questions were?

A No, sir, I do not.

Q And do you know when you were retained to be the -- to be an expert for Samsung?

A I can look at the files. It was somewhere around -- it looks like it was around October of 2021, so I may have overstated how long ago it was. Looks like around October of 2021.

Q Understood. And so I will ask a quick question. If you need to refer to the '434 patent we can do that, but it is already marked in the -- in the -- in the proceeding as Exhibit 1001. And

you have it available to you electronically; is that correct?

A I do, yes.

Q So in paragraph 47 which is under the overview of the '434 patent, you -- you state that based on your knowledge and experience in the field and your review, it would have been clear to a POSITA, a person of ordinary skill that the '434 patent describes no more than conventional technologies in or before 1996.

Do you see that?

A Yes, sir.

Q What do you mean by "conventional technologies"?

A Well, the technologies that were disclosed in the '434 patent were known in the art, were known in the industry.

Q So when you use the word "convention," you just mean known in the industry?

A Yeah, things that were known in common use, yes.

Q So conventional known and in common use?

A Yes, in use, in common use, yes.

Q In reviewing the '434 patent and specifically the claims, did you undertake any analysis or research to understand how the claim terms were used in the patent?

A Well, when you say research, what do you mean by research?

Q Sure. Did you -- did you review any materials or did you review any materials to understand how that term was being used in the patent?

A Well, my understanding as we've already discussed is that unless something has been construed, say, by a court to be different that we apply the plain meaning of the term.

So my first answer to that is because I -- I do have expertise in the industry, that the terms used in the claims I try to apply their plain meaning as we do in the industry. I think we also read in my report how counsel has taught me that -- told me that we can look to the -- to the specification of the '434 patent if that helps

us put the claim terms into context and yes, I did that as well.

Q Great.

MR. UDICK: So I will ask Mr. Lane to -- to open doc 24, which is Samsung 1001 and the '434 patent.

Q And when he does, Dr. Jensen, can you review and see if that is consistent with the '434 patent that -- that you analyzed in this case and the visual copy that you have in front of you?

(Exhibit 2 marked.)

A Yes, I will. I will check something here. Yes, this matches the copy that I have and the copy I submitted as a part of -- as an exhibit to my report.

Q Great. And in columns -- are you fine with me referring to parts of the patents, both this and other ones that, that you have used to refer to column and line numbers generally to point you to a location?

A Yes, sir, I am.

Q Great. In columns 11 through 12 of the

'434 patent, those are the claims that you reviewed and analyzed in forming your opinions; correct?

A Yeah. Column 11, starting about line 48 and -- and on, yes, those are the claims.

Q Great. So I just want to ask you a question of how you understood and reviewed the '434 patent. So in Claim 1 -- so do you understand when I refer to a limitation I'm referring to both how you have kind of broken down and how the patent naturally breaks down different aspects of the claim?

A Yes, I am. I am comfortable with the word limitation and I think you are correct. That is how I have done it in my report as well.

Q Great. So in column -- or I'm sorry, in Claim 1 there is a limitation that is wherein the portable handheld device configured to dynamically switch between the use of the first or the second antenna.

A Yes.

Q Do you see that?

A Yes.

Q What is -- what is your understanding -- what is the -- strike that.

What is the understanding of dynamically switch that you used in forming your opinions regarding the '434 patent?

A That the -- I think the most basic thing -- we kind of have to look at what dynamically means, because we have got switching which already implies being able to switch between the modalities. The different, say, radio interfaces that are disclosed in the -- in this patent claim.

So dynamically switch to me would mean kind of at its basic level being able to switch, say, in the middle of a communication because something changed that warrants that switching to happen.

Q And is that the understanding that you applied in your analysis of -- of whether or not the claims were obvious in view of the prior art that you have cited?

A Yeah. I think we can go to my report and

make sure that I have covered all. I tended to look at multiple ways you might interpret this. So you could take -- you could take a viewpoint that just the ability to switch, say, from one communication today to a different communication tomorrow, it might change the radio interface. So that is -- that is one way to look at it.

I think the idea of switching in the middle of a communication is the one that lends itself to the most value when we add that -- when we kind of talk about dynamically switching. So I would say that is the main one that I applied, but I think there are other ways that you could -- you could and I think in my report did sort of consider options for how that might be done.

Q And so are those alternative understandings of the term?

A Yeah, because it is -- it is not crisply defined what dynamically switched might mean, what is the timeframe of dynamic. So you could look at a timeframe of today the channel conditions are good on one radio interface, tomorrow they're

better on another interface, is that dynamic? Is that dynamically switching? I think you could argue that.

I think a better one is what I said at the beginning, that you are in the middle of some sort of a communication, conditions changed and you are able to switch right in the middle between radio interfaces to be able to preserve the integrity of that communication. But I think both definitions could meet the claim limitation, I just sort of like that second one better.

Q Is there any part of the specification that you felt informed your understanding of that term?

A I don't recall. We could look in my report and see if -- I don't recall directly right now if -- if I -- if I looked -- if I have a specific reference into the patent on what that claim limitation or what those words might mean.

Q And going to the last limitation it ends with at least two different wireless protocols.

A Yes.

Q Do you see that?
A Yes, sir, I see that.
Q What is the understanding that you use -- so strike that.
How did you understand and apply wireless protocols in your analysis?
A Wireless protocols are a well established term in the art. Here I can say that I recall that the '434 patent specification also refers to -- you know, it talks about protocols and it gives examples of CDMA, TDMA, which are multiple access protocols that we use in -- in the industry.
So these are well established, these kinds of protocols. And it can include much more than multiple access, modulation, coding, a variety of different things. And so I understood that term to mean that we have got different radio interfaces. And either those two different radio interfaces are more -- each operate on different protocols or a single wireless interface could be capable of operating on multiple protocols.

Q Understood. In Claim 2 it states that the handheld wireless device switches between the use of the first and second antenna in response to a request from an application.

Do you see that?

A I do.

Q Does that inform at all in any way your understanding of dynamically switch?

A Well, we need to be careful. Certainly in Claim 2 in the scope of that claim an application is causing that to happen. Obviously Claim 1 stands on its own and that limitation stands on its own.

So to say it informs how I interpret Claim 1, I want to be a little careful there, because I think I should analyze Claim 1 on its own. I think that is what I'm asked to do, without trying to be informed by Claim 2, which adds a new limitation and narrows the kind of the combined claim. But maybe that is not what you were asking, maybe I should ask you to clarify exactly what you were asking me.

Q I think it was. I think you did grasp the question, which was did -- you know, does Claim 2 as part of the specification inform your understanding of the term dynamically switches in Claim 1?

A Only in my analysis of Claim 2.

Q Okay. And in Claim 3 -- I'm sorry. What is your understanding of the term application in Claim 2?

A Essentially a program, some sort of a decision making program likely encoded in a computer, a processor, something like this that can make decisions about the current conditions and then can do what is best for the communi -- make a decision about what is best for the communication.

Q Understood. Moving on to Claim 3, just so we're just -- just so we are beginning on the same page of how you understood the terms.

There is an upload of a first stream of data and a second antenna for download of a second stream of data.

Do you see that?

A Yes, sir.

Q So first, what is this consistent with? Two, what is -- what is a stream of data or -- so strike that.

What definition of stream of data did you understand this to refer to and apply in your analysis?

A Well, so data -- let's just talk about data for a moment. Data I view as information in this context, information to be communicated. So when we talk about a stream of data, a sequential set of information to be communicated would be my kind of crisp definition of that.

Q And so how -- in that context how is -- what is your understanding of uploading a stream of data?

A So because we're talking about the device, the mobile device, uploading for that device would be transmitting that information that -- that sequence of information, that stream of data to elsewhere to another user or a base or whatever.

Q And so the -- the interpretation of the limitation that you applied is that you know a transmitter would upload a first stream of data where that -- the upload is simply the transmission?

A Yes. Obviously somebody is receiving that, so you are uploading it to something else, but yes, from the mobile's perspective, you are transmitting that to some other node.

Q And if you turn Column 3 of the '434 patent --

A Sorry, I overshot, please, I'm there.

Q It says, data -- so this is at line 7.

A Okay.

Q Data transferred to a CT/ND over wireless network comes in an encoded form and must be decoded at the CT/ND after the data is received?

A I see that.

Q Do you see that?

How is that consistent with your understanding of data in the claim?

A Well, again, it is information that is

transferred. So I think that is consistent with what I applied over the wireless network. I said data is information that is communicated over in this case the wireless network.

If you are speaking specifically, then, about encoded and decoded there are a variety of ways that you can encode and decode. So you know the -- so that the mobile device how it encodes its information, the data itself how it puts that onto a carrier wave and sends that off, transmits that off during that upload, that is part of the protocol.

Decoding as it receives it, we haven't talked about download. Again, that is part of the protocol of how the two nodes decide to -- the protocol specifies how they're going to communicate, how they're going to encode information or decode information.

Q And so the opinion that you -- so strike that.

The opinions that you have in your expert report on upload and -- so on the term upload,

your -- your -- so strike that. I told you I would have a bad question, I got there without finishing it.

Your understanding of the term upload to be transmitting, is consistent with what you believe a person of ordinary skill in the art would recognize the term upload to be in this patent?

A I do.

Q Okay. And is there any parts of this specification or the file history that inform your understanding of the term upload?

A Again, I don't -- I don't -- I don't recall any -- upload is a fairly straightforward term in the art. There is not a lot of debate about what it means. As I read the specification, that basic term of upload seemed consistent with data transmission, which is talked about all over in the specification of the '434 patent.

Q And what was the term -- so the term download in the same -- in the same limitation or the same claim, what is your understanding of the

term download as you applied it in your opinions?

A Yeah, it is -- it is just the dual, because we're talking from a perspective of the mobile device. The download would be the reception -- receiving of -- of data from some other node in the wireless network.

Q Just a quick question. I'm hearing some noises, so it is probably a good time to ask anyway, other than the Zoom window and PDF, do you have any applications open?

A You know what, I opened my email, that is the noise you are hearing, I just closed it. I had opened it during the break, I apologize for not closing it. It is closed now.

Q No worries at all. I understand the -- the habit. Obviously we are all connected.

My other question just in a Zoom world habit and I guarantee you no insinuations, but at this time, do you have any chat programs or anything opened up that can communicate with counsel in any way?

A No, sir.

Q Great. Again, I apologize for even asking the question, but it is formalities.

A No, I understand, no, I do not. I just forgot to close it. I'm sorry I forgot to close it.

Q No worries, no worries at all.

So in your -- in the understandings of the terms upload and download used in forming your opinion, in Claim 3 that would imply then that the first antenna transmits data while the second antenna it receives data; correct?

A The only -- the only caveat I want to put on that is let's be careful how we use the word "while." But to say -- to say in this claim that one antenna is to -- for uploading of data or transmitting data and another antenna for receiving data, yes.

Q And how is that consistent with the -- where the first antenna -- so in Claim 1 -- so strike that.

You understand that Claim 2 depends upon Claim 1; correct?

A I do.

Q And so the first -- so if you look at the third limitation that is shown on Column 12, the first antenna is coupled to the transmitter and receiver.

Do you see that?

A I do.

Q And then the -- and then that also has the first radio frequency signals are transmitted using the first antenna?

A Yes.

Q And then the second radio frequency signals are transmitted using the second antenna; correct?

A Yes.

Q So how is -- how would a first antenna upload, therefore transmit, while a second antenna receive in the claims?

A I'm not sure I understand what you are asking me. Maybe you ought to clarify, because I can give an answer, but I'm not sure I will be answering what you are really asking me. You're

asking consistency, and I'm not quite sure I get that.

Q Sure. So actually -- so strike that. We will -- we will move on.

So if we move down to Claim 6 --

A Okay.

Q -- there is a limitation, wherein the first and second antenna are configured to stream data simultaneously.

Do you see that?

A Yes, sir.

Q What is your understanding of stream data simultaneously? So strike that.

What is the -- what is the understanding of -- what is your understanding of the term stream data simultaneously that you used in analyzing the claims?

A That both of these antennas, the first and second antenna are configured to or so are capable of streaming data at the same time.

Q And your understanding of streaming is what?

A As I mentioned, we talked about stream data. I will reiterate. The idea of a stream of data is kind of a time sequence of information. So streaming data is sending that sequence of information or receiving it.

Q Okay.

A Like stream here is more used as the verb, so but -- but it is very consistent with the idea of transmitting it or receiving it.

Q Okay.

MR. UDICK: So let's move on to Samsung Exhibit 1004, which is, Mr. Lane, if you would pull up doc 5.

(Exhibit 3 marked.)

MR. KAZI: Counsel, do you mind sending that as an attachment to the chat as well -- oh, it is just the patent, okay. Never mind I got this. You don't need to send this.

MR. UDICK: Great.

Q Dr. Jensen, exhibit -- Samsung 1004, my understanding is this is a Gillig reference that you have used in your opinions. Can you take a

look at that and see if you agree?

A Yes, sir. This is the Gillig reference.

Q This is what you earlier said is the base reference that you use for some of your opinions; correct?

A Yes, sir.

Q Why did you select this as a base reference?

A This reference includes many of the limitations that appear in -- in the '434 patent claims. It discloses obviously the two different radio interfaces, the two different antennas and many of the other limitations of the claims are embodied in this. And so that is why it was chosen as an important reference.

Q So looking at -- so do you have a copy of this in your -- available digitally as well?

A I do, yes, sir.

Q So I'm going to cross-reference your -- your declaration a bit.

A Okay.

Q And so I don't know if you can get both

open easily, but it is -- so this may be a heads up that we might be looking at two different documents?

A Yes, I've got two PDF readers up --

Q Great.

A -- side-by-side, so I can do that with little problem.

Q Perfect.

So beginning at paragraph 51, you have an overview of the Gillig reference and this is in your declaration; correct?

A Yeah, I'm just scrolling there now, bear with me. Yes, starting at paragraph 51, yes, sir.

Q And in paragraph 52 you indicate that Gillig describes that the cellular cordless telephone automatically operates whenever it is in range of its corresponding cordless base station. And when it, quote, moves out of range of the cordless base station, telephone calls may be made over the cellular radio channels or transferred from the cordless radio channel to one of the cellular telephone channels.

Do you see that?

A Yes, sir, I do.

Q Do you have an understanding of how Gillig transfers from the cordless radio channel to the cellular telephone channel?

A Well, I certainly looked at that in Gillig. And he has a use model for -- I will bring it up for everyone to see. He has a flow diagram, I believe it is this one where he also has in the specification a discussion of this where he is -- where he is proposing how that might be done to transfer from one type of call to another. One type of radio interface I should say to the other.

Q And -- and the reference -- just for the record, the reference or the figure that you pulled up is Figure 8 of Gillig; correct?

A Yes, sir.

Q And that is a flowchart that is a bit of a decision tree/flowchart of at least a described operation of Gillig; correct?

A It is, yes. That -- that is a -- yes,

that is a good definition, yes.

Q And in 710 -- so do you see how some of these decision blocks are labeled?

A Yes.

Q 710 includes, has user selected transfer of cordless to cellular?

A Yes.

Q Do you see that?

A Yes.

Q Your understanding of Gillig is that in Figure 8 the user has to select a transfer of cordless to cellular to make a transfer from cordless to cellular; correct?

A Well, let me say this: When I first reviewed this as well as the fairly short description in the specification, yes, the user has to select that, but I assumed this -- he is not very clear about how the user does that selection.

So yes, he definitely has that as part of the decision tree. What is not clear is exactly how the user does that selection. In other words,

is it a preference that is stored -- he talks about a key sequence, is that something I do when I say, okay, I'm willing to roam and -- and -- or is that something you have to do on the fly, a little bit unclear.

Q And so in paragraph -- in Column 7 beginning at line 17 there is a discussion of Figure 8; correct?

A Yes, sir, that's right, yes.

Q And we were just talking about that decision block 710; correct?

A Yes.

Q And down at line 33 to 35 or so there is a decision block to determine if the user has selected transfer of the cordless call to the cellular system, e.g., by entering a predetermined code from the keypad.

Do you see that?

A Yes, that is what it says.

Q And that is consistent with what you had previously mentioned as something you had seen; correct?

A Yes.

Q And so it says, yes, the branch is taken to block 714 where an attempt is made to transfer the cordless call to the cellular system. It then says, assuming the called party has call waiting, the transfer is attempted by placing another call on the cellular system and waiting for the called party to answer.

Do you see that?

A Yes.

Q So is it your understanding that to complete this, in Figure 8, that the called party has to have call waiting?

A It appears that Gillig would anticipate that the -- the party has call waiting in his sort of embodiment here.

Q Is that consistent with your understanding of how Gillig Figure 8 would function?

A I hadn't looked specifically at that piece of -- sort of that call waiting piece. You know, Gillig making the decision to transfer is -- when you say is that consistent, I mean really focusing

on block 710 I sort of gave my opinion on what that block might mean.

He's not crystal clear on how he anticipates that to be done. And so I interpret that to mean you could store that in a register. I'm willing to have my calls transferred if I get out of range of cordless to cellular to do that.

This call waiting piece is a mechanism he had for saying this is how it would be done. I'm not sure that -- that -- yeah, it really impacts block 710, but CCT is going to try to do that transfer whether or not the person has call waiting or not.

Q And so something you just said that you interpret -- so you said he is not crystal clear on how he anticipates that, which is the block 710 to be done. And so you interpret that to mean that you could store that in a register.

Is there anything in the specification that you are relying on for that interpretation and understanding?

A The reason I interpreted it that way when

I first read it was because he talks about, let me get, by entering a predetermined code from the keypad. So I sort of assume, you know, phones of this generation, you typically had to store your preferences by having some obscure sequence. We didn't have menus like we have today, some obscure sequence on your keypad which would say here is my preference.

Here is how I want this thing to operate, sort of a way -- a hard way to program your phone, if you will. So that when I read it, that is the way I interpreted it.

Q And to what extent did you take into account his, e.g., to determine if the user has selected to transfer his, e.g., by entering a predetermined code from the keypad?

A Well, again, it is an example, right, e.g. So here is an example way that you could -- that the user could specify their preference. There is obviously another interpretation that the user has to engage with at that moment.

It -- I'm not sure it is particularly

important for the analysis in this case, because the phone is still capable of doing that dynamic switching, but it certainly is relevant from a user sort of experience.

Q And Gillig is a patent that is 1988; correct, it was filed?

A Yeah, I believe that's right. I'll just scroll to the top to make sure, but that is my recollection. Yeah, filed in 1988.

Q And it would need -- in 1988, a POSITA would know that it would need call waiting because the connections it is creating are circuit switched; correct?

A Yeah. We're talking circuit switch back in this generation, almost certainly.

Q And a circuit switch is essentially -- it is a -- it is the connection that is consistent; correct?

A That's right. You get -- you get a circuit resource and it is yours until you change the connection.

Q And so if -- if you wanted to move a

conversation you were having, so if I -- if you and I were speaking by phone, by cordless device in Gillig, and I wanted to switch from, say, cordless to cellular, I would have to initiate a second circuit to you to do so; correct?

A Yes.

Q And not until I did that, could I -- could I go to talk to you over the second wireless medium; correct?

A Yeah. So in that scenario that you are painting, that would be a typical use. And the other user likely would need to have that call waiting feature in order to receive the second call and then be able to connect to the second call and hang up on the first one. That would be -- that would be a typical use model for this.

Q Right. And that is why the call waiting is necessary, because if -- if you -- in this example if you did not have call waiting, and I tried to initiate a second circuit connection to you, it wouldn't work; right?

A Yeah. If I didn't have call waiting or a

functionality possibly similar to what Gillig is disclosing where I can have these two calls going on, some -- some capability like that in order -- the other user would have to have that in order for this to work with that other user. Yeah, I think -- I think that that is fair. You have got to have something like that for the other user to be able to -- to continue to -- for this to work for them.

Q Right. And the underlying infrastructure, say, cellular or otherwise, would also have to support this exchange happening between these two users; correct?

A Yeah. I mean, the underlying infrastructure, of course it has to support it. It is -- it is not as big of an if, right, because this infrastructure all exists. You have got the cell phone connection, you have got the PSTN connection. That infrastructure was there throughout the country at this time, so yes, of course it has to support it, but it did support it.

Q Right. And in Gillig, how is -- so if we look at, let's say, Figure 2, but of course you're welcome to review anything else that you might need to, how does Gillig transmit the audio wirelessly?

A Okay. How detailed of an answer are you looking for?

Q Sure, yeah, that is very fair.

So at a very basic level when I -- if I speak to you my voice is transmitted to the microphone that is somehow converted to something, some type of information that is then transmitted out; correct?

A That's correct.

Q In Gillig, what is the, you know, the raw -- what is the raw voice converted to before it is transmitted?

A So microphone in Figure 2 as you referred to, microphones convert your voice or my voice into an electrical signal, right. And so that is routed through the audio switch 150 in Figure 2 of Gillig and of course there is -- there is control

going on. So which route it takes depends on which interface is currently active and it could be one or it could be both.

And then yes, in the audio circuitry, either for the cordless or for the cellular or as I mentioned there is an embodiment with both, then that is -- that is used to modulate what we call a carrier that can be transmitted out to the antenna to create the radio frequency signals. I'm using that word from the '434 patent, right, that is -- that is how that is done.

So does that give you enough detail of -- of what you are asking for?

Q Sure, yes. And is it -- is that audio signal digitized before it is sent out?

A It depends upon that audio circuitry and the cordless transceiver and/or cellular transceiver and what protocol they're using whether that is digitized. It also depends on whether the audio circuitry itself might want to do some of its processing in digital and then convert it back to analog if the cordless or

cellular protocols are analog standards.

So whether or not it is digitized simply depends on what blocks 110 and 120 do with that audio data that -- the audio information that it receives.

Q Does the patent specify that one way or the other?

A No, no, I don't -- well, at least I don't recall anything in Gillig to talk about precisely what it is doing with that other than it gives us examples of what blocks 110 and 120 could be.

Q And where do you see that?

A Let's see, I would have to find it in the specification. I might find it faster if I just look at my report really quickly, because I would have referred to it. Bear with me just a minute.

For example, Column 2 so, for example, at the bottom of Column 2 in Gillig's patent he refers to a cordless phone model, right.

Q Okay.

A And then on Column 3 near the top he talks about the Motorola DynaTAC cellular mobile

telephone as examples of -- of -- of kind of available systems that could -- really probably chipsets is what we would be talking about, but regardless radio sets that could be used to implement those.

And that is really the only reference that I recall in here where he might talk about what protocols he's going to, you know, he's -- that might be embodiments of his invention.

Q And in 1988, what type of infrastructure -- what -- so what type of signal was supported by the infrastructure?

A Yeah. So these were analog standards. And the infrastructure was largely supporting at that time, maybe exclusively supporting analog standards. DynaTAC was a frequency modulated amps standard. The ease of phone, I'm not sure, but most of that was FM as well. Kind of that -- cordless phone standards were frequency modulated analog systems as well back in this time.

Q Got you. So if we move further into your declaration, turning to your analysis of Gillig

that begins on page 33, paragraph 63. And we specifically look at paragraph 76 and let me know when you are there.

A I'm there.

Q I just had a question. So you -- you reference here Exhibit 1020 for the StarTAC 3000 Level III Service Manual.

Do you see that?

A I do.

Q And if you look at --

MR. UDICK: If we could open doc 18, which is Exhibit 1020 if you would, Mr. Lane.

(Exhibit 4 marked.)

Q So this is -- is this the -- so this is labeled Exhibit 1020 and I believe it is in your bullet -- your bulleted list of materials considered on page 13 of your -- of your declaration. And it shows -- if you turn in your declaration to that page, it lists a copyright date, October 24th, 1998, which is also consistent with a 1998 copyright date on page 2 of Exhibit 1020.

Do you see those?

A Right, yes, I do.

Q You previously indicated that you used a critical date of December 16th, 1996 and that a person of skill in the art would review materials as of that date; right?

A Yes.

Q And so how -- how would a person of ordinary skill in the art review a document that is -- that is dated two years later?

A Okay. Of course I appreciate that. Of course this is -- this copyright is after the critical date. And I'm using it very much on the periphery here, because I couldn't find a similar service manual for the DynaTAC, which was kind of a predecessor to the StarTAC.

But really just used this as a demonstration that devices back at the time had multiple processors. So I'm not relying on it to form an opinion, but using it as corroborating evidence to support what I already knew that -- and I have other kind of things in my -- in my --

in my report that just demonstrate that these kinds of systems didn't necessarily all rely just on one processor in order to do their work.

Q Didn't you -- if you look to your list of materials considered again, didn't you cite -- refer to a DynaTAC instruction manual in Exhibit 1023?

A Yeah, I did. I'm being slow getting back to there.

Q Okay.

A But yes, on page 13, the DynaTAC instruction manual.

Q Okay, I guess I'm confused. I think you previously testified that you looked to the StarTAC, because you couldn't find a similar service manual for the DynaTAC?

A Yes.

Q Am I speaking about the wrong devices?

A No, you are speaking about the wrong -- the right devices. The differentiation here is the kind of manual that we were -- that I was able to locate --

Q Got it.

A The instruction manual doesn't show me any of the technical detail under-the-hood of what the system block diagram is. Where the service manual shows me a service where I can identify components, in this particular case processors.

Q Understood. What was the -- in Gillig what was the -- the problem that Gillig was attempting to solve?

A So at a very high level this -- this ability to use multiple interfaces, to offer the user, you know, these multiple options in a single device rather than having a separate cellular device and a cordless device. Let's have a device that can do both, that can switch between them and work with both of those interfaces.

Q And what were the problems identified that -- so if we turn to Column 1 of Gillig?

A I'm there.

Q And if you look I think to -- it talks about the prior art of Gillig beginning at 10 down to 28; right?

A Yes.

Q Limited range and cost of cellular call was high. And those -- those are kind of the indicated motivations in the specification; correct?

A That's -- that is what he says here.

Q Okay. So if we go to -- if we go to paragraph 87 of your declaration. And it is -- it spills between pages 52 and 53?

A Correct, yes, I'm there.

Q In the last sentence you have a summary. A POSITA would have understood or found obvious, and it goes on, at least because Gillig describes that such a switching operation is performed automatically based on the portable telephone's location relative to cordless or cellular base stations and/or on one or more factors that vary over time.

Do you see that?

A I do.

Q Where -- where does Gillig describe a switching operation performed automatically?

A Well, we have already talked about Figure 8 and -- and that associated description in the specification of Figure 8. So if we're talking about middle of a call kind of dynamic switching as we discussed before, that would be the embodiment where -- where he's disclosing that.

Q So it is your opinion that the switching operation is automatic when there is a 710 block as a user selected transfer of cordless to cellular?

A Yeah. I mean, we're kind of going back over my testimony. Yes, you know, one way to interpret that and the way that I did is -- is that the user has programmed its importance. Whether or not, for example, he's willing to switch to cellular. That is stored and now that the system says, okay, that is stored I'm -- I'm getting out of range of the cordless base. I'm transferring to cellular.

And even -- of course, if the user has to intervene in that decision in realtime it still doesn't really change that, it doesn't change that

capability. It just changes the use model of when the user has to give their input.

Q Sorry, my mouse disappeared for a second.

So turning to your analysis with regard to Claim 6 in Gillig. And if we would look to, say, 6D so page 74, paragraph 117?

A Okay, I'm there.

Q And this is within the limitations of the '434 -- strike that.

So I'm sorry, let's turn back to Claim 98 -- I'm sorry, Claim 3, paragraph 98?

A Okay, I'm there.

Q Earlier we talked about upload and download of the two different devices; correct?

A We did.

Q And so Claim 3 is use a first antenna for upload of a first stream of data and a second antenna for download of a second stream of data; right?

A We have discussed that, yes.

Q So in -- in -- in paragraph 98 it says that, a POSITA would have understood that Gillig's

telephone used the antenna, first antenna for transmitting uploading signals from telephone to a cordless base station, and then uses the antenna for receiving from cellular base station when operating as a cellular; right?

A Yes, I do say that.

Q Where is the -- if you're on a cellular connection, don't you have to transmit and receive for a call?

A Well, I mean, a typical call would include both transmitting and receiving. So I mean, yeah, the system has capabilities, the cellular has capability for both transmitting and receiving.

Q But are you saying that Gillig discloses Claim 3, because it would transmit, so upload by cordless and then at the same time download, so receive by cellular for the call?

A Well, I am not proposing -- I'm not proposing that that would be a typical usage of this device. I sort of -- what you are proposing, if I understand you, would be that the call would only use half of each interface, the transmit on

one and the receive on the other.

But all I'm saying here is that one interface -- each interface is capable of both and therefore, it meets the limitations of the claim, because the claim doesn't force me into sort of the -- drive me to the conclusion that I think you are asking me about. It just says can I upload a stream of data on one antenna and download a stream of -- a stream of data on a different antenna, and Gillig can.

Q So your understanding of Claim 3 is that Claim 3 is disclosed in the prior art any time that a first antenna can upload, even if it can also download. And the second stream or second antenna could download even though it can also upload; is that correct?

A Yeah. I don't see anything in the claim that would drive me to a different conclusion.

Q Okay. And then in 99 it says that Gillig's telephone may simultaneously operate as a cellular telephone and a cordless telephone.

Do you see that?

A Yes, I see that.

Q What do you mean? How does it operate simultaneously?

A The embodiment that Gillig gives is, of course, three-way calling. So if I'm the user on Gillig's invention, on Gillig's device, then I can be connecting one call through the cordless interface and another call through the cellular interface. And so now I've got both of them active at the same time, we're all hearing each other. The data is coming in and out through those different interfaces, so it is simultaneous. That is -- that is the embodiment that Gillig discloses for that.

Q And how does that -- why is that relevant under your analysis in Claim 3?

A Because Claim 3 -- just in case -- it -- it is only really relevant if there is a push to limit Claim 3 to sort of simultaneous. I know the word doesn't appear there, but if there is a push to do that, it is important -- I felt important to me to identify that the device was capable of

that.

Q So how should I understand this -- you say if there is a push to do so. How should I understand whether or not that is -- that is your interpretation of -- of Gillig or not?

A My interpretation of Gillig is what I've written here. That it is capable, you know, the first paragraph shows that it is capable of satisfying the limitations of Claim 3, but you know and maybe I -- I spoke it too quickly.

If we also just talk about the idea that during that three-way call there are -- there are times when -- when one of my remote users is talking. And so because of the three-way call, my mobile is receiving that and, say, over cordless and transmitting that, say, over cellular or vice versa. And so we have this scenario where the same information is being uploaded and -- and -- and downloaded all in one sort of operation.

So I was just trying to identify the places in Gillig where what he discloses teach principles that are part -- or limitations that

are part of Claim 3. That is really all I was trying to do.

Q Okay. And going down to 102, paragraph 102?

A Yes.

Q To the extent the term stream of data involves carrying digital information, you indicate Gillig would have been easily adapted to such implementation because Gillig's configuration reflects a loop to any conventional cordless telephone transceiver and any commercially available cellular transceiver; correct?

A Yes, that is what I say and that is what he says.

Q Right.

We've been going a little bit over -- almost an hour and a half, apologies. Do you want to do a quick 10 minute?

A Yes, sometime, sometime soon, but you know this is a great time for me.

Q I'm at a natural pause, so that would be just as ideal as anything else?

A Okay.

MR. UDICK: I think we can go off the record.

(Recess, 10:56 to 11:08 a.m.)

Q Dr. Jensen, welcome back. Let's continue on with Gillig. If we turn to page 78 of your declaration beginning around paragraph 124 we begin to get into your analysis of a combination of references; right?

A That's correct.

Q And 126 you -- you go in and say that a POSITA would have been motivated to modify Gillig; right?

A That's correct.

Q So what in Gillig would motivate a person of skill in the art to modify Gillig's telephone to be a -- to incorporate Rose?

A Well, as I say here in paragraph 126, Gillig is silent as to how you might implement. He gives an example, but he's otherwise silent as to what you might use for the blocks that implement the cordless telephone or the cellular

telephone.

And so as we talked two hours ago about how the industry was evolving, so as -- as newer capabilities came onto the market that would be a very natural thing for a person of skill to want to do. So you asked specifically about what in Gillig, but really it is about the capability in Gillig and what was happening in the industry that would drive someone to be motivated to bring in a better capability into Gillig's invention.

Q And where is that opinion in your declaration?

A Again, I think we talked about this right there at the last sentence. For example, in paragraph 126 that you identified, therefore, a POSITA would have been motivated to apply Rose's newer digital cordless schemes in Gillig's system to obtain the benefits offered by the digital cordless features compared to the analog standards.

So that is really what it is.

Q And above that you say, Gillig describes

it can use, quote, any conventional cordless telephone transceiver, unquote. And then because of that general disclosure of Gillig, a POSITA would have been motivated to investigate, and the sentence finishes; right?

A That's correct, that is what it says.

Q And when I asked you earlier about what a conventional meant in Gillig and it was the conventional known in a common use technology; right?

A We did talk about that, yes.

Q What evidence do you have that Rose's digital communication figures was known and in common use at the time of -- that Gillig wrote any conventional cordless telephone transceiver?

A So in fact, that is not what I'm claiming. We have talked about, you know, what Gillig's timeframe was earlier. And as things evolved and the industry evolved, what I'm saying is a POSITA would have been motivated as these new technologies were coming out, were clearly improvements over the prior technology. I'm

saying a POSITA would -- POSITA would have been motivated to go get those and implement those in sort of Gillig's architecture rather than saying, oh, that existed at the time of Gillig.

Q And that is instead of implementing it in any conventional cordless telephone transceiver as Gillig states; right?

A Well, conventional at the time of Gillig, not conventional at the time of the critical date. So at the time Rose came out and so many other things that were showing digital being superior to analog communications, the whole technology space was improving. So I'm really applying here the analysis of timeframe of the critical data of the '434 patent and what had happened leading up to that point, not just what was conventional at the time of Gillig.

Q And that -- and other than this sentence at the end of 126, where is that in your report or in your declaration?

A Well, let's -- let's read on. But what we've got here are what became at that time, not

just now, known benefits of -- of using digital, in this case, cordless protocols over -- over the analog standard that existed at the time of Gillig that was commonplace at the time of Gillig, right, so we can go through those. And paragraph 127 has some and I think there is more if we keep -- keep going on. I'm happy to go through those, if you would like.

Q And this is digital cordless, but not digital cellular; correct, for Rose?

A Yes, Rose is a reference that demonstrates digital cordless, that is correct.

Q And in 127, you -- you -- you identify that -- so a POSITA would have -- that Rose's teaching, a POSITA would have understood that Rose's teaching of digital communication figures would increase security of Gillig's cellular cordless telephone. That is one example; right?

A That is one example of a benefit of digital over analog standard of cordless phones.

Q Security isn't mentioned in -- mentioned in Gillig at all as a problem or an issue in the

art; correct?

A I don't recall. I don't want to be too firm on this, but I don't recall any mention by Gillig of security.

Q So how would a person of skill in the art having Gillig in their hand develop the plan, a research plan to -- to develop solutions to the problem that they have identified associated with Gillig?

A Can you just at least repeat that question for me?

Q Sure. So how would a person -- maybe a little bit, how would a person of ordinary skill in the art for this patent go about developing a research plan to solve having Gillig in hand, solve -- identify and then solve the problems that -- that would come to identify in Rose?

A Okay. I understand your question. I think, again, I've already sort of testified, we talked about market conditions. If you were in this industry at the time, Rose is just an example of a whole host -- a whole effort in the industry

going towards digital.

And if you were -- if you were a POSITA at the time of, like, Rose and leading up to the critical date of the '434, the market was driving everybody towards digital because of the kinds of features that -- that Rose does talk about as an example reference, but really the industry was talking about.

So if I'm a POSITA working on this in a company, say, or to do a start-up, if I am not aware of this, then I'm probably not a POSITA. Right, this -- this is happening in the industry, everyone knew it. And so that is what would motivate me to go look at, you know, if we're looking for a good hook into Gillig, we are really going to need to go through that carefully because I don't -- I don't have that cited in my report and don't recall those kind of hooks.

Q What -- what modifications would a POSITA have to make in Gillig to implement Rose?

A The essential modification there, I don't know if this is -- would be comprehensive. I

would have to give some considerable thought, but the main part if we go to Figure 2 of Gillig and he has got a block -- for example, let me go to that, so I'm speaking accurately. So he's got block 110 in Figure 2, which is a cordless receiver, transmitter and the associated audio circuitry.

So that block being switched out would be -- I would have to think carefully if there were anything else, but just switching that block out with a digital chipset as opposed to an analog chipset would get you most of the way there if not all of the way there.

Q Would a POSITA have to modify microcomputer 130 to handle the -- the exchanges between the cordless receiver and the microcomputer labeled at 141 through 144?

A I can imagine that depending on the chipset what those control signals that we see, 141 through 145, what those might need to be. But the general idea of getting some information from the cordless transceiver 110 and giving

information to it and the microcomputer role in that wouldn't need to change other than just the specifics of the chipset that you might be using to do the digital cordless.

Q Would there -- would there need to be a change to the 116 audio circuitry?

A Yes, 116, which I view as part of block 110, right. So when I talk about switching out 110, the audio circuitry would almost certainly change, because it would be then taking that analog audio signal out of audio switch 150. And then it would be processing it in a way consistent with, say, the digital standard of the cordless transceiver embodied in 112 and 114.

Q And would the antenna 118 have to change?

A Well, from the standpoint that digital standards in cordless operated at different frequencies than the analog standards, then antenna 118 would need to be designed for the frequency of the digital standard. So yes, that would almost certainly need to be changed to implement Rose in Gillig.

Q So a person of ordinary skill in the art would have to be able to modify audio circuitry to go from an analog transmission to a digital transmission and be able to modify the antenna to account for the change in wireless frequencies associated with an analog versus digital protocol; correct?

A To -- to be -- to be clear, like, the audio circuitry block 116 would be part of the chipset that embodies cordless receiver, cordless transmitter, audio circuitry, prepared to take an analog audio in and it -- so you could, you could try to do this on your own.

Most practitioners would have gone to a chipset that was implementing a digital cordless system in order to do that and wouldn't carve-out 116 and do that on their own, but certainly you could. And yes, the antenna -- to finish answering your question, the antenna, a different antenna would need to be designed or purchased in order to do that just because of the frequency, not because of anything else.

Q And there would need to be some modification between the microcomputer 130 and the item 110 to have those interoperate; correct?

A Again, that is going to depend on the specifics of the control signals that the chipset is -- uses. They would be very similar to what we have here, but there might be some -- there might be some additional ones or different ones. You would have to look at the chipsets, but that is a fairly straightforward interface change.

Q In what way would that -- the frequency of the change going from a analog to digital?

A The -- at its fundamental level the analog to digital change does not require a frequency change, but it de facto requires it. So technologically it is not -- it is not required, but what -- the fact that the digital standards operated on different frequency allocations is what would force that to happen.

There can be some technical reasons we don't need to get into. Maybe there wasn't enough bandwidth, for example, at the odd analog

frequency to accommodate the wider bandwidth digital. But other than that, it is basically the standards that forced us into using different frequencies as we went from analog to digital.

Q Are there any -- are there any technological differences in different frequencies that make one band better than another band for, say, digital communication?

A I mean, the challenge with your question is that it requires a definition of better. So for example, in a mobile device, higher frequencies lead to smaller antennas, for most people, that is better. So it sort of depends on how you want to define better, but the same techniques are used to do the design, right. I mean, it is not -- it is not all of a sudden I need to learn a new antenna design technique to change antenna 118.

Q Got it. And but what you said before is the standards kind of force the change, to some extent is that also the frequency allocations of -- of different regulating bodies?

A Yes, yeah. Of course -- of course the regulatory bodies have to allocate these kinds of bands either to be licensed or to be used in a certain way in an unlicensed way, yes.

Q And do you know at the time of Rose -- and so let's actually introduce Rose.

MR. UDICK: Which is doc 6, Mr. Lane, if you don't mind.

REMOTE TECHNICIAN: Understood, please standby.

Q And Dr. Jensen is -- is what we see on the screen as patent 5,297,203 marked Samsung 1005 the same Rose that you analyzed in forming your opinions?

(Exhibit 5 marked.)

A Yes, this is the patent we're referring to, for Rose.

Q And Rose was 1993; correct?

A It was filed, that's correct, filed in 1993.

Q Do you know what -- in 1993 do you know what frequencies were used for digital

transmissions?

A Well, at that time and fortunately Rose helped remind me, but I also did a little additional research. What was very typical at that time was this 902 to 928 megahertz, which is -- was an unlicensed band as long as you operated in certain ways.

Q What are the certain ways?

A Well, at the time if you wanted to be un -- un -- unlicensed and operate, for example, you had to frequency hop. So it is a kind of a spread spectrum where you sort of hop your carrier frequency around within the band.

Q And so the -- the modification with Rose and Gillig would have required frequency hopping as well; correct?

A To use that frequency, that is exactly right. You would have had to use frequency hopping. Again, a typical POSITA would have gone out and acquired a chipset to implement that in their device, but yes, that would have -- to do a 902 to 928, yes, you would have had to frequency

hop.

Q The references you rely on in your -- in forming your opinion, you point to Rose, not to a specification for a chipset that can do this; correct?

A No, that's correct. I point to Rose as evidence that this capability was -- was out there.

Q Did you research whether there was any chipset, any chipset specification or documentation before the critical date that showed this functionality?

A I recall doing some of that. I don't have that in my report, so I would have to go re-dig that up, but I recall looking at chipset availability for digital at the time, for digital cordless at the time. I just don't recall the details.

Q So having done that research you ultimately did not identify anything to -- to put into your report; correct?

A I think the way I would say that is I

didn't elect to put what I found into the report. I don't have anymore detail on that, so that is really all I can offer you.

Q Just to make sure I understand, you don't -- you don't have a -- a memory or recollection of why you elected not to put whatever you found into the report?

A I do not, that is correct. I do not have a recollection of why what I found is not in the report.

Q Okay.

A I should add, however, that even if a user, you know, someone designing a device did not have access to a chipset, that the technology was known. So it would certainly take more work to implement that in a Gillig device, but it doesn't prevent implementation of that in the Gillig device.

Q One would have to be able to design a chipset themselves; right?

A Design the system, yeah. I mean, you probably wouldn't create a chipset under those

circumstances unless you were really big volumes, but there is lots of wireless devices that were not done just with a chipset. That would have been a -- the easiest way to make it happen. It is not the only way to make it happen.

Q So turning to 1 -- to paragraph 129, it is a paragraph that in the latter half of it it says, a POSITA would have appreciated that the Gillig-Rose combination does not change the hallmark aspect of either reference and then it goes on.

Do you see that?

A I do.

Q It says, Gillig's cellular cordless telephone architecture and schemes would remain unchanged.

And that is referring to block 120 in Figure 2; is that correct?

A Well, yes, generally speaking. I mean, it is all part of the system, but yes, that would need to change.

Q So I guess, when you say cellular cordless

telephone architecture, what do you mean there, because that -- it kind of looks like maybe it is both or I can't tell what cellular cordless telephone architecture?

A That is what Gillig refers to his overall device. He calls it a cellular cordless telephone. And so -- well, so it is actually broader than what you said. The architecture here in Figure 2 doesn't have to change at all. It is what it is -- you are going to swap out the block 110 for a different set, but the architecture remains the same.

Q And what do you mean by architecture there, because that was -- frankly to me that would sound like a architecture change, so what do you mean when you say architecture?

A So Figure 2 I would call an architecture design. It is a high level block diagram of what is going on. So there is nothing in Gillig that says that block 110 has to be an analog radio that handles only analog signals. So the architecture really it doesn't change at all. It is just I'm

going to change what block 110 -- how it does its job.

Q Okay. What do you -- so back to that sentence, appreciated that the Gillig-Rose combination does not change the hallmark aspects of either reference. What is -- what are the hallmark aspects of either reference?

A Well, without trying to be comprehensive, the hallmark aspects, Gillig is obviously trying to solve a problem giving us this architecture of this combined mobile device with these combined radio interfaces that can be -- can work together in this sort of seamless way. Rose coming in and saying here are some advantages of going from an analog radio to a digital radio. All of those are preserved in the combination.

Q Why would a person of skill in the art have identified a entirely analog device to make a at least partially digital device?

A Well, let's -- let's -- let's -- I want to back up a little bit.

Gillig doesn't disclose and say this is an

analog device. Gillig disclose an architecture for trying to get the best of two worlds, a cordless and a cellular world. At the time he cites examples that you might use to implement 110 and 120 as analog radios, but he is not proposing an analog system.

Q Digital systems exist at the time of Gillig?

A Well, we talked about this. I don't want to say they didn't exist, but they -- they weren't -- they weren't sort of the common thing like the DynaTAC for cellular. And, you know, I think a Phillips or something like that for the -- for the cordless. I can't remember as well on that.

Those were the -- the commonly used --- whether I could say a digital existed or not, I'm not competent to express an opinion on that, but those things were available by the critical date as evidenced by Rose.

Q So in 130 at the end -- at the end of it, so again, it would have been obvious to a POSITA that Gillig's cellular cordless telephone would be

readily modified to implement Rose's digital cordless connection schemes, e.g., transmitting, receiving stream of digital voice data.

What does it mean by -- why do you say digital voice data there?

A That is what Rose's invention discloses. I mean, it is a cordless phone, so that is -- that is what it discloses. I mean, maybe I need more clarity on what you are asking.

Q No, that answers. I just wasn't sure what you meant there.

A Okay.

Q And the -- the digital voice data of -- of Rose is encrypted; correct?

A I don't recall. It certainly enables -- once we go to digital it enables encryption, but I need to go back to the reference to ensure that he's disclosing encryption. I just don't recall. There -- I mean, he talks about security, but there is -- there is inherent security and then there is layers of security like encryption. And I just don't recall all that -- what -- what he's

talked about.

Q So I'm confused, because you stated one of the motivations to combine for a POSITA to look in relationship to Rose is to have a digital cordless system that allows utilizing encryption techniques but you're not sure if Rose discloses those?

A I don't recall. I know I stated it is in my report. I just don't recall exactly where Rose talks about that, but -- but -- but just by going to digital you -- you increase security. Encryption adds another layer of security. That is one of the benefits of going to digital is enhanced security. The ability -- the opportunity to do encryption being a very obvious one.

There is other advantages as well and that is one of the advantages that I cite in my report. I just don't recall where in Rose it talks about that. We can go look if...

Q And then in 128 you identify another benefit from incorporating Rose's channel monitoring techniques that it would have been -- apply Rose's teachings of intermixing digital

command data into the stream of digital voice data to Gillig's cell phone as a means by which transmitted digital command data is received and captured and replaced with a quiet sequence so as to prevent the command data from causing an otherwise undesirable audio sound to be heard by the user.

Do you see that?

A Yes.

Q Isn't the -- the command data a problem with digital audio to begin with?

A Clarify -- can you please clarify?

Q So in an analog system, is there digital command data?

A In an analog system there is not -- there is not usually transmitted digital command data, control data. That would be -- that would be odd to have that.

Q So there would be no reason to look to Rose to solve -- to quiet audible noise coming from command data in an analog system; correct?

A Well, that doesn't mean that an analog

handset and base don't have to handshake. And so exactly how you are going to handshake, for example, can be a problem. If you say so what I might do is I might send some signals some -- some -- some exchange back and forth. To do that handshaking you don't know it because I've muted your speaker, turned off your speaker but that -- it is happening very fast, but that is happening behind the scenes.

Now when I go to a digital, I can organize my data in such a way that I have got command bits or symbols intermixed with voice mixer symbols. And the protocol tells the handset and the base how they're going to interpret those.

So, so --

Q Sure, but the -- but the issue of command data causing undesirable audio sound isn't an issue in an analog system; correct?

A No, it -- it -- it could be. It is. I mean, if you're sending it over the same wireless interface because you need that command data, that handshaking, then it is -- if that were there to

end up in your speaker then you might hear that. So that can be a problem that is avoided by sort of a digital structure, because you can deal with it in a more of a protocol way rather than just muting or turning off the speaker during those -- those periods.

Q How would there be a -- how would there be a digital command data being transmitted in an analog system?

A I didn't -- I didn't say digital.

Q Okay.

A I didn't say digital command information. There still has to be a handshake. As an example, we've got a set of frequencies that we can use. Your phone, here is my phone next door and says, hey, we're going to operate on this frequency because next door they're operating on one. We don't want to interfere with them, right, and we don't want to hear them.

So there is something where the handset and the base have got to coordinate, a little bit of a handshake. It is not likely to be digital.

Like I said, that would be odd, but that doesn't mean if that were piped through your speaker you would hear it.

Q Got it. In an analog switch system, if you drop the connection, you are pretty aware of it; right?

A I'm sorry, I was distracted because I was reading something, please say it again.

Q In an analog -- no, no worries. In an analog switch system, if you lose the circuit you are pretty -- it is pretty obvious to the users; right?

A Yeah. If you lose -- if it is a circuit switched system, which can be analog or digital, but a circuit switched system you lose a circuit, the call is gone.

Q And so the -- so you indicate later in 128 a POSITA would be motivated to modify Gillig to implement a command data protocol incorporating positive acknowledgment with retransmission technologies for the purposes or purpose of ensuring that each transmitted command is

acknowledged when received and if lost or damaged is repeated until acknowledged all before further commands are transmitted.

Do you see that?

A I do.

Q Is there -- what command data exists in Gillig before it is modified by Rose?

A So Gillig does not -- command data -- let's be precise.

Gillig does talk about command or control data between, say, the radio and the microphone here, but he's silent is my recollection on the command data that might need to exist between the base station and the handset, the cordless handset. So I don't recall any -- any -- anything about that. So I think that answered your question.

Q Yeah. And so if -- if -- if a command isn't acknowledged or received in Gillig, it is aware because the connection is not setup; correct?

A It could be, but if for example, the base

station is trying to negotiate a frequency with the handset, but there is no acknowledgment opportunity, then the base station could just continue and the handset is not receiving and so now we have a problem. Yes, you as a user would become aware, very, very quickly that something is wrong. Whether or not the system is aware, is a different -- is a different story.

Q So as a user -- I'm sorry, my apologies.

A If there is no acknowledgment is what I was saying and I'm done.

Q So as far as a user is concerned, that problem would be manifest to the user without any further input. They just simply couldn't make a call; correct?

A Yes, there would be silence, yes.

Q Would there be any -- would there be any changes to the requirements of a -- of a handset that moves from analog to digital in terms of processing capa -- processing power?

A You know, generally speaking digital systems require more processing power because

there is signal processing that has to be done. So from that perspective, generally, that -- the answer would be yes. There is -- there is additional processing done for a digital system to get these benefits.

Q And would that additional processing power require additional stored energy, battery capacity or the like?

A It -- it could. Let's not forget though that analog systems have their own, just they do it in a different way. So it may not be processing like a digital processor, but they have their own set of circuitry. Often we find as we go to digital we can consume less power overall, so that is not -- that is certainly not a blanket statement we can conclude that, like, battery power would be impacted.

Q Where does the -- how -- how are you -- when going to digital, how can less power be consumed overall, what changes?

A Let's take the most obvious one. Because digital is much more immune to noise, then for

example, I may be able to on my radio frequency transmit amplifier put those at a lower amplification level which is one of the largest consumers of power in -- in these radios especially at that time.

So the ability to -- yes, maybe I'm making a tradeoff where I have to put in some increased processing power here, but then I get to do something more optimal and somewhere else in the system. So you have to look at that holistically to come to a conclusion about overall power consumption of the device. And -- and that is -- yeah, so a blanket statement is -- is very difficult to make there.

Q Okay. So the next we move on. And the Gillig device that is modified by Rose has to again be modified now by Billström and that begins on paragraph 131; correct?

A Correct.

Q And that is to modify Gillig-Rose -- Gillig-Rose's cellular cordless telephone based on Billström's suggestion, the handheld portable

telephones transmit and receive packet data as well as analog signals.

Do you see that?

A Yes, I do.

Q What is packet data?

A Well, packet data is a fairly well-established term in the art. We're now -- as soon as we go to packets, our data is digital and packet data is a way for us to assemble portions of that information, of that data together with a packet header and then transmit that packet across the -- the channel.

Q And so it is -- it is using the IP or the internet protocol in the cellular system thereby achieving several apparent benefits; right? What is internet protocol?

A Well, internet protocol is actually a kind of a suite of subprotocols that define a way for packet data to be transmitted. So it is -- it is essentially a standard, a protocol of a way that all the nodes will understand how to communicate packet data.

Q And that is based on the OSI model; correct?

A Yeah. The OSI model includes that. I think the OSI model -- I mean TCP/IP --

Q Right.

A -- plugs into that.

Q Yes. Hopefully I asked that question.

A That is fine, yeah.

Q And here you identify Billström digital cellular technologies, e.g., TDMA schemes taught by Billström; right?

A Yes, Billström focuses on TDMA schemes, yes.

Q What cellular technologies were using TDMA at the time?

A Well, GSM for sure. I think DCS, some of the other standards were using FDMA. So I know of GSM and I'm pretty sure DCS were TDMA standards.

Q And carriers were -- were largely either GSM or CDMA based; right?

A Yeah, CDMA or some FDMA, yes. Essentially carriers would have a technology was largely

the --

Q Basically -- well, I guess it was the AT&T/Sprint divide basically; right?

A Yeah, I don't recall the details, but yes.

Q You -- you can get one device, but you could never use it on the other carrier because one was TDMA and one was CDMA?

A No.

Q So is the modification of Billström to packetize the voice transmission?

A Well, Billström -- Billström is -- is creating -- we talked about these normal enhancements that were happening. So Billström is to create and move to the next phase of -- of -- of certain cellular capability. Voice data, sure; broader sets of data, yes. So it certainly brought a whole new capability to -- through the cellular industry.

Q So what is it about Billström's packet data that would -- would -- would make a person of ordinary skill in the art decide to combine Billström in that functionality with Gillig and

Rose?

A So -- so I mean, first of all, for most of these claims except for Claim 8, we don't really need the packet data capability of Billström. And so just the -- the digital cellular capability similar to what we talked about for cordless phones was already an improvement, right. And we talked about several of those, and I think there is more in my report for the cellular.

But then the packet data, of course, that -- that takes us one step further. And packet data allows us to take advantage of -- of kind of wired networks and all that internet protocol brought to us. So that would -- that is kind of the next level of enhancement, both of them are taught in Billström.

Q So in modifying the Rose/Gillig combination, what would -- what would a person of ordinary skill in the art have to change about Gillig?

A We can go back to Figure 2 in Gillig. My answers are very similar to what I gave in

response to the cordless swap out.

That the main thing, of course, is block 120 would now need to -- to change. Implemented in the digital cellular and to do Billström with packet capability that would necessarily similarly, although in this case it is not as -- as forced that the antenna 128 would have to change, because in the cellular standards there was overlap between analog and digital communications over the same bands where we didn't have that really cordless, but they also opened up additional bands.

So the antenna may have to be more functional. It is just depending on what you chose to -- what frequencies you chose to -- to -- to do. And then, of course, the microcomputer as we already talked about, that would need to recognize the control exchanges with that cellular system.

Q And when you speak to block 120, it is a change to each one of those elements within block 120; correct?

A Yeah. I refer to 120 because it includes boxes 122, 124 and 126. Those -- those all need to change.

Q In Gillig's cellular receiver, was there any modulation scheme -- strike that.

What antenna requirements did Gillig's modulation scheme require for cellular?

A Gillig is, as I recall, silent as to what the capabilities of antenna 128 would need to be for cellular. So that would depend -- the answer to your question would depend entirely upon what if, for example, we were using an analog capability for 120 that existed at the time of Gillig, it would depend entirely upon what that -- what that capability would be. AMPS would tell us.

And it is not just -- they're using the AMPS standard like the DynaTAC did, which is one that, as a reminder, Gillig referenced as an option, then using the AMP standard would dictate the capabilities of that antenna.

Let's be crystal clear that it would not

be dictated specifically by the bandwidth of the phone call. It would be dictated by the bandwidth capabilities needed to support the AMP standard where you can have multiple frequencies that you have to operate over in order to negotiate with the base station which frequency you're going to actually use.

Q Billström -- when was Billström, when was -- what was the date of Billström's patent? When was the patent issued, so strike all of that.

When was -- when was the Billström patent issued?

A The patent issue was December 31st, 1996.

Q Is that before or after the critical date that you relied on in forming your opinions?

A It is two weeks later.

Q Okay. Were there any references that you looked at instead of Billström that you analyzed and then realized those other references did not fill the requirements that you identified that Billström did?

A I don't have a clear enough memory of all

of that to give you a good answer to that question.

Q What do you remember about that?

A Again, all of this -- the entirety of the -- of the set of patents that I considered in this case I explored a lot of references. So to now recall what I may have looked at in -- in specifically for the '434, I just -- I'm sorry, I just -- I just can't do that.

Q Okay.

MR. UDICK: So let's, Mr. Lane, if we could open doc 7.

Q We have mentioned Billström a bit. And my apologies I didn't introduce it, but I have doc 6 is or I'm sorry, doc 7 is Exhibit 1006, in the -- in the IPR labeled Samsung 1006.

(Exhibit 6 marked.)

Q And in the abstract and I believe in your specification or in your declaration -- my apologies. Before I claim that, let me make sure.

So if we look at paragraph 133. And if we are -- as it spills from page 84 to 85, you state

that the Gillig-Rose telephone would benefit from Billström's teachings such that the telephone in Gillig-Rose-Billström would, quote, provided an integrated system concept that provides new packet data services in a closely integrated way utilizing the current TDMA cellular infrastructure to the extent possible consistent with packet data functional and performance requirements.

Do you see that?

A Yes.

Q And it cites to Exhibit 1006, Column 3, line 62 to 67?

A Yes, I see that.

Q What does it mean to the extent possible? It says, utilizing the current TDMA cellular structure to the extent possible consistent with packet data functional and performance requirements?

A Well, we have to ask the inventors exactly, but my interpretation of this is we had all this infrastructure out there, GSM, TDMA infrastructure that -- that was out there. Now,

how can we introduce packet data on top of that, that is -- that doesn't require major changes to that cellular infrastructure. Hopefully use it as it is, but we're still offering the kind of performance that a packet data network requires, so simply that.

Q Did the -- did the current TDMA cellular infrastructure at the time of the critical date, were you able -- could you introduce packet data without major changes to the cellular infrastructure?

A I would need to go back and review dates. I don't think I have that documented even though I know I have researched it in the past of when things like GPRS, a generalized packet radio service was introduced on to GSM. I need to go be confident in those dates before I answer definitively your question.

Q And one change associated is, and you mentioned this in your declaration, is a change from the circuit switch consistent connection to a packet switch connectionless exchange; correct?

A Yes, I mean, that is what packet data does that Billström discloses that, yes.

Q So certainly the -- the underlying cellular infrastructure, you know, not on the mobile device it would need to accommodate that; correct?

A The -- the base station infrastructure needs to have some sort of a layer capable of doing packet data and packet switching.

Q And I haven't researched it either, but if the underlying cellular infrastructure couldn't handle packet data, would a POSITA be motivated to modify a cellular device to use packet data over cellular?

A Well, so we need to be a little cautious here, because the industry was certainly going this way. The appetite was to offer more and more digital services, you know, that the Gillig invention modified, say, with this capability, we have to look very carefully at the timeframe of when the infrastructure would facilitate that. But that kind of a capability of having digital,

you know, packet data was being developed at the time. The '434 patent has the same kind of problem. It would need that infrastructure in order to happen.

So I get that your question is about motivation, but this is exactly where the industry was going. So that would motivate a POSITA to be looking at these kinds of enhancements.

Q Looking at Billström, what part of the disclosures in Billström describes implementing packet data on a mobile device?

A I mean, do you want me to specifically -- let me ask this. Do you want me to specifically go in and find some references, when you say which parts?

Q Let me see if I can kind of hone the question for you. I guess maybe the better way to put it is, is what aspects of Billström would a POSITA grab on to and implement into the mobile device?

A So as soon as the mobile device has got to work with this packet radio infrastructure, so as

soon as you want that capability, then you really have to find the machinery to do kind of all of it. So I don't know -- so I'm not -- I'm not sure beyond that how to answer your question.

Q Does -- does Billström disclose how to packetize data for transmission over a cellular network?

A I -- just to be confident -- I don't recall any and I'm not seeing here quickly anything about the actual packetization. That certainly would have been known in the art.

I see some things about some of the frame structure in here, so there is certainly some discussion of frame structure, which would make up packets. But I don't think that is a -- yeah, that -- I don't recall more. I would have to go in in detail and see what else it says about actually the packets and packet sensation and the packet structure.

Q Okay. Do you recall what bandwidths that the Rose's digital cordless would operate on?

A No, I don't. I mean, Rose specifically,

because it was frequency hopping, would have been hopping around on quite a large bandwidth. But that -- that should not be misconstrued as it is requiring a lot of bandwidth. It is just how multiple systems cooperate. It is just -- it is just a different way to use the required bandwidth, so we have to be a little careful when we answer that.

Q So maybe just to -- what is frequency hopping? What does it -- what does that do and accomplish for a communication system?

A So it accomplishes a few things. And this is why the FCC required it of users in this spectrum back in those times. It -- it made it so that you are not occupying at a strong signal level any given specific frequency for a long time.

So what that allows is other people to -- to use that same sort of overall bandwidth without creating -- within a very specific part of it. But frequency hopping also has some security. If you don't know exactly how my phone is hopping,

then you can't reconstruct my signal. So you have got to synchronize to that hopping, you have got to know what the hopping pattern is. So it is a form of what we call spread spectrum.

I don't think Rose talks about that, but I know back in its time that was a requirement to be licensed.

Q I think it mentioned in the present cordless -- so this is -- I was just looking, as you said it, Column 1 in Rose, if that is Exhibit 1005. In the present cordless digital telephone apparatus, the handset and base unit communicate with one another using FSK modulated digital signals transmitted on an RF carrier and the 902 to 928 band?

A Uh-huh.

Q What is FS -- I can almost remember what FSK is. What is FSK?

A Frequency shift keying.

Q Yes.

A Basically frequency modulation for a digital signal.

Q And is that what -- when it says that, is that referring to the frequency hopping?

A No, it is not. It is not. It is possible I am not remembering properly about frequency hopping. My -- my recollection of in this band 902 to 928, you had to frequency hop to operate unlicensed. Maybe I'm misremembering that, maybe cordless phones had a carve-out. I don't know really how relevant this is to the case, but...

Q Sure. No, it might just be clearing up the -- the understanding.

A Yes.

Q But at least --

A He's not talking about hopping here.

Q In Rose, it is disclosing kind of an FSK modulated system that uses the 902 to 928 band?

A Definitely that.

Q From what we see. And you know, to be clear, anything else it also says in the patent I'm not trying to pin you down on -- on just that, but it -- whatever is disclosed in Rose is what it -- it would be using?

A That's correct.

Q And so further on the -- the Gillig-Rose-Billström combination, you discuss the remaining claims and we get down to Claim 8. It is, wherein the data is communicated using internet protocol?

A Yes.

Q And it says, based on my review, Gillig and Rose do not appear to expressly disclose a communication of data using IP. Okay if I use IP for internet protocol?

A Please.

Q I'm sure everyone appreciates that for sure.

When using IP to communicate data, by that do you mean voice or other communication?

A Well, I mean certainly. So obviously Gillig focused very much on voice. Obviously the field was evolving, the market was evolving towards other data, so voice data at a minimum. Once you have packet data, it opens up a whole host of other capabilities of your device.

Q How would -- how would a person of skill in the art implement the -- the Billström and Rose combination on Gillig to accomplish the dynamic switching that is required by the '434 where one is packetized and one is not?

A Well, there is several answers to that, but to be specific Claim 6 -- Claim 6 unless I'm mistaken doesn't -- doesn't have that dynamic switching limitation and that is the one on which Claim 8 depends, so --

Q You do an analysis in your declaration for Claim 1 with packet data, do you not?

A Claim 1 with packet data. With digital -- with digital data --

Q I could be wrong.

A Well, I could be wrong. Byrne, you know, we haven't talked about Byrne, Byrne is digital. I think the only place that packet data comes -- that comes in is on Claim 8, I mean internet protocol which really is -- where you need packet data is only on Claim 8, which depends on Claim 6. So if there is an analysis that I have on packet

data for Claim 1, we will need to go find out, because that is a little too vague for me to --

Q I'm sorry, it is not Claim 1, it is Claim -- you use the Gillig-Rose-Billström with Claim 3, which is the only dependent claim associated with independent Claim 1, my apologies.

A Yeah. Just -- yeah, that's right. For completeness Claim 5 as well.

Q Got it.

A But we don't need the packet data for any of that.

Q Correct. So in paragraph 155 a POSITA would have recognized Billström's teaching of using IP for packet data communication and would have been motivated to modify Gillig-Rose's telephone to utilize IP to communicate data, e.g., voice data as taught by Billström. And you cite to 7, you know, Column 7, line 40 through Column 8, line 20 and then Figure 2, and Column 8, line 21 through 46, okay?

Do you see that?

A I do.

Q In reviewing Column 7 and 8 of the cited disclosures in Figure 2, where is the -- where is there a disclosure of using packet data communication to communicate voice data?

A Well, let's -- let's review it, those references that I have got there and we can do that. My recollection though of -- of the Billström reference is that he generally talks about packet versus sort of switched architectures and doesn't really call out frequently the kind of -- of data that might be sent over this network.

So I think we can look at these references, but really this is about the advantages of using IP to communicate data as opposed to the specifics about voice.

Q Okay. So let's take a look at the disclosures and see if -- if we can identify anything.

A Okay.

Q Column 7, 40 through 56, I don't see anything specific, do you?

A Column 7, 40 through that first paragraph?
Q Correct.
A And just to be clear, the question I'm answering is specifically for voice data; correct? Am I -- is that the question I'm answering?
Q Correct.
A I do not see anything that calls out voice data specifically in -- in that first paragraph 40 through 56 or 7.
Q And then in the next paragraph that spills from 7 to -- to 8, which is large, but I see the basic packet data network service provided is a standard connection network. We already talked about that; right?
A Yes.
Q IP is used to denote the internet protocol, we talked about that as well; correct?
A We did.
Q And then it goes on to say value added services including multicast, broadcast and electronic mail services may be provided by network application servers attached to the

backbone and access using higher layer protocols in IP; right?

A That's correct.

Q Those examples don't appear to be voice; correct?

A If you are talking about specifically the examples of value added services, multicast, broadcast and electronic mail services, those are not voice services.

Q Got you. Is there anything else kind of through the 8th, line 21 that you can see that would point to -- to voice specifically?

A No, no, I don't.

Q Okay. 21 to 46 that next paragraph, is there anything that points to voice specifically?

A It is talking about more of an X25 kind of an architecture.

Q Yes.

A No, I don't see anything in that paragraph that specifically calls out voice.

Q Okay. Sorry, just one more second. I'm -- we're about at that lunch time, so I'm just

making sure I don't have anything on this little piece before we break. So if you don't mind, just one more second?

A Of course.

Q No, I think that is -- why don't we do a break and come back at 30 after the hour?

A Okay.

Q Does that work for everyone?

MR. KAZI: Yes, it works here.

Q Let's go off the record real fast.

(Recess, 12:44 to 1:33 p.m.)

Q Welcome back, Dr. Jensen. We were just talking about the Gillig combinations and I think we're going to move to Byrne now.

A Okay.

MR. UDICK: If we could pull up, Mr. Lane, doc 11, which is Samsung Exhibit 1010.

Q If you take a look at that and see if that is the same Byrne that you relied on and perhaps the same Byrne that you are looking at natively on your device?

A Yes, this is the same on both. The same

that I relied on and the same that I have locally.

Q Perfect. So your opinions with respect to Byrne in your declaration begin on page 98 and paragraph 165.

(Exhibit 7 marked.)

Q Correct.

A That's correct.

Q Okay. Byrne actually refers to Gillig a number of times; is that correct?

A Yes, that is correct. I don't remember how many, but he definitely refers to Gillig.

Q And would it be fair that -- that Byrne appears to -- to build off of Gillig?

A Yeah, I think that is a fair assessment.

Q And in the -- so in Claim 1 in the -- we talked about the -- the dynamic switching limitation; right?

A We talked about it previously, yes, sir.

Q If you turn to Byrne Column, I guess, 10?

A Yeah, I'm there.

Q It would be line 31 -- I'm looking at paragraph, lines 31 through 42?

A Okay.

Q It is referring to Figure 3. And when the CCT 200 receives an incoming call.

Do you see that?

A I do.

Q It says that such a system of Byrne could utilize a form of call forwarding as disclosed in U.S. Patent 4,989,230; right?

A Yes.

Q And that is -- that is Gillig; correct?

A Yes, that's Gillig.

Q So one of the disclosures for -- for the switch that occurs in Byrne is a reference back to the call forwarding of Gillig; right?

A As one mechanism, yes, that's right.

Q It says at the end, however, such call forwarding is instructed by CCT 200 and takes place only after the non-preferred part of the CCT 200 has been paged.

Do you see that sentence?

A I do.

Q Do you have an understanding of what that

means?

A I'm not sure that I recall exactly when he says after the non-preferred part of the CCT -- CCT 200 has been paged. My recollection is the user has specified a preference for the modality, the radio interface being used. And I don't -- I don't recall exactly this, the non-preferred part of the part that has been specified as not -- other than preferred has been paged. I don't -- I don't -- I don't remember the details of that. I know that I read it, but I don't remember the details.

Q Okay. And the -- the cordless cellular devices of Byrne are disclosed or -- strike that.

The CCT of Byrne is disclosed in the embodiments as being a dual-decked GSM device; is that correct?

A Yeah. I mean, he certainly says one of the embodiment -- my recollection is that earlier in the disclosure he -- he lists different -- different possible standards that you can use, like, CT 2 or even CT 0, which is an analog

standard and then other standards for cellular. But he does certainly here in Column 10 where you are talking below where we have been reading talk about a combined GSM DECT as one embodiment.

Q Got you. And so the -- so when -- it's getting later in the day it looks like. If we refer to Column 3, there is one point where Byrne disparages Gillig at Column 3, lines 8 through 11?

A Yes, I'm there.

Q Is one of the disadvantages of the CCT disclosed in Gillig is the user might not know if a signal is deteriorating until it is too late and the ongoing call is lost; right?

A Right.

Q And that relates to Byrne's description of that -- of what -- of what you looked at as the dynamic switch of the automatic changeover; right?

A Yes. This is relevant to the discussion we had earlier on that limitation in Claim 1 related to Gillig, yes.

Q And this is where Byrne actually kind of -- fair to say advances the ball over Gillig to --

to change the way that -- that handover is processed?

A Yes. And as -- as I had mentioned earlier, when I read Gillig, I didn't come to the same conclusion as Byrne does here. And so it is not -- Gillig to me is not as clear on this as -- as one would hope. But yes, Byrne clearly interpreted this as the user gets a notification and then decides right there realtime whether to make the switch or not.

Q And you didn't interpret Gillig in the way that Byrne did?

A Not until I read Byrne.

Q Got you. And so in Byrne it talks about automatic handover. You know, it says it in 4, you know, at 9 through I would say 14. Specifically to automatically handover to the system having a good service; right?

A Right, or -- or whatever the predetermined criteria is, but yes, based on some predetermined criteria, automatic handover can then, handoff can then occur.

Q Sure. And -- and actually, you know, while it is stated as the requirements for the selected radius systems in Column 4, columns -- line 50 and down, maybe also sheds light on some parameters by which the changeover may be preferred; is that correct?

A That's correct.

Q And when it is -- when Byrne does the monitoring that is in Column 5, do you have an understanding of what it is monitoring for? Strike that.

In Column 5 it talks about monitoring -- monitoring the signals intermittently.

Do you have an understanding of the -- of the purpose that -- that Byrne's device would be monitoring the signals intermittently?

A Yeah. My understanding of this related in the context of what we were just looking at before, is you have these predetermined criteria whether that is signal quality degradation or you're on an expensive, you know, kind of network or other things. And it is periodically

monitoring those conditions to see if we satisfied something then to -- then it suggests we need to -- it needs to make a change.

Q Got you. And then if we look in 6 it says, Figure 1 illustrates a block diagram of a cellular cordless telephone system, which embodies the present invention. The system includes a public switched telephone network, PSTN.

Do you see that?

A I was reading the wrong place, I am there now, yes.

Q Column 6?

A Yeah, I'm there.

Q Great. What is your understanding of what a PSTN is?

A A public switched telephone network that is -- that is our generic telephone, switched telephone network that is sort of the legacy network at the time.

Q Have you ever heard the term POTS?

A Yes. Yes, I have. I don't recall what it stands for.

Q I think it is Plano Telephone System maybe, something like that.

Do you have an understanding when it says PSTN, do you have an understanding of what that capabilities -- what that refers to in terms of the technical aspects of the system?

A I don't know all of the details here on exactly what went into the PSTN and what its capabilities all were. Of course this was the basic backbone of our phone system, our landline phone systems at the time, right.

And so even -- even a cellular would likely connect up to the PSTN and -- and as well as, of course, the cordless. And it was a circuit switched network, that is where the switched comes in. And, you know, it had capabilities of -- of data as well as, you know, non-voice data and voice data.

Q Got you. In here if you go to Column 7 there are some frequencies listed at the bottom, I guess, second full paragraph around lines 20 to 24.

Do you see that?

A Yes, I do.

Q Do you see that -- so DECT is 1800 and 1900 megahertz and then GSM in the -- in the -- it looks like GSM in the UK was 905 to 915 and 950 to 960?

A That's correct.

Q Do you know if that was the same in the U.S.?

A I don't recall. My recollection is that GSM had some different bands in the U.S.

Q Do you know if it had different bands for DECT in the U.S.?

A I don't.

Q Okay.

A I just don't recall.

Q If -- if you had a DECT and GSM device that operated on the same bands, could you narrow the device down to one antenna?

A Yes. Yes, you potentially could, if everything was in the same band or you had an antenna designed for multiple bands that then they

could be in different bands so yes, you could -- you could potentially do that.

Q And would that be beneficial?

A Having a single antenna, again, we're back to the definition of better --

Q Sure.

A -- that we talked about a few hours ago. But for mobile systems, there is often a push to reduce the number of antennas and so that can be an improvement by some -- by some measures.

Q Got it.

A I will say that having multiple communications on the same band while it -- having two antennas doesn't help you, now you have got some -- you have got some more complex things you have got to do to separate out those things in the system. But it is doable, but you are probably going to create more noise and interference in such a -- in such an operation.

Q Understood. So jumping ahead briefly to the combination of Byrne, Billström and Wong on page 130, paragraph 218?

A Okay, I'm there.
Q Are you there?
A Yes.
Q And this relates to Claim 8; correct?
A That's correct.
Q Claim 8 is the -- the claim that requires IP, where the data is communicated using IP?
A That's correct. That claim involves internet protocol IP.
Q To modify Byrne to include Billström, what changes would be needed -- strike that.
To modify Byrne to combine Billström, what changes would a POSITA need to do?
A Okay. Perhaps it is easiest discussed looking at Figure 2 of Byrne.
Q Sure.
A So in that context, we are very similar to where we were with Gillig. Byrne identifies a cellular receiver, 231, and a cellular transmitter, 232, together as a combined block, a transceiver block, 230. Also the cellular audio. Whether or not the cellular audio in the case of

Byrne has to change really depends. Byrne already has digital audio anticipated, because he has referenced digital cellular standards.

So likely that doesn't need to change unless someone has opted to do Byrne with an analog cellular standard. But 230 certainly needs to change in -- in order to implement Billström's kind of packet-based communications.

And then similar to the other things we've talked about, if we're changing frequencies, it's probably not necessary in this case depending on what standards you chose, but if you were at GSM there is no change to the antenna to the frequencies, so likely no change to the antenna.

And then, of course, whatever the microprocessor has to do to maybe interface with that different block 230, there might need to be some changes in -- in signal exchanges between the microprocessor and -- and the block 230.

Q Would the mechanism for handover have to be modified if you -- if you -- if you combined Billström into Byrne?

A I don't see how the Byrne system decisions for handover would need to be modified at a high level. You might -- you might sort of change criterias slightly, maybe some sort of signal-to-noise ratio and what the system can tolerate by changing something like that, but it is just sort of an adjustment to the same things you're monitoring, not a wholesale change into what -- into, you know, the decision criteria.

Q Got it. So if we look at Column 7 of Byrne jumping back to the -- to the antenna, if you look to line 34, it identifies an alternative embodiment that is shown by dashed line in which cordless transceiver and cellular transceiver may be coupled to a single antenna by way of band pass filters respectively.

Do you see that?

A I do.

Q Is that consistent with your understanding of how a DECT GSM could be implemented?

A Yeah, this is -- this is one embodiment. I just want to differentiate between this and what

you asked me a few minutes ago about a single antenna where you talked about the same bands. This approach requires them to be on separate bands, so the band pass filter can separate out the signals from each other.

Q And so that is what I was just going to ask. What is a band pass filter?

A So a filter generally it -- it allows certain -- signals at certain frequencies to come through and blocks everything outside of that range of frequencies. And so in a band pass filter, we have different things, low pass, high pass, band reject, things like this. A band pass filter specifically allows a certain range of frequencies to pass-through and then it blocks the rest.

Q So the architecture of Byrne, and this is purely hypothetical, but let's -- let's say that the antenna is designed to receive from 905 to 915 megahertz. And one system is 905 to 910, another is 910 to 915.

In an ultra simplified way, a band pass

filter would -- if it is the first band pass filter it would take, you know, I'm going to cut out everything that is not 905 to 910, and the second one is going to cut out everything that is not 911 to 915.

Is that in a very simplistic way correct?

A Yes, that is very simplistic. We tend to want a bigger guard band between them, but yes, your idea you are articulating is accurate.

Q It just essentially isolates one portion of the -- of the band or the frequencies that the antenna can receive to focus solely on that aspect of the -- of the frequency; correct?

A That's correct.

Q Would the -- would the microprocessor be required -- would there be any changes to the microprocessor to accommodate processing IP-based transmissions?

A As I mentioned before, it is very likely that as you change block 230 in Byrne Figure 2, that the kinds of signals that the microprocessor would have to exchange with that block 230 may

have to change. There may be more parameters to set or different parameters to set under those circumstances.

Sort of the -- the larger idea of how this architecture is going to work to allow these different radio interfaces that is not a -- there is no big change there. It is mostly how you're going to interface with that radio.

Q Understood. And so when the audio comes in, it is moved to the cellular or cordless audio as required; right?

A That's correct.

Q And then it is -- and then each one are sent to the transmitter or receiver for the respective system; correct?

A I mean, if the audio comes in from the microphone?

Q Right.

A Then it is sent to the transmitter. If the audio comes in -- if the signal comes in on the receivers, then it is routed the opposite way and presumably then out the speaker.

Q Right. It comes in on the receiver, goes through the cordless audio out the speaker as an example of one way?

A That's correct.

Q Got it, okay. If we move to Claim 6, if we go to page 126 of your declaration, paragraph 210?

A Okay.

Q And this is a limitation that we've identified as 6D, wherein, the first and second antenna are configured to stream data simultaneously?

A Yes.

Q And so where in Byrne does it disclose streaming data simultaneously?

A Right there in my paragraph 210, right in the beginning I have a reference to Column 8.

Q Yes.

A 2 through 9, simultaneously is a cellular telephone and a cordless telephone. It should be noted that CCT 200 can be so arranged such that both cellular and cordless operations are in

progress at the same time.

Q And when transmitting a -- if cordless -- so here it says that the cellular and cordless operations are in progress at the same time; right? Is that the same to you as cellular and cordless calls being live?

A I mean, that -- it certainly includes that, what you just articulated, that both calls are happening at the same time, which would be a somewhat -- the simplest example we could come up with, because Gillig disclosed it.

Q And it disclosed it in the manner that Gillig disclosed it; correct?

A Well, to be precise, Byrne gives this disclosure. It just talks about operating simultaneously as a cellular and cordless telephone. Gillig is the one which, who as you mentioned, he is cited several times by Byrne who says an example of this is a three-way call.

Q Do you mean an example of this is call forwarding?

A Not call forwarding, three-way linking of

calls. So that if I am on Byrne's device or I'm on Gillig's device and I'm talking to two other people so -- so now my device is -- is the go -- not just the go between between me and those two individuals, but between those two individuals. One of them talks, the other is hearing it and that is -- that is a -- a very clear situation where the simultaneous part of this limitation is happening.

Q So I may be confused, so I am -- we kind of looked at -- at Column 10 of Byrne that kind of referred to 230. And it says -- it refers to a system that could utilize a form of call forwarding as disclosed in -- and it says call forwarding as disclosed in -- in Gillig.

Is there a spot where Byrne points to a three-way calling in Gillig?

A That is -- that is not what I'm suggesting other than -- what I'm suggesting is, again, here in Column 8 where it talks about the simultaneous operation of the cordless link and the cellular link, so he's disclosing that can happen. An

obvious example of when that would be desirable is -- is what Gillig discloses, which is the three-way calling.

Q So just to push back, in that answer you had said that Column 8 talks about the simultaneous operation of the cordless link and the cellular link. The language has, it can be clear that both cellular and cordless operations are in progress at the same time; right?

A Well, yes, that is -- that is the second reference. The first one is, of course, the one above it. As far as the user is concerned, simultaneously as a cellular telephone so may operate, I shouldn't have left that out in line 4. The CCT 200 may operate simultaneously as a cellular telephone and a cordless telephone. And then he makes it more clear that these operations are in progress at the same time.

Q Right. And -- and a device could operate as both by having the capabilities of both; correct?

A Well, I guess it depends on how you

interpret the word operate, but -- but when I see simultaneously as a cellular telephone and a cordless telephone, I interpret that to mean that there is both communications going on simultaneously.

And again, for a patent that has relied, as you mentioned, so heavily on Gillig and Gillig makes that a very explicit application, that just reinforces my opinion that that Byrne would have been cognizant of that kind of a use as valuable for his device.

Q So if we go down to the following paragraph it uses the term operating; right? It says, when operating as a cordless telephone control signals from the microprocessor enable cordless receiver and transmitter.

Do you see that?

A I do, yeah.

Q When the microprocessor monitors signal from the cordless receiver indicating received signal strength and for detecting received data and from cordless transmitter for sending data;

right?

A Yes, that is what it says.

Q So the microprocessor is monitoring control signals for the cordless transceiver for detecting incoming calls, security codes and broadcast information relevant to the cordless system; right?

A Yes, that's what it says.

Q So that -- what isn't in there is an active call; correct?

A When you say an active call, okay --

Q An open circuit?

A So -- so let me just make sure that is not there. For detecting received data.

Okay. So I don't think this paragraph talks specifically about a call other than in sort of indicating that a call is coming in, there is data that is being exchanged from the cordless transceiver to the microprocessor to say a call is coming in or telling it that a call needs to go out. This paragraph doesn't deal specifically with what is happening during the phone call, but

more to establish the phone call. Is that what you are asking me?

Q That was my understanding of the paragraph and I wanted to see if that -- if -- if it was yours as well. That it was more related to monitoring the link to know if it is ready or if a call is incoming, so whether or not -- monitoring activity on the -- that portion of the device?

A But I need to add that I'm very reluctant to render an opinion that the word operating is -- is restricted to that set of functions, just because the inventor says I want to teach you that when we're operating as a cordless telephone that here is -- here is some of the things that are happening between the microprocessor and the cordless transceiver.

I wouldn't -- I would be very reluctant and I see nothing in the record that says that we need to limit the definition of operating to that set of functions right there.

Q And a person of skill in the art would, when understanding the language of a -- of a -- of

a reference look to the reference as a -- as a key as to how the drafter is using the language; correct?

A That is certainly one consideration, but -- but when operating as a cordless telephone standing by itself, it certainly has meaning to someone in the art. A POSITA -- when I hear operating as a cordless telephone, that certainly embodies all of this control signal exchange that is happening to establish a call and establish that connection or to end that connection.

But when operating as a cordless telephone, it has also got to include what the cordless telephone is designed to do, which is that communication. In other words, this language doesn't tell me that is the restriction on the word operating, but it tells me what aspect of what happens when it is operating as a cordless telephone.

Q And do you recall anything in Byrne that tells you that operating also specifically means a -- a live connection?

A I don't recall that kind of specificity in the specification.

Q And if it was operating simultaneously, is there any disclosure of how the audio switch 260 would handle the -- the incoming and outgoing audio?

A I don't recall any such disclosure about such a detail. I should add that that is not a particularly difficult thing to implement, right, to just route the audio where it needs to go based on the circumstances.

Q And -- and but we did talk about earlier that Byrne was trying to solve this issue of what it didn't like about Gillig was you can't switch over -- you can't do this automatic handover in time; right? It is trying to maintain a connection; right?

A That -- that is -- Byrne is making that argument that that is an improvement over Gillig.

Q If you had two live connections at the same time, there wouldn't be a handover, would there?

A No. Again, what I fear this kind of a conversation does is it takes two different kinds of uses and benefits of the device and says only one of them is available to the user. It can't -- it can't forward to the other radio when you are only trying to do one call, if it also can enable three-way calling.

I think Gillig makes it very clear that his device can be both and it depends on the usage. So that is where I get uncomfortable is when we start wanting to restrict what it can and can't do based on one use model.

Q And you would agree that when you read the Byrne reference you have to understand it for what it teaches; correct?

A Yes, I do.

Q Is there anything -- excuse me, I'm sorry?

A Sorry, you are going through that.

Q It is okay, lingering effect, but no big deal, but I appreciate it.

So do you see in Column 8, line 44, I will just briefly refer to it. It says, referring to

Figure 3 and then it goes on?

A Yes.

Q So there is that and I'm just putting some markers in two spots. And then in Column 9 at 31, it is referring to Figure 4?

A Yes.

Q And these are two figures in Byrne that are logical flow diagrams for how it -- this probably -- or this application discloses that its claimed invention operates; right?

A Yes.

Q I was trying to remember if it gave a description of Figure 2 and 3, it did not. If we look at Figure 3 and 4, if we look at Figure 3 first?

A Sure, I'm there.

Q Is there anything in Figure 3 that shows a simultaneous cordless and cellular link or connection -- so strike that.

Is there anything in Figure 3 that shows a simultaneous cordless or cellular call, using call since that is the term that Byrne uses?

A No. My -- my understanding -- my understanding of Figure 3 that I have looked at this before obviously, is that this is really about making a decision about which radio interface to be using based on a number of different kind of decisions or pieces of information to help make decisions.

Q And then there is a -- so if you see the call progress -- so at the 305 decision block, there is a branch for yes that goes to 321?

A Yes.

Q And -- and if we go over to Figure 4, you enter the Figure 4 decision or flow diagram at 321; correct?

A Right, that is what that would mean.

Q And is there anything in Figure 4 that shows a simultaneous cordless and cellular call?

A No. Again, this block diagram, obviously working with Figure 3 is about choosing which modality to use, whether cordless or cellular.

Q And so Figure 3, you know -- when we get to Figure 4 there is a call in progress on one of

the two nodes; correct?

A That's correct.

Q And then -- it then asks is the cordless available, yes. Is there a cordless call in progress, yes, it goes to 304; right?

A Yes.

Q And then if it -- if the cordless is not available, it then asks is the cellular available and the answer -- so is it yes, and the cellular in progress, no. And then you handover the call to cellular; right?

A Yes, under that flow, that is what happens.

Q And so Figure 4 is -- there is one call in progress. And trying to make that -- that decision on an automatic handover based on 304, which is the -- the conditions, the SAR, the conditions associated; right?

A Yes. 304 is to go back up to Figure 3 exactly and sort of enter that monitoring, that monitoring block at the top and go through the whole thing again.

Q For things like what is the signal strength like or -- or something like that; correct?

A Yeah, those criteria we talked about previously.

Q Yes. I think I have one question. If we look at -- I just don't understand the annotations. If we look at paragraph 213, pages 128 that it spills over to a diagram, an annotated on 129?

A I'm there.

Q It is -- it is Figure 2; correct?

A The annotated diagram is Figure 2 from Byrne.

Q Yeah. And there is a discussion in Byrne or a discussion in 213 that Byrne describes that the cellular communication antenna is coupled to the cellular telephone transceiver and configured to transmit signals for cellular telephone calls. And it does the same for cordless, coupled to the cordless telephone transceiver and configured to transmit signals for cordless telephone calls.

I guess the -- I'm unfortunately looking at a black and white version, but the shaded -- what is shaded in this annotated version, right, is the antenna, a cordless receiver, cordless transmitter on one side and then a -- a arrow that goes to the microprocessor then it is kind of mirrored on the cellular side; right?

A That's accurate, that is what the shading includes, yes.

Q Yeah. In reading this schematic, do you have any sense of why, for example, you know when you go from the antenna to it is a -- it is a solid line to the band pass filter to the cordless receiver and transmitter. Same thing through the cordless audio and the audio switches, but it is like a different kind of a block, big arrow between the receiver transmitters and the microprocessor?

A That would -- that would typically mean, and I think that makes sense in the context of this. When you have that it is more almost like a bus. It is -- it is the ability to exchange a

variety of different kinds of information between, say, the cordless receiver transmitter and the microprocessor.

So it -- it -- it just usually embodies a set of connections that might be -- it could be separate connections, separate pins, separate wires between the microprocessor and that cordless transceiver or it could be more of a bus where you are just exchanging data and saying, okay, here is the command for this, now here is the next command sort of in a more digital communications scheme. So it just -- that is what that would -- that is what that would represent.

Q Got it. Is there a reason, because I think it is talking about being coupled from the antenna through the transceiver that the band pass filter and the -- the thinner lines aren't highlighted or annotated in anyway?

A I don't know if I understand. You are asking me why we didn't highlight in that figure the lines in that antenna between the antenna and the transceivers.

Q Yeah. And more specifically it was confusing 213, the paragraph, doesn't mention the microprocessor, but it does talk about the -- the coupling between -- from the antenna through the transceiver which I -- I understand to be the receiver and transmitter. Do you agree transceiver is a shorthand for transmitter and receiver?

A Yes, I do agree.

Q And so that is why it was confusing me, in the discussion of coupling the antenna to the transceiver how we move kind of south of the transceiver for a shading, but don't include the path, the actual coupling between the antenna and the transceiver?

A Yeah. So I can't remember whether or not we were maybe being a little sloppy as we borrowed from other highlighted figures for my document. But really the part to focus on here is what you are referring to, is that connection between the antenna and the cellular, you know, transmitter receiver or the antenna and the cordless

transmitter receiver. That certainly is what is being referred to and needs to be the focus of this diagram for claim limitation 6E, as I've defined it.

Q Okay. Thank you. I was just uncertain why we were down to the microprocessor. Do you know if there is -- if that is an artifact or if that was -- if it -- if it is intentional to be -- to include to the microprocessor?

A Well, all I can say is it is not intentional. That -- that is not relevant for that claim limitation, but we, you know, I used this figure, I used it several times with the --

Q Sure.

A -- exact same shading for different claim elements. So I will admit I may have been sloppy there, but it is -- no, that shading to the microprocessor is not an important part for this claim limitation.

Q Okay, so, totally understand it. I noticed that you used it before, that is why I wanted to check to see if that was an artifact or

intentional.

So as a natural quick stopping point, can we take a quick five or ten or maybe do 10 and get back to it?

A That is fine with me.

(Recess, 2:32 to 2:43 p.m.)

Q Dr. Jensen, about how much time did you spend preparing for today's deposition?

A Between reading the references in my report, spending a little time with counsel, I don't know, 10, 15 hours.

Q And when did you conduct that preparation?

A Over the course of the prior four days from now.

Q Was there -- was the time spent roughly evenly distributed between the days or was there, like, one big day and some follow-up?

A Fairly equally distributed with different activities on different days.

Q You said you spent a little time with counsel. About how much time did you spend with counsel?

A I estimate six hours.
Q And whom did you meet with?
A Mr. Kazi and Mr. Park.
Q Did you meet with anyone else in preparation for today's deposition?
A Just this morning for just a few moments with Mr. Jeremy, is it Moldanado. I don't know how to pronounce his last name.
Q For about how long was that this morning?
A 20 minutes.
Q And other than the materials cited in the report, did you review any additional materials to prepare yourself for today's deposition?
A No.
Q Have you reviewed the -- so you submitted your declaration before there was an institution decision; correct?
A That's my understanding, yes.
Q Have you reviewed the institution decision?
A It was provided to me. I have not reviewed it.

Q So if you haven't reviewed it, there is nothing in it that at this point changes or impacts any -- any opinions that you have given in your declaration; correct?

A That's correct.

MR. KAZI: I'm going to object to foundation on that prior question, but you can go ahead.

Q A couple more cleanups. In the prior expert declarations or reports that you have given, have any of them ever been stricken in part by a court or a administrative body?

A No.

Q Sorry, I'm just ticking some boxes here.

In front of you today you have had copies of native clean copies of the exhibits that we've talked about; correct?

A Native and -- well, I don't know what you mean by native. They have been clean copies. I'm not sure what you mean by native.

Q Sure. PDF, clean PDFs of the -- of the exhibits that -- that you have -- that we've

talked about today?

A I have been relying exclusively on clean, yeah, PDFs of all the documents with no annotations.

Q Okay. And available and open to you, so not something stored in a far away folder in your computer. You haven't been looking at any annotations or -- or previously made notes; is that correct?

A No, no previously made notes, nothing on my computer, nothing written that I'm referring to.

Q Got you. And during any of the breaks today, have you spoken with counsel about the substance of your testimony?

A I have not.

MR. UDICK: All right. I will pass the witness.

MR. KAZI: Okay. Can we just take a quick break? I don't think I will have any redirect. Let me just gather my notes. I wasn't expecting you to pass right this minute. Give me a few

minutes. I will take a quick break and I think I will get back on the record and just close it out.

MR. UDICK: Thanks.

(Recess, 2:49 to 2:51 p.m.)

MR. KAZI: We have no questions although we reserve the witness' ability to review and sign the transcript.

(Deposition adjourned at 2:51 p.m.)

_____

MICHAEL ALLEN JENSEN, PhD

Subscribed and sworn to before me this day of 2023.

C E R T I F I C A T E

I, SUSAN S. KLINGER, a certified shorthand reporter within and for the States of Texas and California, do hereby certify:

That MICHAEL ALLEN JENSEN, PhD, the witness whose deposition is hereinbefore set forth, was duly sworn by me before the commencement of such deposition and that such deposition was taken before me and is a true record of the testimony given by such witness.

I further certify that the adverse party, Samsung, was represented by counsel at the deposition.

I further certify that the deposition of MICHAEL ALLEN JENSEN, PhD, occurred remotely on January 19, 2023, commencing at 8:32 a.m. to 2:51 p.m.

I further certify that I am not related to any of the parties to this action by blood or marriage; and that I am not employed by or an attorney to any of the parties to this action, and

that I am in no way interested, financially or otherwise, in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 23rd of January, 2023.

Susan S. Klinger, RMR-CRR, CSR
Texas CSR# 6531
California CSR# 14487