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Patent Owner.

The deposition of ALBERT GARRETT, called by the Petitioner, for examination, taken before Stephanie A. Battaglia, CSR and Notary Public in and for the County of DuPage and State of Illinois, at K&L Gates, 70 West Madison Street, Suite 3300, Chicago, Illinois, on January 15, 2025, 9:29 a.m.

1 PRESENT:

2 FISH & RICHARDSON, P. C.
3 BY: MR. MICHAEL J. BALLANCO
4 1000 Maine Avenue, SW, Suite 1000
5 Washington, D. C. 20024
6 (202) 626-6413
7 e-mail: ballanco@fr.com

8 - and -

9 FISH & RICHARDSON, P. C.
10 BY: MR. ALYAMAN AMER
11 1717 Main Street, Suite 5000
12 Dallas, Texas 75201
13 (214) 292-4043
14 e-mail: amer@fr.com

15 appeared on behalf of the Petitioner;

16 K&L GATES
17 BY: MR. ERIK HALVERSON
18 4 Embarcadero Center, Suite 1200
19 San Francisco, California 94111
20 (415) 882-8238
21 e-mail: erik.halverson@klgates.com

22 - and -

23 K&L GATES
24 BY: MR. JARED LUND
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26 Chicago, Illinois 60602
27 (312) 372-1121
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29 appeared on behalf of the Patent Owner;

30

31

32

1 PRESENT:
2 (CONTINUED)

3 FINNEGAN, HENDERSON, FARABOW, GARRETT &
4 DUNNER, LLP
5 BY: MR. VICTOR PALACE
6 901 New York Avenue, NW
7 Washington, D.C. 20001-4413
8 (202) 408-4117
9 e-mail: victor.palace@finnegan.com
10 appeared via Zoom on behalf of
11 DIRECTV, LLC.

12 ALSO PRESENT:
13 Ms. Stephanie A. Battaglia
14 CSR, RMR, CRR, RDR
15 GregoryEdwards

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1 I N D E X

2 WITNESS: PAGE:
Albert Garrett

3 EXAMINATION BY:
4 Mr. Ballanco 5
Mr. Halverson 108

6 * * * *

7 E X H I B I T S

8 Exhibit 2002 Declaration of 9
Albert Garrett

9 DISH Exhibits

10 DISH-1001 U. S. Patent No. 7,295, 518 99

11 DISH-1007 United States 104
12 Patent Application Publication
US 2002/0069417

13 DISH-1030 United States Patent 63
14 Application Publication
US 2012/0287979

15 DISH-1031 U. S. Patent No. 9,042,823 69

16 DISH-1032 U. S. Patent No. 8,351,368 71

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1 MS. REPORTER: We are starting at

2 9:29 a.m.

3 ALBERT GARRETT,
4 called as a witness herein, having been first duly
5 sworn was examined and testified as follows:

6 EXAMINATION

7 BY MR. BALLANCO:

8 Q. Good morning, sir.

9 Would you please state your name for the
10 record?

11 A. My name is Albert Garrett.

12 Q. Good morning, Mr. Garrett.

13 Have you been deposed before?

14 A. I have not.

15 Q. Okay.

16 Well, then if this is your first time I'm
17 just going to start with a few ground rules just so
18 that the proceedings today go smoothly and that we are
19 all on the same page, okay?

20 A. Yes.

21 Q. The first thing is you understand you are
22 giving your testimony today under oath?

1 A. Yes.

2 Q. And it's just like if you were in court
3 on the witness stand, you have been sworn in, it's
4 your sworn testimony.

5 A. Understood.

6 Q. Is there any reason why today you can't
7 give truthful, complete, and accurate testimony?

8 A. No, sir.

9 Q. If that changes at all at any point
10 during the deposition, please just let me know.

11 A. Okay.

12 Q. If any medical condition or something
13 like that were to occur, just let me know, and then we
14 will take it from there.

15 A. Understood.

16 Q. I ask that you answer all of my questions
17 with an audible yes or no. Is that fair?

18 A. Yes, sir.

19 Q. You can see we have a court reporter here
20 today taking down everything that we say, so for the
21 record to be complete that's important.

22 A. Understood.

1 Q. If you don't understand any of my
2 questions just let me know, okay?

3 A. Okay.

4 Q. If you do answer a question I will assume
5 that you understood my question, fair?

6 A. Fair.

7 Q. Okay.

8 Your attorney may object to some of the
9 questions I ask. If there is an objection that
10 doesn't call for privilege you still need to answer
11 the question, is that fair?

12 A. Yes.

13 Q. And if there is a dispute about that the
14 attorneys will figure it out, okay, but the basic rule
15 is you have to answer a question that's pending, okay?

16 A. Yes.

17 Q. We will try to take breaks every hour or
18 so, but if you need one before that just let me know
19 and we will do that, right?

20 A. Will do.

21 Q. The only caveat to that is if there is a
22 question pending I will ask you to answer the question

1 before we take the break.

2 A. Yes, okay.

3 Q. Okay.

4 So, sir, I know you said that this is
5 your first deposition. Have you served as an expert
6 before in any other cases?

7 A. No.

8 Q. I know that you have been named as an
9 inventor on several patents.

10 Have you ever been involved in a patent
11 infringement lawsuit vis-a-vis those patents?

12 A. No.

13 Q. So fair to say you have never served as a
14 fact witness in a litigation before either?

15 A. Correct.

16 Q. And when I say litigation, that includes
17 inter partes reviews. You never have given testimony
18 in inter partes review proceedings until today?

19 A. No, sir.

20 Q. I thought that was the case, I just
21 wanted to confirm.

22 I have handed to you before we got

1 started a binder of exhibits we might use today, okay,
2 do you see that in front of you?

3 A. Yes, sir.

4 Q. I apologize because I meant to put your
5 declaration, which is what we will spend a lot of time
6 talking about, to the front of the binder but didn't
7 get a chance to do it given we were running late which
8 I again apologize for.

9 If you may, would you turn to tab -- let
10 me get my copy, too, it's toward the back, it's
11 Exhibit 202 on the tab, it says Declaration of
12 Mr. Albert Garrett. Please turn to that and let me
13 know when you are there.

14 MR. HALVERSON: Just for clarity, 2002?

15 MR. BALLANCO: Apologies, yes, 2002.

16 THE WITNESS: I am there.

17 (Document identified as Exhibit 2002 for
18 identification.)

19 BY MR. BALLANCO:

20 Q. Mr. Garrett, do you recognize the
21 document that's at the tab that you just turned to?

22 A. Yes.

1 Q. And what is this document that you are
2 looking at?

3 A. This would be my declaration.

4 Q. The declaration that you submitted in the
5 IPR Proceeding No. 2024-00393?

6 A. Yes.

7 Q. Just for the sake of the record, that IPR
8 proceeding concerns U.S. Patent No. 7,295,518, is that
9 right?

10 A. Yes, sir.

11 Q. Did you review this declaration in
12 preparation for today's deposition?

13 A. Yes.

14 Q. And after that review do you still stand
15 behind all the opinions that are included in this
16 declaration?

17 A. I think there was one statement that I
18 was concerned with in Paragraph 40.

19 Q. Okay.

20 A. It's not an opinion statement.

21 Q. And what was your concern with the
22 statement in Paragraph 40 concerning the definition of

1 a POSITA?

2 A. My definition of POSITA included two
3 years of coax experience, which is different from
4 Williams' definition, and I did not have two years of
5 coax experience at the time of the filing date of the
6 application.

7 Q. I understand.

8 Would you today like to modify your
9 definition of a POSITA or is your modification that
10 you simply didn't satisfy it at the date of the
11 patent?

12 A. That I simply didn't satisfy it at the
13 date of the patent.

14 Q. Understood.

15 Beyond the modification that we just
16 discussed with respect to Paragraph 40, are there any
17 other pieces of the declaration that you would like to
18 modify, correct, or change in some way?

19 A. No.

20 Q. Sir, what did you do to prepare for
21 today's deposition?

22 A. Preparation for today's deposition, I

1 reviewed+ my declaration, Amit, Kliger, Jacobsen and
2 Isaksson documents that are referenced as exhibits,
3 and the institute decision.

4 Q. Any other documents you reviewed to
5 prepare for the deposition today?

6 A. None that I recall.

7 Q. Did you meet with anyone to help prepare
8 for today's deposition?

9 A. I did have a meeting yesterday to
10 prepare.

11 Q. And who did you meet with yesterday to
12 prepare?

13 A. Erik Halverson and Jared Lund.

14 Q. How long did you meet for?

15 A. Approximately four hours.

16 Q. Apart from Mr. Halverson and Mr. Lund,
17 any other individuals you spoke with in preparation
18 for today's deposition?

19 A. No, sir.

20 Q. If you would, sir, please turn to
21 Paragraph 5 of your declaration. If you are there, it
22 reads -- and let me know if I say this incorrectly --

1 "Have you have analyzed the '518 patent, its file
2 history, the declaration of Tim A. Williams, four
3 prior art references, Kliger, Isaksson, Amit,
4 Jacobsen." And then it also says, "I have also
5 considered the other documents or references cited in
6 this declaration." Is that fair?

7 A. Yes, sir.

8 Q. Beyond everything that you included in
9 Paragraph 5, were there any other pieces of
10 information or documents that you reviewed in putting
11 together your declaration?

12 A. I don't recall any specific reference
13 outside these.

14 Q. Did you review any testimony from
15 Mr. Williams or Dr. Williams in preparing your
16 declaration?

17 A. Not that I recall.

18 Does the declaration count as the
19 testimony?

20 Q. No. I am asking about a transcript of a
21 deposition for Dr. Williams.

22 A. Not that I recall.

1 Q. Okay.

2 And apart from the prior art references
3 that you cite in your declaration, you didn't review
4 any others, is that fair?

5 A. That's correct.

6 Q. Sir, I would like to ask you about your
7 background before we get into the substance of the
8 dispute.

9 I think the best way to do that might be
10 to go through your CV, which you included as an
11 exhibit to your declaration, it is Exhibit A, it
12 starts I think on Page 83 of that document.

13 A. Yes, sir.

14 Q. Is Exhibit A the CV that you provided a
15 current and accurate representation of your CV?

16 A. Yes, sir.

17 Q. I would like to start with your
18 educational background.

19 You attended Auburn University for your
20 undergrad, is that right?

21 A. Yes, sir.

22 Q. You specialized there, it appears, in

1 digital communication and communication theory, is
2 that fair?

3 A. Fair.

4 Q. What drove you to specialize in that
5 area?

6 A. Probably the professors I interfaced
7 with.

8 Q. What professors were those?

9 A. Singh, Professor Singh.

10 Q. Professor Singh, okay.

11 And how did you first come to know
12 Professor Singh?

13 A. Through class, communications class.

14 Q. As part of your electrical engineering
15 degree you took an intro to communications course with
16 Professor Singh?

17 A. That's correct.

18 Q. And it was something that you enjoyed and
19 wanted to pursue further?

20 A. Yes, sir.

21 Q. Did you do any sort of research work with
22 Professor Singh while you were there?

1 A. No direct research. I requested some
2 additional projects from him; I can't even recall what
3 those were, just I remember the conversation.

4 Q. I can't remember what I was doing in 1996
5 either, in fairness.

6 What other courses did you then take
7 after that initial communications course with
8 Professor Singh that gave you additional expertise in
9 digital communications?

10 A. I wouldn't claim that the bachelor's work
11 did anything else for coding theory or communications.

12 Q. Well, you went on after studying at
13 Auburn to get a Master's at Clemson, right?

14 A. Yes.

15 Q. Is that where you furthered your digital
16 communications work?

17 A. Yes.

18 Q. And tell me how did that at Clemson.

19 A. The Clemson program was led by a Dr.
20 Pursley who is an expert in digital communication.
21 The program was designed around that field so
22 virtually all work is relative to

1 communication/communication theory in its application.

2 Q. And I want to make sure I heard it
3 correctly, Dr. Pursley?

4 A. Pursley, yes.

5 Q. And did you apply to Clemson specifically
6 because of that digital communications program?

7 A. Yes, sir.

8 Q. Was that something that was recommended
9 to you by Professor Singh?

10 A. No, sir.

11 Actually, Clemson came to Auburn and
12 recruited. They had just started the program with Dr.
13 Pursley and were actively recruiting at universities
14 to join the program.

15 Q. Okay.

16 So were you one of the first graduates
17 from that program?

18 A. I don't know if I was one of the first,
19 but certainly I was — I would say I was in there.

20 Q. Understood.

21 Did you go directly from Auburn to
22 Clemson or was there any intervening work experience

1 or additional educational experience between the two?

2 A. I worked at a company called Adtran. I
3 co-oped at Adtran throughout undergraduate work and
4 continued working with them on side projects as I did
5 Master's work.

6 Q. And where is Adtran, where were you
7 working at, what office for them?

8 A. Adtran is in Huntsville, Alabama. So you
9 are in co-op sessions, I would going to Huntsville,
10 but while doing Master's work it was remote.

11 Q. Remote work back in the late '90s, you
12 were a real innovator with that.

13 What does Adtran do, what work were they
14 doing at the time?

15 A. Adtran worked in telephone communication
16 systems, ISDN/HDSL at the time, testing devices, bit
17 error rate testers.

18 Q. Did you say HDSL?

19 A. HDSL.

20 Q. What exactly is HDSL?

21 A. At the moment I can't speak to details,
22 but it is a data subscriber loop prior to ADSL.

1 Q. So it is a predecessor to ADSL?

2 A. Yes, sir.

3 Q. Apologies for my ignorance here, but is
4 there any distinction between just generic DSL and
5 HDSL?

6 A. I just couldn't speak to the specifics.

7 Q. Okay.

8 What about VDSL, is that connected to
9 HDSL at all?

10 A. I would assume all these are connected
11 given the DSL acronym, that they are all part of the
12 data subscriber loop that's relative to note work
13 communication from a telephone central office to a
14 terminal unit at a house. They each speak to
15 different specifications, the HDSL, ADSL, and VDSL.

16 Q. Did you say media cell?

17 A. VDSL. I apologize.

18 Q. All good.

19 So you worked with HDSL at Adtran. Did
20 you do work with VDSL at Adtran?

21 A. Just to correct the statement, I did not
22 work with HDSL. That was a technology Adtran worked

1 in.

2 Q. Apologies.

3 Let me take a step back then.

4 What work were you performing while you
5 were at Adtran, what type of work?

6 A. They moved me between various groups, so
7 I worked in the testing group and worked on embedded
8 software for the bit error rate testers. They moved
9 me into a software development group and I worked on
10 designing software for automated testing. They moved
11 me under the advanced development group, and in that
12 sense we were working on our own operating system for
13 ISDN devices, so embedded software, a lot of software
14 experience.

15 Q. Okay.

16 You finished your Master's at Clemson in
17 1998, right?

18 A. Yes, sir.

19 Q. And what did you go on to do after
20 completion of your Master's degree?

21 A. Joined a group at Harris Corporation in
22 research and development.

1 Q. What research and development work were
2 you performing at Harris?

3 A. The group itself was responsible for
4 communications systems, but we were
5 specifically -- that is a defense contractor, so it
6 would be basically it is a matrix organization, you
7 would be assigned to a project based on the means of
8 the organization. The first project was law
9 enforcement product development.

10 Q. What type of law enforcement product were
11 you helping develop?

12 A. I think at the time it was a cellphone
13 sniffer.

14 Q. And you were at Harris for how long?

15 A. I was at Harris approximately two years.

16 Q. What other projects did you work on at
17 Harris beyond the law enforcement product?

18 A. At Harris I can't think of another one.
19 They were all law enforcement products, variations of
20 cellphone. I recall a different last project, and
21 while I can picture the people I can't think of the
22 technology at the moment.

1 Q. Where did you go after Harris?

2 A. Harris had a technology that we today
3 call Wi-Fi that they spun off to semiconductor company
4 that was across the street called Intersil, and I
5 joined the group that was doing com system development
6 for 802.11 at the time.

7 Q. This would have been around the 2000
8 timeframe, if I am getting my dates right?

9 A. Ballpark, yes, sir.

10 Q. And you were working on -- I want to make
11 sure I am accurate here -- on development of 802.11
12 technology or application of that technology of
13 products?

14 A. I did both. I was a standards
15 representative, so I would go try and help to find the
16 standard, but I was also an algorithm developer, so I
17 developed receiver algorithms for acquisition, packet
18 tracking, demodulation, and decoding.

19 Q. Did any of those algorithm development
20 projects lead to patents that were issued?

21 A. Yes, sir.

22 I think probably the first five patents

1 that are listed at Conexant, that group eventually
2 became Conexant through a series of mergers and
3 acquisitions. So all that is related.

4 Q. Okay.

5 On your resume you list your employment
6 at Conexant from 2007 to 2008.

7 If I understand correctly, you were with
8 Intersil as the predecessor to Conexant starting 2000,
9 is that fair?

10 A. Yes, sir.

11 There is a gap in 2006 where I moved to
12 Alabama and didn't work with Conexant and then
13 rejoined Conexant a year later.

14 Q. But from 2000 to 2006 you were with
15 Intersil?

16 A. Yes, sir.

17 Q. And for that year in 2006, what were you
18 doing?

19 A. I worked at a small software shop that
20 was called Verari, V-E-R-A-R-I; I believe that's
21 correct.

22 Q. What work were you doing at Verari?

1 A. They developed signal processing software
2 that was matched to intel and AMD processors in their
3 SIMD operations. SIMD is S-I-M-D, special
4 instruction.

5 Q. And when you left Verari and went to
6 Conexant, was the work similar to the work you had
7 been doing when you were with Intersil?

8 A. When I joined Conexant in 2007 it was no
9 longer Wi-Fi, but it was MoCA.

10 Q. Okay.

11 So 2007 is when you first started working
12 with MoCA?

13 A. Yes. It may have been the end of 2006, I
14 don't have the exact -- I don't recall the exact
15 dates, but it is close.

16 Q. Okay.

17 Sorry to jump around, but I wanted to ask
18 you about your most recent entry for education, and
19 it's this AI nano degree received in 2018.

20 A. Yes, sir.

21 Q. Would you explain to me exactly what that
22 is?

1 A. That is one of those massive online
2 educational systems. When I worked with -- I think
3 you have it here -- ComplexIQ, at the end of our time
4 there we were looking for new projects and
5 opportunities and wanted to explore AI, so it was my
6 job to become educated, and that was the path I took.

7 Q. You mentioned the end of your time at
8 ComplexIQ. Are you no longer with ComplexIQ?

9 A. I am not.

10 Q. I notice on your CV it mentions you are
11 there until the present. Is that something that
12 should be corrected?

13 A. Yes, sir, my apologies.

14 Q. So when did your time at ComplexIQ
15 finish?

16 A. December of 2019.

17 Q. Okay.

18 Since December of 2019 have you engaged
19 in any other professional activity?

20 A. In January of 2020 I joined Financial
21 Services Industry at Northwestern Mutual.

22 Q. What work or -- strike that.

1 Are you still there?

2 A. I am.

3 Q. What sort of work do you do there?

4 A. I am a financial advisor.

5 Q. Fair to say that your current role is not
6 connected to your past work experiences?

7 A. That's correct.

8 Q. We spoke a little bit earlier about
9 whether you testified before in a litigation, I
10 believe you said you hadn't, correct?

11 A. Yes, sir.

12 Q. Have you served as an expert before in a
13 litigation even if it didn't involve testimony?

14 A. No, sir.

15 Q. So this is your first expert engagement?

16 A. Yes, sir.

17 Q. Apart from litigation, have you served as
18 an expert consultant before in your career?

19 A. No, sir.

20 Q. Your -- sorry, strike that.

21 I would like to ask you about a few
22 communication concepts if that's all right with you,

1 and hopefully you can explain them to me better than I
2 understand them presently, if that's fair.

3 A. Yes, sir.

4 Q. Are you familiar with reflections in
5 communication systems?

6 MR. HALVERSON: Objection, form.

7 THE WITNESS: In what way?

8 BY MR. BALLANCO:

9 Q. Well, have you heard the term reflection
10 used before in the context of a communication system?

11 A. Yes, sir.

12 Q. And in what context have you heard that
13 term used before?

14 A. In the context of wireless communication,
15 it is multiple paths between a transmitter and a
16 receiver.

17 Q. So in wireless communication if there is
18 multiple paths between a transmitter and the receiver,
19 that's known as a reflection?

20 A. Yes, sir.

21 Q. And what causes a reflection?

22 A. In the context of Wi-Fi?

1 Q. We can start there, sure.

2 A. Objects that are somewhere between the
3 two devices.

4 Q. And so if the signal encounters an object
5 that will cause a -- could cause a reflection, fair?

6 A. Yes, sir.

7 Q. What about in the context of a wired
8 communication, what are reflections?

9 A. Similar. The structure would be
10 different that causes a reflection, it would be an
11 impedance mismatch.

12 Q. In a wired communication is your
13 definition of reflection different than the one you
14 provided for wireless?

15 A. That I have provided a definition of
16 reflection?

17 Q. Maybe definition is strong.

18 I think we had described it as multiple
19 paths between a transmitter and a receiver.

20 A. Okay.

21 Q. Is that the same understanding of
22 reflection for a wired communication?

1 A. I think that's fair.

2 Q. And when we are talking about wired
3 communications, does that include coax, for example?

4 A. Yes.

5 Q. In a wired communication, let's stay with
6 that, can a reflection occur if you don't have
7 multiple paths?

8 A. Yes.

9 Q. Is the same true for a wireless
10 communication?

11 A. Can we revise the previous statement?
12 There is something about the word path is troubling.

13 Q. Sure.
14 What would you like to clarify about
15 path?

16 A. I imagine a situation where there is two
17 devices and one cable.

18 Q. Okay.

19 A. That looks like one path, but it can be
20 multiple paths because their reflections -- the
21 transmitter will transmit to the receiver, there is
22 what is called return loss, there will be a reflection

1 off the receiver back to the transmitter, and then off
2 the transmitter back to the receiver. That's two
3 paths to the same device that there is physically only
4 one path, so there is a difference between an
5 electrical path and a physical path.

6 Q. And so when you had testified earlier
7 that you can have a reflection in a wired
8 communication if you don't have multiple paths, were
9 you thinking of a system like the one you just
10 described?

11 A. Yes, sir.

12 Q. Okay, I understand.

13 Let's stay with wired communications now
14 for a minute. And I believe you had testified that a
15 reflection of wired communication is caused if there
16 is an impedance mismatch, right?

17 A. Yes, sir.

18 Q. Can a system encounter a reflection even
19 if there is not an impedance mismatch in a wired
20 communication?

21 A. Can you repeat that question?

22 Q. Sure.

1 In a wired communication can a reflection
2 recur -- strike that.

3 In a wired communication can a reflection
4 occur if there is no impedance mismatch?

5 A. No.

6 Q. So a necessary condition for a reflection
7 in a wired communication is an impedance mismatch?

8 A. I believe that to be the case.

9 Q. Okay.

10 What problems do reflections cause in
11 communication systems?

12 A. It depends on the communication system.

13 Q. How about in a wired communication
14 system, what problems do reflections cause in those
15 systems?

16 A. I guess my hesitancy is they may cause a
17 problem or they may be beneficial.

18 Q. Let's take each in part.

19 So in a wired system what problem could
20 be caused by a reflection?

21 A. A problem that could be caused is
22 intersymbol interference.

1 MS. REPORTER: Is what?

2 THE WITNESS: ISI, intersymbol

3 interference.

4 BY MR. BALLANCO:

5 Q. Let's go back to the example you
6 mentioned before where we have two devices connected
7 by a single wire, okay? Can intersymbol interference
8 occur in that system?

9 A. It can.

10 Q. If intersymbol interference occurs in
11 that system with two devices and a single wire, could
12 that come from a reflection?

13 A. It could.

14 Q. What potential benefit could come in a
15 wired system from a reflection?

16 A. It could complete the link.

17 Q. What do you mean by complete the link?

18 A. There are long-range communication
19 systems that reflect off the moon in order to get a
20 transmit signal from a transmitter to receiver is an
21 odd example, but apart from a reflector you can't get
22 line of sight between two devices that are on

1 different parts of the world, so you use a reflector
2 to complete the link.

3 Q. In that example that's a wireless
4 example, is that fair?

5 A. That's right.

6 Q. In a wired system, is there a benefit
7 that you could experience?

8 A. Specifically in a coax system two
9 terminal units can reach reflection off a splitter to
10 complete it.

11 Q. Beyond ISI in a wired communication
12 system, what other problems could a reflection cause?

13 A. I think my answer is subsumed in ISI, but
14 frequency distortions.

15 Q. And when you say that you believe your
16 answer is subsumed within ISI, do I take that to mean
17 that frequency distortion is somehow related to ISI?

18 A. Certainly both are related to the
19 multipath profile.

20 Q. Okay.

21 If you could, explain to me exactly what
22 a frequency distortion is when it is caused by a

1 reflection.

2 A. Depending on the delay of a reflection at
3 a receiver between two signal components and the
4 magnitude of the reflection relative to the main
5 signal component, various frequencies in the signal
6 content can be nulled or amplified.

7 Q. Going back to the benefit side of wired
8 communications, I believe you had mentioned that a
9 potential benefit could occur from a reflection in a
10 coax wired system, is that right?

11 A. Yes, sir.

12 Q. Beyond coax, are there other wired
13 communications systems that might benefit from a
14 reflection?

15 A. I struggle to think of one.

16 Q. When did the potential problem of
17 intersymbol interference caused by reflections become
18 known to those working in this technology?

19 A. I don't think I can give you a date. I
20 would certainly say it predates my educational
21 experience.

22 Q. So when you were completing your

1 education in digital communications, the issue of
2 intersymbol interference was a known problem?

3 A. Yes.

4 Q. Is it something you studied in your
5 coursework?

6 A. Yes.

7 Q. Have you in your professional career
8 worked to mitigate problems caused by reflections?

9 A. Yes.

10 Q. Would you explain to me when you did
11 that?

12 A. Educational experience was with a
13 technology called CDMA, code-division multiple access
14 where we use rake receivers to aggregate reflections,
15 eliminate ISI, and form an equalized receiver.

16 Q. And CDMA is a wireless technology, right?

17 A. I don't know that I would claim that.

18 Q. So CDMA could be used in wired
19 communication?

20 A. Yes.

21 Q. CDMA is used in some wireless
22 communication like 3G, is that fair?

1 A. Yes.

2 Q. What wired systems used CDMA that you are
3 aware?

4 A. I can't think of one offhand. I just
5 can't think of a reason to constrain it as a wireless
6 technology.

7 Q. Have you worked at all on your -- strike
8 that.

9 I believe you prefaced your answer about
10 designing ways to account for reflections in your
11 educational background.

12 What about in your professional
13 background, is that work that you have done?

14 A. Wireless domain that pairs equalizers for
15 cellular phone receivers and Wi-Fi work do the same.

16 Q. And Wi-Fi work came after Harris?

17 A. Correct.

18 Q. At Intersil, is that right?

19 A. Right.

20 Q. Apart from your work at Harris on
21 equalizers and your work at Intersil with Wi-Fi, any
22 other professional experience accounting for the

1 problems caused by reflections?

2 A. The MoCA experience at Conexant and
3 ComplexIQ, Cisco.

4 Q. Fair to say that your work on mitigating
5 the problems caused by reflections for MoCA was your
6 first foray into addressing that problem in a wired
7 system?

8 A. Fair to say.

9 Q. What solutions to the reflection problem
10 did you help develop in your MoCA work?

11 A. In this work I was focused on the
12 implementation of the MoCA standard on coax, but I was
13 responsible for developing the frequency equalizer
14 called an FEQ. I was responsible for developing the
15 acquisition system, which included the AGC frequency
16 course and fine frequency compensation, time of
17 arrival systems.

18 Q. The frequency equalizer that you
19 mentioned, how did that relate to the equalizers you
20 had worked on earlier at Harris and Intersil?

21 A. Intersil it would have been similar. At
22 Harris it would have been different. Harris work was

1 largely single carrier waveforms, so that would have
2 been different.

3 Q. At Intersil the Wi-Fi work you were doing
4 was multicarrier communications?

5 A. Yes. Both.

6 Q. Okay.

7 Just so the record is clear, at Intersil
8 you worked on both single carrier communications and
9 multicarrier are communication the?

10 A. Yes. 802.11 has both.

11 Q. The equalizer work that you did at
12 Intersil to address reflections on multicarrier
13 systems was similar to the frequency equalizer work
14 you did in connection with MoCA, fair?

15 A. Fair.

16 Q. Are you familiar with the acronym SNR?

17 A. Yes.

18 I guess I saw say I am familiar an
19 acronym SNR, there may be more than one.

20 Q. What do you understand the acronym SNR to
21 stand for?

22 A. In the context of communications it

1 stands for signal-to-noise ratio.

2 Q. So we are all on the same page, what is
3 signal-to-noise ratio?

4 A. It is a measure of the power of a
5 transmitted signal at an observation point relative to
6 the noise present at that same point.

7 Q. You mentioned observation point. What
8 exactly is an observation point in this context? I
9 want to make sure I understand that.

10 A. Typically a receiver. It could be a
11 monitor.

12 Q. Okay.

13 A. Test equipment.

14 Q. And hypothetically the monitor or the
15 test equipment would be somewhere along the channel,
16 is that fair?

17 A. Fair.

18 Q. Have you done monitoring of a channel to
19 observe its signal-to-noise ratio before?

20 A. Yes.

21 Q. When did you do that?

22 A. That would be part of any com system

1 work.

2 Q. And why would one use a monitor as
3 opposed to just observing the SNR at the receiver?

4 A. Monitoring equipment is typically much
5 more precise. Lower noise figures allows for better
6 observations for development work.

7 Q. How is signal-to-noise ratio used to
8 characterize a channel?

9 MR. HALVERSON: Objection, form.

10 THE WITNESS: Can you be more precise?

11 BY MR. BALLANCO:

12 Q. Let me -- I will try, let me ask this
13 question.

14 Are you familiar with using probe
15 messages for channel characterization?

16 A. Yes.

17 Q. How do these probe messages work on
18 communication systems?

19 A. In general probe messages are typically a
20 known waveform transmitted over a channel that a
21 receiver uses to compare the received signal to the
22 known signal and determine various characteristics.

1 Q. Can a probe message be used to determine
2 a signal-to-noise ratio of a channel?

3 A. It could.

4 Q. And is that something that you have done
5 before in your career, use a probe message to
6 determine a signal-to-noise ratio?

7 A. Yes.

8 Q. When did you -- when have you done that?

9 A. MoCA.

10 Q. Any other times?

11 A. To specifically determine an SNR?

12 Q. Let's start with that, yes.

13 A. No.

14 Q. What about putting aside determining an
15 SNR, when did you first use probe messages in your
16 education or career?

17 A. MoCA.

18 Q. When did you first learn about probe
19 messages?

20 A. MoCA.

21 Q. So before your work for MoCA -- which,
22 again, that was about 2007, is that right?

1 A. Yes, sir.

2 Q. -- you had not heard of probe messages?

3 A. Not that term.

4 Q. Had you heard about the concept under a
5 different term?

6 A. I guess my hesitation is in packet
7 systems there is a preamble which is a known waveform
8 that's used at the receiver to determine various
9 characteristics for reception, so in that context I
10 know it used fixed waveforms, but I don't term those
11 probe messages.

12 Q. Okay.

13 And those packets with preambles were
14 used in the 802.11 communications that you were
15 working with at Intersil?

16 A. Yes.

17 Q. Before your time at Intersil, when did
18 you first become aware of packets with preambles that
19 had a known characteristic in them similar to what we
20 were just discussing?

21 A. Master's work.

22 Q. Okay.

1 And when you say your Master's work, was
2 that in your coursework or the work that you were
3 doing with Adtran at that time?

4 A. The dissertation was on packetized
5 networks or packet radio using what you might term
6 CDMA direct sequence spectrum with preambles and
7 payloads.

8 Q. Okay.

9 And in that dissertation the packets that
10 were discussed in it included preambles that had fixed
11 waveforms -- strike that.

12 The packets that were discussed in that
13 dissertation had preambles with known waveforms
14 included in the preamble, is that fair?

15 A. Fair.

16 Q. We spoke earlier a little bit about
17 intersymbol interference or ISI. Is that an acronym
18 you are familiar with?

19 A. Yes, sir.

20 Q. I would like to talk a little bit more
21 about it.

22 What exactly is intersymbol interference

1 or ISI?

2 A. It's the appearance of signal content at
3 a time other than the most immediate. Intersymbol
4 means it occurs inside a symbol.

5 Q. In layman's term is it fair to say it's
6 almost like crosstalk, you are hearing something that
7 shouldn't be heard at a certain time that's distorting
8 the message you are trying to hear?

9 A. You could consider an echo, just like a
10 verbal echo.

11 Q. Okay.

12 And, I believe -- I don't want to
13 misstate your testimony, so let me know if I am wrong
14 on this -- I believe you had testified that a
15 reflection might cause intersymbol interference,
16 right?

17 A. (Nodding.)

18 Q. And I hate to repeat it if I asked this
19 before, I don't remember, could something other than a
20 reflection cause intersymbol interference?

21 A. I guess I want to say hypothetically a
22 bad transfer transmitted two images of the same signal

1 with delays.

2 Q. Is that something you have ever
3 encountered in practice?

4 A. No.

5 Q. Fair to say that in your career the only
6 time you have observed intersymbol interference is
7 when it is caused from a reflection?

8 A. Fair.

9 MR. BALLANCO: I think we are just shy of
10 an hour, I think this would be a good time for a
11 break, if that works for you all.

12 THE WITNESS: Yes, thank you.

13 MS. REPORTER: We are off at 10:25.

14 (Recess taken.)

15 MS. REPORTER: Back on the record at
16 10:38.

17 BY MR. BALLANCO:

18 Q. Welcome back, Mr. Garrett.

19 I wanted to ask you about multicarrier
20 modulation. Is that a concept you are familiar with?

21 A. Yes, sir.

22 Q. And what is multicarrier modulation?

1 A. The use of more than one carrier in
2 parallel to transmit information.

3 Q. When did you first encounter multicarrier
4 modulation?

5 A. Education at Clemson.

6 Q. And in what context was multicarrier
7 modulation taught in your coursework at Clemson?

8 A. I remember it being in a Proakis,
9 P-R-O-A-K-I-S book, I believe is correct.

10 Q. Apologies for my ignorance, I don't know
11 what Proakis is. Would you --

12 A. The author, the author of a textbook,
13 yes.

14 Q. And is Proakis a --

15 A. It was a large general document, I mean,
16 general textbook for communication theory concepts and
17 had one chapter, I believe, that was on multicarrier.
18 That would have been my first introduction to it. I
19 think that's correct.

20 Q. I am sorry to cut you off, I didn't mean
21 to.

22 A. That's okay.

1 Q. Fair to say then that in the late '90s
2 multicarrier modulation was a well-known concept in
3 the communications field?

4 A. Fair.

5 Q. Having said that, do you know when
6 communication systems started using multicarrier
7 modulation?

8 A. I do not.

9 Q. Ballpark?

10 A. My reference point would be Wi-Fi when it
11 transitioned to multicarrier, maybe 2000-ish.

12 Q. So Wi-Fi -- we touched on this before,
13 Wi-Fi 802.11 can be single carrier or multicarrier, is
14 that right?

15 A. Yes, sir.

16 Q. Beyond Wi-Fi, what other types of
17 communication systems use multicarrier modulation?

18 A. DSL.

19 Q. DSL is something that Adtran was working
20 on when you worked there, although I understand you
21 weren't specifically working on DSL, right?

22 A. Fair.

1 Q. Do you know, however, if the DSL systems
2 that Adtran was working on at that time were using
3 multicarrier modulation?

4 A. In reference to the HDSL I couldn't speak
5 to what the technology is.

6 Q. Okay.

7 Beyond Wi-Fi 802.11 and DSL, what other
8 communication systems use multicarrier modulation?

9 A. Cable modems.

10 Q. Any others?

11 A. Cellular networks.

12 Q. When you say cellular networks, is there
13 a particular cell standard that first adopted
14 multicarrier modulation that you are aware of?

15 A. I hate to say I can't name when it
16 transitioned.

17 Q. By the time that 3G was implemented,
18 would that have --

19 A. 3G is what came to mind.

20 Q. So at least as --

21 A. The synapses aren't connecting there.

22 Q. Understand.

1 And I keep talking over you, I will
2 really try to stop that.

3 So it's fair to say that at least as of
4 the time that the 3G cell standard was implemented,
5 multicarrier modulation was performed in cell networks
6 that used 3G?

7 A. I think that's fair.

8 Q. I knew this at one point, but do you
9 recall when 3G first was implemented in the U.S.?

10 A. I do not.

11 Q. You spoke about cable modems using
12 multicarrier modulation, is that right?

13 A. Yes, sir.

14 Q. Do you recall when cable modems would
15 have began using multicarrier modulation?

16 A. I do not.

17 Q. My recollection on personal experience is
18 I first got a cable modem in the late '90s. Does that
19 align with your understanding of when cable modems
20 became available?

21 A. Yes.

22 Q. Would a cable modem in the late '90s have

1 used multicarrier modulation?

2 A. I don't know.

3 Q. So we have discussed multicarrier
4 modulation in the context of both wired and wireless
5 networks, right?

6 A. Yes.

7 Q. So that concept of multicarrier
8 modulation can be used in either a wired or a wireless
9 communication system?

10 A. Yes, sir.

11 Q. Let's talk about the wired systems.
12 Is multicarrier modulation technology a
13 concept that can be used in a coaxial system?

14 A. Yes, sir.

15 Q. Is multicarrier modulation a concept that
16 can be implemented in a twisted pair system?

17 A. Yes, sir.

18 Q. Are you familiar with the acronym in the
19 context of communication systems DMT?

20 A. Discrete multitone?

21 Q. That was my understanding of it as well,
22 yes.

1 A. Okay.

2 Q. What is DMT or discrete multitone?

3 A. I believe it's the use of orthogonal
4 frequencies for transmission of communication signals
5 between devices.

6 Q. Orthogonal frequencies are used also in
7 OFDM, is that correct?

8 A. Yes, sir.

9 Q. What is the difference between DMT and
10 OFDM?

11 A. OFDM utilizes FFT and IFFT on continuous
12 samples to separate frequencies at a receiver and at a
13 transmitter in order to achieve multiple frequencies
14 in a transmission. So I believe DMT doesn't require
15 that, it could just be two frequencies that are spaced
16 apart sufficiently so that they don't interfere.

17 Q. Is it accurate then to say that DMT does
18 not require IFFT or FFT?

19 A. I think that's correct.

20 Q. Okay.

21 Could OFDM then be considered a subset of
22 DMT, a flavor of DMT, am I understanding that

1 correctly?

2 A. Yes.

3 Q. Specifically OFDM is a flavor of DMT that
4 does require FFT and IFFT?

5 A. Agreed.

6 Q. What is FFT?

7 A. Fast Fourier transform. It is a specific
8 implementation of a Fourier transform on continuous
9 samples.

10 Q. And how about IFFT?

11 A. The inverse of a fast Fourier transform.

12 Q. When did you first encounter DMT?

13 A. I would say it was the Wi-Fi work.

14 Q. And --

15 A. 802.11G.

16 Q. Okay.

17 And that would have been your time at
18 Intersil, is that right?

19 A. Yes, sir.

20 Q. When you first became familiar with DMT
21 during that work, was it a new concept or something
22 that had been around but you were just learning about

1 it?

2 A. Something that had been around, but I was
3 just learning about it.

4 Q. And do you know when it first came about
5 as a concept for communication systems?

6 A. I don't know when it first came about.

7 Q. But suffice it to say 2000 it was
8 something that had been around?

9 A. Yes.

10 Q. What types of communication systems
11 utilized DMT?

12 A. This would be the same list we went
13 through a moment ago?

14 Q. I believe before we were talking about
15 multicarrier modulation. Is it the same list of
16 communication technologies?

17 A. Yes.

18 Q. So fair to say that DSL, cable modems,
19 and cellular networks and Wi-Fi all utilize DMT?

20 A. Yes.

21 Q. Also fair to say that coaxial wired
22 systems could utilize DMT?

1 A. Yes.

2 Q. And is the same true with twisted pair?

3 A. Yes.

4 Q. You are familiar with bitloading, right?

5 A. In the context of?

6 Q. In the context of communication systems
7 generally.

8 A. Yes.

9 Q. What is bitloading?

10 A. Sorry, searching for the right starting
11 word.

12 Q. Take your time.

13 A. Using different constellations of QAM
14 signals on different tones or subcarriers of a
15 DMT/OFDM system.

16 Q. What is the purpose of bitloading?

17 MR. HALVERSON: Objection, form.

18 THE WITNESS: I guess there could be a
19 few purposes. The most obvious is to optimize the
20 information that could be transmitted on the channel.

21 BY MR. BALLANCO:

22 Q. Beyond that, the most obvious purpose,

1 what other purposes are there for bitloading on a
2 communication system?

3 A. To limit signal content so that lower
4 power levels could be used, which is a different
5 measure of efficiency to avoid interference.

6 Q. Any other purposes?

7 A. To allow for simultaneous transmissions.

8 Q. Any others that come to mind?

9 A. To adapt to the capabilities of
10 acquisition systems.

11 Q. Any others?

12 A. I will stop there.

13 Q. Just to make sure I have it all, the
14 purpose of bitloading in a communication system is to
15 optimize information that can be transmitted on a
16 channel, to limit signal content so that lower power
17 levels can be used, to allow for simultaneous
18 transmissions, and to adapt to the capabilities of
19 acquisition systems, right?

20 A. Yes, sir.

21 Q. And when did you first encounter
22 bitloading as a concept of communication systems?

1 A. My first encounter would be MoCA.

2 Q. And I know we talked about this, but your
3 MoCA work began in the 2007 timeframe, right?

4 A. Yes, sir.

5 Q. And at that point was bitloading a new
6 concept or something that had been around for some
7 time and you were just learning about it?

8 A. Something that had been around and I was
9 learning of it.

10 Q. Do you know when bitloading actually
11 became a concept that was implemented in communication
12 systems?

13 A. I don't.

14 I mean, I think about my education, we
15 talked about Shannon capacity and Shannon talked about
16 water-filling, which is tantamount to bitloading, but
17 when it was applied to a commercialized communication
18 system it would be DSL, I would guess.

19 Q. DSL is a wired system, fair?

20 A. Fair.

21 Q. So bitloading can be used in wired
22 systems, right?

1 A. Yes.

2 Q. Can it be used in wireless communication
3 systems?

4 A. Yes.

5 Q. Is bitloading used in any wireless
6 communication systems that you are aware of?

7 A. These would be -- I will say no.
8 I immediately think of line-of-sight
9 systems, but I expect those to be customized, I just
10 don't have experience.

11 Q. Does bit -- strike that.

12 I apologize if I am retreading something,
13 but I don't think we spoke about this, so let me ask,
14 does bitloading address signal attenuation?

15 A. Can you define signal attenuation?

16 Q. Well, how about I ask this.

17 Does bitloading address or compensate for
18 reflections?

19 A. It may very well, yes. It may, yes.

20 Q. And in your experience working with
21 bitloading in MoCA systems, did it address reflections
22 in those MoCA systems?

1 A. A consequence of a reflection, yes.

2 Q. And when we are talking about a
3 consequence of a reflection, are we talking about ISI
4 again?

5 A. I guess my hesitation is that you need at
6 least one signal to have a communication channel, two
7 signals of different delay cause intersymbol
8 interference. Am I answering your question?

9 Q. I think I understand, but I would maybe
10 like to clarify.

11 So in MoCA systems that have multiple
12 signals, does bitloading ameliorate the issue of
13 intersymbol interference?

14 A. It addresses the consequence of frequency
15 amplitude variability.

16 Q. I am not sure that I understand that
17 concept.

18 Could you explain to me what frequency
19 amplitude variability is?

20 A. The varying constructive and destructive
21 interference in the frequency domain caused by having
22 a signal with two different delays.

1 Q. And so using bitloading in a MoCA system
2 having two signals can address the consequence of
3 having frequency amplitude variability, fair?

4 A. Yes, sir.

5 Q. And what relationship does that have to
6 intersymbol interference?

7 A. It is the multiple images that cause the
8 frequency domain variability or one of the causes of
9 frequency domain variability is the multiple images of
10 a signal.

11 Q. Going back to where I was starting with
12 this, does the destructive interference attenuate a
13 signal in the frequency domain?

14 A. Yes.

15 Q. Mr. Garrett, I would like you to go back
16 to your CV that we were looking at before if we can.

17 A. Yes, sir.

18 Q. And specifically toward the end of your
19 CV before your education you have listed several U.S.
20 patents, do you see that?

21 A. Yes, sir.

22 Q. Could you explain to me what the patents

1 you have listed in your CV are?

2 MR. HALVERSON: Objection, form.

3 THE WITNESS: All of them?

4 BY MR. BALLANCO:

5 Q. Generally what patents did you include in
6 your CV?

7 A. These, excluding the one at ComplexIQ,
8 these are all patents that I participated in and were
9 approved either at Intersil, Conexant, or Cisco.

10 Q. Are these all of the patents that you
11 have been named as an inventor onto the best of your
12 knowledge?

13 A. To the best of my knowledge.

14 Q. Okay.

15 A. If you know another, let me know.

16 Q. Before each group of patents you have
17 listed an organization. For example, before the
18 patent numbered 6,724,834 it says Conexant, right?

19 A. Yes, sir.

20 Q. What does the organization heading ahead
21 of each patent grouping represent?

22 A. It is intended to represent the work

1 lineage that originated that patent.

2 Q. And is it fair to say that the entities
3 you have listed before each grouping of patent was the
4 assignee of the patent that you were named as an
5 inventor on?

6 A. Fair to say.

7 Q. Okay.

8 A. To my knowledge.

9 Q. I know it probably differed between
10 organization, and if it did then maybe we can go
11 organization by organization. But generally when you
12 were applying for these patents, explain that process
13 to me how it came about.

14 A. It typically began with the work of
15 designing a product, trying to solve a problem for a
16 standard specification. Then in that process the
17 staff engineers would decide if something seemed
18 worthy of a patent application, then we would start
19 the application and engage corporate lawyers and go
20 through the process of drafting a patent or
21 provisional patent, depending on the case.

22 Q. Okay.

1 And in that patent drafting patent
2 application, rather drafting process, what was your
3 involvement typically like?

4 A. I was sometimes the lead from the
5 engineering team and worked on the document. For the
6 application I was sometimes just someone involved in
7 the process, part of the invention team, but not part
8 of the team actually applying the -- putting together
9 the documents for the work maybe is a better way to
10 say it.

11 Q. In those instances where you weren't
12 involved in putting together the application, would
13 you still review the application before it was
14 submitted?

15 A. To my recollection.

16 Q. As part of this process generally you
17 mentioned working with corporate lawyers on the
18 applications. Did you ever work with outside counsel
19 outside of the organization you worked with on the
20 patent applications?

21 A. I would say in the case of ComplexIQ it
22 was an outside lawyer.

1 Q. What lawyer did you use for the ComplexIQ
2 patent, what law firm?

3 A. I believe Donna Somma. She would shoot
4 me if I don't remember the name.

5 Q. We won't let her know.

6 A. Yes.

7 I believe that is -- She was contracted
8 with ComplexIQ, I don't know. Whether she was the one
9 that actually filed the application, I don't remember,
10 that is my interface.

11 Q. Does she have a law firm you are aware
12 of?

13 A. Not that I am aware of.

14 (Document identified as Exhibit DISH-1030
15 for identification.)

16 BY MR. BALLANCO:

17 Q. I am going to hand a document that didn't
18 make it into the binder that I would like to talk
19 about. I would like to mark this exhibit as
20 DISH-1030. That's the exhibit number.

21 Mr. Garrett, I have handed you an exhibit
22 we will mark as Exhibit DISH-1030, which bears a

1 publication number at the top right of 2012/0287979.

2 Do you see that?

3 A. Yes, sir.

4 Q. Do you recognize this document?

5 A. I do recognize it. I don't immediately
6 remember its content.

7 Q. Would you identify for the record what
8 the document is?

9 A. The document states System and Methods
10 for Determining Bitloading, United States Patent
11 Application Publication, Garrett, et al.

12 Q. And how are you familiar with this
13 publication?

14 A. This would be -- 2012 would be work done
15 at Cisco, along with another member of the team, Tom
16 Matheney.

17 Q. I don't want to put words in your mouth.
18 Is this a patent application that you put together
19 with Mr. Matheney and filed?

20 A. Yes.

21 Q. Did this patent application, which has
22 now been published, ever issue as a patent?

1 MR. HALVERSON: Objection, form.

2 THE WITNESS: I don't think so.

3 BY MR. BALLANCO:

4 Q. This patent application publication is
5 not something you included in your CV, is that fair?

6 A. I did not include previous applications
7 that were not approved as patents.

8 Q. Okay.

9 A. Excluding the one that was pending at the
10 time I drafted this document.

11 Q. And that was -- just so the record is
12 clear, the one that was pending that you did include
13 in your CV at the time you submitted it was the one
14 for ComplexIQ we were just talking about that was
15 handled by Donna Somma?

16 A. Yes, sir.

17 Q. What did this patent application purport
18 to invent?

19 MR. HALVERSON: Objection, form.

20 THE WITNESS: Improvement on bitloading
21 inside of a MoCA system -- well, remove that last
22 statement. I am not sure it's constrained to MoCA.

1 BY MR. BALLANCO:

2 Q. So this patent application, if I
3 understand it, was directed to an improvement on
4 bitloading not necessarily limited to a MoCA system?

5 A. That seems fair.

6 Q. If I could direct you to the background
7 section of this patent application, it's Paragraph 2.

8 A. Yes, sir.

9 Q. I am looking at the second sentence and I
10 will just read it into the record, it says, "For
11 instance, control algorithms can set the number of
12 bits on a given channel based on a signal-to-noise
13 ratio (SNR) determined for each channel." Do you see
14 that?

15 A. Yes, sir.

16 Q. And is that consistent with our
17 discussion of signal-to-noise ratio earlier today?

18 A. I believe that to be the case.

19 Q. If you could, turn to Figure 3 of this
20 patent application. And I realize it might be some
21 time since you looked at this, but looking at Figure 3
22 do you have an understanding of what that figure is

1 meant to represent in this application?

2 MR. HALVERSON: Objection, form.

3 THE WITNESS: I do.

4 BY MR. BALLANCO:

5 Q. And what is that?

6 A. It is a picture of a -- or a figure of a
7 premises with multiple nodes connected via channels.

8 Q. In the figure is it fair to say that
9 Element 102 represents the nodes of that system?

10 A. Yes.

11 Q. Is this figure illustrating a MoCA
12 system?

13 A. I would say that this document says that
14 it's -- MoCA is an example of that type of system.

15 Q. Okay.

16 And why did you testify earlier that you
17 don't believe this is constrained to MoCA? And when I
18 say this, I mean this patent application.

19 A. Because I hadn't reviewed it and reminded
20 myself of what the document is.

21 When you read through the abstract there
22 is no mention of MoCA, and so my first response would

1 be this was while I was working on MoCA that would be
2 the example.

3 Being that's not mentioned in the
4 abstract, I wouldn't have claimed that it was limited
5 to that work experience.

6 Q. Turning back to Figure 3, we talked about
7 Element 102 being nodes in the communication system
8 depicted there.

9 Do you have an understanding of what
10 Element 106 is in that figure?

11 A. Paragraph 20 says that it's a
12 communication medium wired optical or wireless.

13 Q. In Figure 3 the communication system
14 shown could be a wired system or wireless system,
15 right?

16 A. It's the way it reads.

17 Q. And the same bitloading improvement could
18 be implemented in either a wired system or a wireless
19 system, right?

20 A. Correct, inside the premise.

21 Q. I wasn't sure if you were done with your
22 answer.

1 A. My apologies.

2 Q. It's fine, I just didn't want to cut you
3 off.

4 A. No.

5 I merely stated Figure 3 indicates within
6 a facility such as a home or business.

7 Q. You can put that to the side for now.

8 I am going to hand another exhibit out,
9 and I am going to ask that this one be DISH-1031.

10 (Document identified as Exhibit DISH-1031
11 for identification.)

12 BY MR. BALLANCO:

13 Q. I will just let the record reflect that I
14 have handed out an exhibit labeling DISH-1031, it is a
15 patent document bearing the patent number at the top
16 right 9,042,823.

17 Mr. Garrett, please take a moment to
18 review the document and let me know when you have had
19 a chance to look at it.

20 A. Do you wish that I read this?

21 Q. Let me ask you this. Do you recognize
22 this document?

1 A. I do not.

2 Q. If you turn back to your CV under the
3 patents you have listed in the Cisco subheading one of
4 the patents listed is No. 9,042,823, is that right?

5 A. Yes.

6 Q. And fair to say that's the same patent
7 number as is listed on the document we have handed out
8 DISH-1031?

9 A. Yes.

10 Q. Looking at Element 75 of this patent in
11 the top left-hand corner of the document it lists
12 inventors and you are not listed there, is that fair?

13 A. That's fair.

14 Q. And another thing I will note is the
15 title that you included in your CV for the '823 patent
16 is different from the title that's included in
17 DISH-1031, right?

18 A. Yes.

19 Q. So fair to say that the Patent 9,042,823
20 was erroneously included in your CV?

21 A. I am at a loss at the moment. I don't
22 know if I transcribed the wrong number.

1 Q. You would agree you were not connected
2 with the patent that's actually before you in this
3 exhibit, right?

4 A. All I can say is my name is not on this
5 patent.

6 Q. You see also this patent in DISH-1031 was
7 assigned to Nokia, right?

8 A. I see that.

9 Q. Have you worked with Nokia in the past?

10 A. I have not.

11 Q. You can put that document to the side,
12 sir.

13 (Document identified as Exhibit DISH-1032
14 for identification.)

15 BY MR. BALLANCO:

16 Q. I am going to hand another document out
17 and have it labeled as DISH-1032.

18 I will let the record reflect that
19 DISH-1032 is a patent document bearing the patent
20 number at the top right corner of 8,351,368.

21 Mr. Garrett, do you recognize DISH-1032?

22 A. This looks familiar.

1 Q. What is DISH-1032?

2 A. A patent for method of extended rate
3 range communication over a communication network with
4 inventors Malik, Aggarwal, Garrett, Cohen, and
5 Mittelsteadt.

6 Q. Is this a patent you are a named inventor
7 on?

8 A. It is.

9 Q. And do you recall working on this patent
10 application and submitting it for patent?

11 A. At the time of working with Cisco, I
12 thought.

13 Q. If you turn back to your CV the patent
14 number we had looked at a moment ago there of
15 9,042,823, the title you included for that patent
16 actually matches the title of --

17 A. Yes, sir.

18 Q. -- DISH-1032, right?

19 A. Yes.

20 Q. Fair to say that this is the patent
21 number that should have been included in your CV
22 rather than the one that is listed there?

1 A. Yes, sir.

2 Q. You had mentioned earlier that for your
3 patent application some you were more heavily involved
4 in the drafting of the application and some you were
5 more in a review role. Do you recall for this patent
6 which of those roles you took?

7 A. Rahul Malik was the lead in putting this
8 application together.

9 Q. Did you review it before it was filed?

10 A. To my knowledge.

11 Q. Do you see at Element 56 on the cover
12 page of this patent there is a section that says
13 References Cited?

14 A. Yes.

15 Q. Do you have an understanding as an
16 inventor on this patent what that field includes?

17 A. I expected to find a location in
18 background or summary of referenced patents.

19 Q. Let me ask you this question.

20 As an inventor on many patents have you
21 in the past provided to the prosecuting patent
22 attorney references that you were aware of related to

1 the invention that you are filing for?

2 A. I have at times.

3 Q. And is your understanding those
4 references would be included in the references cited
5 portion of the patent?

6 A. However, they may not be the full list.

7 Q. On this patent Field 73 lists an assignee
8 of Entropic Communications, Inc., do you see that?

9 A. I do.

10 Q. And so the work that you did on this
11 patent was then assigned to Entropic, is that fair?

12 A. Clarify then assigned.

13 Q. I am sorry, I didn't hear that.

14 A. Clarify your phrase then assigned.

15 Q. The invention of this patent when the
16 patent issued that patent was assigned to Entropic,
17 fair?

18 A. It transferred from the original?

19 Q. Correct.

20 A. Yes.

21 Q. And did you when you were working on this
22 patent understand that the patent rights would be

1 transferred to Entropic?

2 A. No.

3 Q. Did you come to know after the patent
4 issued that the rights had been transferred to
5 Entropic?

6 A. Today.

7 Q. You are just learning this today?

8 A. Yes, sir.

9 It's not unusual.

10 Q. Again, you did not include this Patent
11 No. 8,351,368 that was assigned to Entropic in your
12 CV, right?

13 A. Fair.

14 Q. In your career have you interacted or
15 worked with Entropic?

16 A. Yes.

17 Q. Could you explain the nature of that
18 work?

19 A. Entropic was the originator of MoCA.
20 They formed the MoCA Alliance, released their
21 documents as the standard, and as a result any work on
22 MoCA was work with Entropic to make interoperable

1 products.

2 Q. So if I am understanding correctly, your
3 interactions with Entropic were largely related to
4 your work with the MoCA standard setting organization?

5 A. I would put it in two buckets. One is
6 the standard itself, the other is product
7 interoperability.

8 Q. Let's talk about product
9 interoperability.

10 What context did you interact with
11 Entropic for product interoperability?

12 A. Various. Most immediate would be
13 scheduled interop events to demonstrate to service
14 providers that devices originated from Entropic and
15 devices originated from Cisco or ComplexIQ could
16 communicate.

17 Q. This was -- I just want to put a
18 timeframe around it, this would have been during your
19 time at Cisco, at ComplexIQ, or both?

20 A. Both.

21 Q. Okay, understood.

22 While you were at ComplexIQ was Entropic

1 a client of yours?

2 A. No.

3 Q. You never received payment from Entropic
4 for any of the work you were performing on product
5 interoperability?

6 A. No.

7 Q. And did you ever receive any payment from
8 Entropic for any of the standards work that you were
9 doing?

10 A. No.

11 Q. What about MaxLinear, is that an
12 organization or company you are familiar with?

13 A. Yes.

14 Q. Who is MaxLinear?

15 A. MaxLinear purchased Entropic and became a
16 developer of MoCA. They didn't do much more than
17 that, but that is how I interfaced them.

18 Q. Did you know of MaxLinear before the
19 purchase of Entropic?

20 A. Word of mouth perhaps. I never worked
21 with them prior to that.

22 Q. After they acquired Entropic you did work

1 with MaxLinear?

2 A. Define with.

3 Q. Was -- let me ask this question.

4 Was MaxLinear a client of yours?

5 A. No.

6 Q. Did you work with MaxLinear on product
7 interoperability?

8 A. Yes.

9 Q. And was that when you were at Cisco, at
10 ComplexIQ, or both?

11 A. I think that would be -- I think that's
12 constrained to when I was at ComplexIQ.

13 Q. Okay.

14 At ComplexIQ did you ever receive money
15 from MaxLinear for any services you provided?

16 A. No.

17 MR. BALLANCO: We have been going about
18 another hour, I think this would be a good time for a
19 break. Agreed?

20 THE WITNESS: Okay.

21 MS. REPORTER: We are off at 11:34.

22 (Lunch recess taken.)

1 A F T E R N O O N S E S S I O N

2 MS. REPORTER: We are back on the record
3 at 12:14.

4 BY MR. BALLANCO:

5 Q. Welcome back, Mr. Garrett.

6 I wanted to ask some questions about your
7 work at Intersil.

8 You had said that work related to 802.11,
9 is that right?

10 A. Yes, sir.

11 Q. Did you use the 802.11 CSMA/CSA protocol
12 in your work there?

13 A. Yes.

14 Q. What is that protocol?

15 A. Carrier sense multiple access, it's a
16 requirement that a device and network first listen
17 before it talks. We use a receiver to determine if
18 anybody else is transmitting, and if not then it is
19 allowed to transmit.

20 Q. What role did you have in the development
21 of that standard?

22 A. In the development of 802.11?

1 Q. Specifically the CSMA/CA protocol.

2 A. I don't know that I had any role in the
3 development of the standard.

4 Q. You were applying that standard to
5 products?

6 A. Yes.

7 Q. Does 802.11 define any control messages
8 as part of the standard?

9 A. Define control messages.

10 Q. Let's talk about the packets we were
11 discussing earlier, and you had mentioned the preamble
12 could include control type information. Do I have
13 that right?

14 A. I don't recall saying that here, but I
15 think that's true.

16 Q. Okay.

17 Then fair to say that the preamble of the
18 802.11 packet may include control information?

19 A. Fair.

20 Q. In that context is it fair to call at
21 least the preamble of the packet a control message as
22 part of the communication network?

1 MR. HALVERSON: Objection, form.

2 THE WITNESS: It is typically called a Fi
3 header.

4 BY MR. BALLANCO:

5 Q. How about this. In 802.11 communications
6 there are packets that include payload information,
7 right, actual data that's being transmitted, is that
8 correct?

9 A. Yes.

10 Q. Are there also packets that don't include
11 payload information but only include control
12 information?

13 A. I am hesitating to answer because I don't
14 know what control information might be. In regards to
15 the physical layer?

16 Q. Yes.

17 Let's at least start there with regard to
18 the physical layer are there packets like the ones I
19 just described.

20 A. Not to my knowledge.

21 Q. Okay.

22 Putting aside control information, are

1 there packets in 802.11 networks that don't include
2 any payload information?

3 A. Define payload.

4 Q. Data that's being transferred as part of
5 communication.

6 A. I don't think so.

7 Q. What about acknowledgment or ACK packets,
8 are those transferred in 802.11 communications?

9 A. Yes.

10 Q. And did those include payload information
11 as I have described it?

12 A. I guess I considered an ACK a payload
13 information; it's not physical layer information, it's
14 MAC layer.

15 Q. But an ACK packet is simply an
16 acknowledgment of receipt of communication, is that
17 right?

18 A. Agreed.

19 Q. It's used -- well, do ACK packets help to
20 control communication between two network points in
21 802.11?

22 MR. HALVERSON: Objection, form.

1 THE WITNESS: ACK packets inform the
2 transmitter of success of a transmission. That's the
3 information that's provided.

4 BY MR. BALLANCO:

5 Q. And in so doing ACK packets ensure that a
6 communication was successful?

7 A. They acknowledge that one was successful.

8 Q. Okay.

9 We spoke about this before, I want to
10 drill into a little more.

11 After you worked at Intersil you had a
12 brief communication from the communication realm, the
13 company you worked at in Alabama, whose name I am
14 forgetting right now, but then you began your work in
15 2007 at it was Cisco first, is that right?

16 A. Conexant.

17 Q. Conexant, sorry.

18 A. In fact, that reminds me, I may have
19 misspoke earlier when we spoke of this
20 Patent 8,351,368, the one where Malik was the lead,
21 that would have been during that time at Conexant.

22 Q. Okay, got it.

1 A. I left Conexant and they subsequently
2 filed this patent. At the time they may have been
3 NXP.

4 Q. Conexant would have been NXP?

5 A. The group that filed this, the MoCA group
6 went up for sale, it was sold outside of Conexant, and
7 the lineage how it gets to Entropic, I don't know the
8 answer.

9 Q. At Conexant you were working with MoCA,
10 right, for the first time?

11 A. Yes, sir.

12 Q. So you went from work in 802.11 wireless
13 systems to work on MoCA wired systems, right?

14 A. Yes, sir.

15 Q. At that time when you joined Conexant,
16 what mediums were being used for in-home networks?

17 A. I believe at this time there was MoCA on
18 coax, twisted pair for HPNA, and power line for
19 unplug.

20 Q. And what is -- strike that.

21 You said HPNA, is that right? Does that
22 stand for home PNA?

1 A. Yes.

2 Q. What exactly is that?

3 A. An attempt to use the phone line for
4 communication inside a house.

5 Q. And did you ever work at all with home
6 PNA?

7 A. I did not.

8 Q. Are you familiar with the concepts that
9 are used in home PNA or not really?

10 A. At the moment I wouldn't claim to have
11 recollection.

12 Q. Having said that, do you happen to know
13 if home PNA networks include splitters?

14 A. Not to my knowledge.

15 I guess back up, define a splitter.

16 Q. You could probably define it better than
17 I will, but I will try.

18 A device used to split a communication
19 medium into multiple mediums inside of a communication
20 network.

21 MR. HALVERSON: Objection, form.

22 THE WITNESS: Your definition I take to

1 be an interconnect between three points.

2 BY MR. BALLANCO:

3 Q. I don't know that it needs to be three
4 points.

5 A. Three being an example.

6 Q. Sure.

7 A. Yes.

8 Q. And so with that understanding of a
9 splitter, that's an interconnect, do you understand
10 splitters being used in home PNA networks?

11 A. With that definition of a splitter I
12 think you are describing what's considered taps and
13 twisted pair, yes.

14 Q. How would you define splitter differently
15 than how I have described it if someone were to just
16 use that term in the context of communication
17 networks?

18 A. Splitter I typically take to be in a
19 different medium, like coax, where there is actually a
20 power divider or a control that defines power division
21 between multiple outputs.

22 Q. And in your definition does a splitter

1 require a power divider?

2 A. Where the power division is determined by
3 the implementation, yes.

4 Q. And is the power divider in a splitter
5 active or passive?

6 A. Passive typically.

7 Q. When you started work on MoCA at Conexant
8 did you receive any additional education to learn
9 about in-home networks?

10 A. Through the community, I guess, no
11 classes.

12 Q. Did you apply any of your knowledge from
13 working on wireless networks and transfer that to your
14 work on in-home networks?

15 A. Yes.

16 Q. What were some of the things that you
17 carried over from the wireless work to your in-home
18 network work?

19 A. My experience was largely in acquisition
20 for packet networks in wireless, so applied that to
21 develop the AGC in MoCA. I also had experience with
22 radio compensation algorithms, I applied that with

1 MoCA.

2 Q. Any other concepts that you carried over?

3 A. As we are just talking concepts, it's the
4 equalizer, tracking for frequency and time,
5 implementation of decoders, I was responsible for the
6 receiver design in both domains, so there is a lot of
7 overlap.

8 Q. You had mentioned radio compensation, I
9 am not sure I know exactly what that is. Would you
10 explain that to me, please?

11 A. When using RF signaling the analog
12 components can cause impairments of the signal. For
13 instance, a zero-IF radio has two legs that run in
14 parallel, the signal is transferred to the baseband
15 domain and you have an INQ signal. If the analog
16 components aren't exactly matched it results in
17 problems inside the receiver and there are ways to
18 compensate for an imbalance between the two. That
19 would be one example.

20 Q. Did you apply -- when you went from
21 working on wireless system to in-home networks did you
22 use your knowledge of noise from wireless systems and

1 apply that to the in-home networks?

2 A. Knowledge of noise, yes.

3 Noise is a broad topic. Do you have a
4 specific?

5 Q. No, just conceptually.

6 A. Additive white Gaussian noise is often an
7 assumption of receiver implementation.

8 Q. What about your knowledge of modulation,
9 is that something that carried over from wireless work
10 to your in-home network work?

11 A. Yes, sir.

12 Q. And specifically multicarrier modulation?

13 A. Yes, sir.

14 Q. What about when you -- strike that.

15 If you would, Mr. Garrett, would you
16 please turn to your declaration, and specifically
17 Paragraph 101.

18 A. 101?

19 Q. 101. Yes, I am sorry, I don't know the
20 page that is on.

21 A. That's okay.

22 Q. Give me a moment. I will find it.

1 I will summarize quickly, because it is a
2 long paragraph.

3 My understanding is that Paragraph 101
4 includes an example, is that right?

5 A. Yes, sir.

6 Q. And would you explain what the purpose of
7 the example included in Paragraph 101 is?

8 A. The purpose of the example is to
9 demonstrate an implication of using multicarrier
10 modulation on an analog system.

11 Q. And there are certain values, numerical
12 values, that you used in this example? You see some
13 of them here like 15 dB gain, do you see that?

14 A. Yes, sir.

15 Q. How did you select the numerical values
16 that you include in this example?

17 A. 0 dBm seemed like a good arbitrary point
18 based on previous experience. It doesn't represent
19 any particular system, I just recall that number.

20 Q. Just so the record is clear, 0 dBm is
21 what you used in this example as the maximum power
22 out?

1 A. Yes.

2 Q. What about the power amplifier value of
3 15 dB gain, how did you determine that that would be
4 the appropriate numerical value to use for this value?

5 A. It seemed a reasonable number based on
6 experience. Numbers between 10 and 20 came to mind
7 and I just chose 15 dB.

8 Q. Okay.

9 Part of this example, I will just read it
10 into the record, it says you need 15 dB gain -- I am
11 sorry, strike that. Part of this paragraph reads that
12 you would need a 1 dB compression point of -16dBm
13 input. Why is that a requirement?

14 A. The goal is to ensure at the output there
15 is no compression of the signal which causes nonlinear
16 effects, and so the input has to be low enough that as
17 a result of the 15 dB gain you don't cause compression
18 at the output.

19 Q. Okay.

20 And then there are in Paragraph 101
21 calculations that go to the peak-to-average power
22 ratio for both single carrier and multicarrier

1 systems. How did you calculate those?

2 A. The peak-to-average power ratio would
3 have been determined by the number of subcarriers in
4 the system. I didn't put a formula down, I just used
5 my knowledge of OFDM systems to say 512 results in
6 about a 16 dB back-off.

7 Q. And you mentioned OFDM. I wanted to ask,
8 is this example specific to OFDM or could it also be
9 applied to DMT more generally?

10 A. I will just say that I wrote this with
11 OFDM in mind.

12 Q. Going back to the power-to-average ratio,
13 how did you calculate the power -- peak-to-average
14 power ratio of 3 dBm for the single carrier QAM
15 system?

16 A. I grabbed it from memory.

17 Q. You also discussed in Paragraph 101 a
18 MoCA with a 512 point FFT. Why was that chosen for
19 the multicarrier system in this example?

20 A. That was my most recent recollection.

21 Q. Did you attempt to run any numbers with a
22 lower FFT in putting together this example?

1 A. I did not.

2 Q. How did you arrive at the -28dBm input
3 operational point?

4 A. Starting with the 16 dBm input point,
5 subtract a 12 dBm back-off.

6 Q. That, again, just came from your memory
7 and experience on the systems?

8 A. Yes.

9 Q. Are the amplifier characteristics and
10 power levels I take it based on real world examples
11 considering that you applied those using memory?

12 A. I believe they are.

13 Q. Could the same example have been
14 developed using different numbers?

15 A. A similar.

16 I don't think the concept is limited to
17 my experience. We could have pulled a formula out of
18 the air and put it down and gone from there.

19 Q. In this example in 101, is it meant to
20 represent typical operating conditions, worst-case
21 scenarios, or something else?

22 A. Typical.

1 Q. If you would, sir, turn to Paragraph 114
2 of your declaration.

3 A. Yes, sir.

4 Q. It's Page 59.

5 I will give you a moment to look at it,
6 but in this paragraph you discuss your understanding
7 of the Isaksson reference discussion of the DAVIC
8 specification, is that right?

9 A. Yes, sir.

10 Q. And it is DAVIC, not DAVIC, is that
11 correct?

12 A. I believe you are correct.

13 Q. We will go with that.

14 In putting together this page of your
15 declaration, Paragraph 114, what review of the DAVIC
16 specification did you perform?

17 A. I don't recall a review of the DAVIC
18 standard.

19 Q. Did you obtain a copy of the DAVIC
20 specification in putting this together?

21 A. No.

22 Q. Why did you not cite the DAVIC

1 specification as part of your analysis here?

2 A. In this paragraph or in that — is that
3 your question?

4 Q. Sure, in this paragraph, yes.

5 A. Oversight.

6 Q. Are there specific portions of the DAVIC
7 specification that you believe support your
8 conclusion?

9 A. At the moment I couldn't state.

10 Q. If you go to that Paragraph 114 about
11 five lines up from the bottom there is a
12 sentence — sorry, six lines up from the bottom there
13 is a sentence that begins, "Further, even in the case
14 of terrestrial distribution of coax," do you see where
15 I am at?

16 A. Yes.

17 Q. And that sentence that I started
18 continues, "The DAVIC standard itself asserts that
19 additional innovation is required on the shared medium
20 of coaxial." Did I read that correctly?

21 A. Yes, sir.

22 Q. How did you know that the DAVIC standard

1 itself asserted as much?

2 A. I don't recall.

3 Q. In that same paragraph -- strike that.

4 In that same sentence I was just reading
5 from there is a term terrestrial distribution of coax.
6 What is terrestrial distribution?

7 A. My meaning of that phrase is another way
8 to term it would be outside the house. It is over
9 land from central office to terminal unit, head end in
10 the case of a cable system.

11 Q. And does DAVIC specification distinguish
12 between the in-home distribution and this terrestrial
13 distribution?

14 A. I don't think that DAVIC refers to
15 in-home distribution.

16 Q. In other words, is it correct to say the
17 DAVIC specification is agnostic as to the distribution
18 type?

19 A. Repeat the question?

20 Q. Is it fair to say that the DAVIC
21 specification is agnostic to the type of distribution
22 that's being used?

1 A. I haven't -- I don't know that I have
2 made an opinion about what DAVIC speaks to.

3 Q. Later in the same sentence that we have
4 been looking at in Paragraph 114 of your declaration
5 there is the clause making VDSL inadmissible in its
6 existing form on coaxial cable, do you see that?

7 A. I do.

8 Q. And what does VDSL in its existing form
9 mean?

10 A. A point-to-point system.

11 Q. Are you familiar with DOCSIS?

12 A. Yes, sir.

13 Q. What is DOCSIS?

14 A. A cable service provider's technology for
15 bringing internet data to the home.

16 Q. If you would, sir, turn to Paragraph 107
17 of your declaration, it would be on Page 55.

18 A. Yes, sir.

19 Q. The first paragraph I will read into the
20 record of Paragraph 107 is, "Amit provides a home
21 network in a half-duplex unsynchronized manner using
22 CSMA protocol."

1 How did you reach the conclusion that
2 Amit provides a network in a half-duplex
3 unsynchronized manner?

4 A. In the next example it says the data link
5 protocol should be the 802.11 MAC layer CSMA/CA.

6 Q. And what about that statement that you
7 just read from Amit demonstrates that it's half-duplex
8 and unsynchronized?

9 A. By half-duplex I understand to mean only
10 one device can communicate at a time, and that's the
11 definition of CSMA, and unsynchronized refers to the
12 fact that there is no scheduler.

13 My experience with MoCA would say there
14 is a scheduler on the network that determines when
15 certain transmissions occur.

16 Q. Is it correct to say then that your
17 understanding of CSMA/CA is that it can't use a
18 scheduler?

19 A. That's correct.

20 Q. Sir, I would like to have you turn to the
21 '518 patent itself, it should be at the very front of
22 this binder, if I am remembering correctly, yes, it is

1 the first tab actually.

2 A. Yes, sir.

3 (Document identified as Exhibit DISH-1001
4 for identification.)

5 BY MR. BALLANCO:

6 Q. This is the '518 patent you have reviewed
7 and this proceeding is all about, right?

8 A. Yes, sir.

9 Q. On the left-hand column of the cover page
10 at the top, Element 75 there is a list of inventors,
11 do you see that?

12 A. Yes, sir.

13 Q. I will read it into the record, Monk,
14 Bernath, Gurantz, El Wardani, and Ron Porat. Did I
15 read that correctly?

16 A. Yes, sir.

17 Q. Even if I might have butchered the
18 pronunciations, do you know any of those individuals?

19 A. I know Anton Monk. I don't believe I
20 know any of the others.

21 Q. And when did you first meet Mr. Monk?

22 A. As part of the MoCA standards process, so

1 when I joined Conexant in 2007.

2 Q. I realize it might be Dr. Monk, I didn't
3 mean to insult him there.

4 A. No worries.

5 Q. Have you kept in contact with Anton Monk
6 since the time you first met him?

7 A. We are connected on LinkedIn, I think I
8 have talked to him once since I have left the
9 industry.

10 Q. When you spoke to him after leaving the
11 industry, what was the context of the conversation?

12 A. Just familial, what are you doing, what
13 do you do now, what does it look like,
14 congratulations, good luck.

15 Q. And were you close collaborators on the
16 MoCA standards board?

17 A. We were familiar with each other. He was
18 -- I guess interactions change over time so when I
19 first started inside MoCA he was at all the standards
20 working group meetings and that is how we built a
21 relationship. After that he was no longer involved
22 there and then involved more in his corporate life and

1 saw each other on occasion and revisited, that was my
2 recollection of the relationship.

3 Q. Were you aware of his patents like the
4 '518 patent at the time you were working with him?

5 A. I was not.

6 Q. When did you first come to know of this
7 '518 patent?

8 A. To my recollection when I was approached
9 by a search agency to be an expert witness and was
10 introduced to this team. We purposely did not search
11 out patents to work.

12 Q. Understood.

13 If you would, can you turn to Column 4 of
14 the '518 patent, specifically the section that is
15 starting around Line 35 of summary of the invention.

16 A. Yes, sir.

17 Q. There is a sentence in the first
18 paragraph under summary of the invention beginning
19 around Line 42, I will just read into the record so we
20 are all on the same page. It says, "Bitloading, along
21 with power loading, adaptive power control, and
22 frequency coordination can be used individually or in

1 combination to implement a network that overcomes the
2 problem of multipath and high attenuation in building
3 cable wiring that would restrict the ability of
4 terminal devices to communicate with each other." Do
5 you see that?

6 A. Yes, sir.

7 Q. So do you understand that sentence as
8 saying that multiple techniques can be used to address
9 signal impairments?

10 A. The multiple techniques being bitloading,
11 power loading, adaptive power control, and frequency
12 coordination?

13 Q. Correct.

14 A. Yes, sir.

15 Q. And is that consistent with your
16 experience in the field that you can use multiple
17 techniques to address signal impairments?

18 A. Yes, sir.

19 Q. Would you turn to Claim 1 of the '518
20 patent?

21 A. Yes, sir.

22 Q. I know it is quite a few lines here, take

1 a second to review if you need, but does any portion
2 of claim 1 of the '518 patent recite in-home?

3 MR. HALVERSON: Objection, form.

4 THE WITNESS: Does it say the word
5 in-home?

6 BY MR. BALLANCO:

7 Q. Let me first ask you that, do you see
8 anywhere where it says in-home?

9 A. No, sir.

10 Q. And then I'd ask you to also have a look
11 at the dependent claim 3, anywhere in the dependent
12 claim 3 that the phrase in-home is cited?

13 A. No, sir.

14 Q. To flip back to claim 1, is there
15 anywhere in claim 1 that you see the phrase local area
16 network recited?

17 A. No, sir.

18 Q. And I would also ask you to look at
19 dependent claim 3 and let me know if local area
20 network is recited anywhere in that claim.

21 A. No, sir.

22 Q. Just one last phrase that we will do this

1 exercise on, the phrase is on-premises, is that phrase
2 recited at all in claim one of the '518 patent?

3 A. No, sir.

4 Q. And I'd ask the same for claim 3, is
5 on-premises recited at all in claim three?

6 A. No, sir.

7 (Document identified as Exhibit DISH-1007
8 for identification.)

9 BY MR. BALLANCO:

10 Q. *I would like to ask about the Kliger
11 reference which unfortunately is not labeled with a
12 name. DISH-1007, if you wouldn't mind turning to
13 that.

14 A. Yes, sir.

15 Q. Do you recognize the Kliger prior art
16 reference that we have been discussing?

17 A. Yes.

18 Q. Would you turn to Figure 6 in Kliger.

19 A. Yes, sir.

20 Q. Looking at Figure 6 of Kliger, do
21 understand what that figure is meant to represent?

22 A. I believe so.

1 Q. What is that?

2 A. That looks like Kliger's definition of a
3 packet.

4 Q. In looking at Element 202 in Figure 6?

5 A. Yes, sir.

6 Q. That is pointing at the preamble, is that
7 right?

8 A. Yes, sir.

9 Q. Is that preamble 202 a control frame in
10 Kliger?

11 A. No, sir.

12 Q. Why not?

13 A. Because it is explicitly called a
14 preamble, which means it is fixed content.

15 Q. Does it include control information?

16 A. No, sir.

17 Q. What do you understand to be the fixed
18 content that's included in preamble 202 of Kliger?

19 A. Periodic preamble and aperiodic preamble
20 210 and 212.

21 Q. Earlier we had discussed fixed frequency
22 information being included in packet preambles. Is

1 this packet illustration in Figure 6 of Kliger
2 consistent with what we spoke about earlier with
3 preambles?

4 A. Can you say that again, I am sorry?

5 Q. I should, it was a terrible question.

6 Preamble 202 in Kliger, Figure 6, would
7 that include the fixed frequency information we spoke
8 about being included in packets earlier today?

9 A. Forgive me, but I think I reject that
10 statement and say this is a time domain sequence. It
11 is fixed in the time domain.

12 Q. If I am understanding correctly, is the
13 distinction we spoke about earlier is the preamble had
14 fixed frequency information, whereas in what we are
15 looking at now, Figure 6, 202, it is fixed time
16 information?

17 A. Yes, sir.

18 MR. BALLANCO: I think I am about done,
19 but if I could maybe have a five-minute break to make
20 sure I didn't miss anything.

21 THE WITNESS: Okay.

22

1 BY MR. BALLANCO:

2 Q. I might have a few other questions, but
3 just about there.

4 MS. REPORTER: We are off at
5 1:00 o'clock.

6 (Recess taken.)

7 MS. REPORTER: We are back on the record
8 at 1:08.

9 BY MR. BALLANCO:

10 Q. Mr. Garrett, just a couple quick
11 questions to close here.

12 What process did you use to put together
13 the declaration that you submitted in this proceeding?

14 A. I reviewed the '518 patent. I believe I
15 reviewed the four references. I wrote an initial
16 draft of the declaration and then we worked together
17 to create what you have.

18 Q. You are tracking the time you are billing
19 on this matter?

20 A. Yes, sir.

21 Q. Do you know how many hours you have
22 billed so far?

1 A. 50 to 75.

2 Q. How many of the 50 to 75 were spent
3 working on the declaration?

4 A. More than half.

5 Q. You are being compensated for your time
6 in this matter?

7 A. I am.

8 Q. What is your hourly rate?

9 A. I was approached via a search firm to
10 join this. The agreement I have with the search firm
11 prevents me from stating an hourly rate.

12 Q. Okay, that's fine.

13 MR. BALLANCO: No further questions, pass
14 the witness.

15 MR. HALVERSON: Just a couple quick ones.

16 EXAMINATION

17 BY MR. HALVERSON:

18 Q. Do you remember talking about the DAVIC
19 standard this morning?

20 A. Yes.

21 Q. Do you recall Dr. Williams citing what or
22 referring to the DAVIC standard in his declaration?

1 A. The only reference to DAVIC that I
2 remember from Williams is referring to the sentence in
3 Isaksson.

4 Q. Can you go back to Paragraph 114 of your
5 declaration, please?

6 A. Okay.

7 Q. You were asked a few questions about the
8 second to last sentence there, the sentence that
9 begins, "further, even in the case," do you see that?

10 A. Yes.

11 Q. Do you remember those questions from
12 earlier this morning?

13 A. I do.

14 Q. Do you know the origin of this sentence?

15 A. I created this sentence.

16 Q. Do you know the basis that you had for
17 that sentence?

18 A. If I remember correctly, I did an
19 internet search for DAVIC as a result of the reference
20 to DAVIC. I don't recall the exact location of this
21 information, but that's how I landed on this
22 statement.

1 Q. Do you remember some questions earlier
2 today about DOCSIS?

3 A. Yes, sir.

4 Q. Do you know which version of DOCSIS first
5 was OFDM compatible?

6 A. I believe it's DOCSIS 3.

7 Q. We spent a little bit of time today
8 talking about your MoCA experience. Do you recall
9 that?

10 A. Yes, sir.

11 Q. What was your role with the MoCA, I say
12 the MoCA because of the A in -- sorry, let me start
13 over. What does MoCA stand for?

14 A. Multimedia over Coax Alliance.

15 Q. So what was your role with MoCA?

16 A. MoCA had several working groups,
17 standards working group. I was a contributor to the
18 standards working group and the chair of the standards
19 working group, a certification working group, which
20 was responsible for interoperability and testing, and
21 I was chair of the certification working group at one
22 time. And then I also participated in board meetings.

1 MR. HALVERSON: I have no further
2 questions.

3 Anything else from Mike?

4 MR. BALLANCO: Nothing here.

5 MS. REPORTER: We are off the record at
6 1:13.

7 I assume signature is reserved?

8 MR. HALVERSON: Sure.

9 MS. REPORTER: I have no rough draft for
10 you.

11 MR. HALVERSON: I would like a rough.

12 MS. REPORTER: Regular delivery.

13 MR. HALVERSON: Regular delivery.

14 MS. REPORTER: Mr. Palace, are you still
15 there, are you ordering the transcript?

16 MR. PALACE: Let me double check with the
17 colleagues, I thought we had instructions already set
18 up.

19 MS. REPORTER: I will have my office
20 contact you.

21 (WHICH WERE ALL OF THE PROCEEDINGS HAD OR
22 TAKEN PLACE IN THE ABOVE-ENTITLED MATTER.)

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Patent Owner.

U. S. Patent No.
7,295,518

Notary Public

22 CSR No. 084-003337 - Expiration Date: May 31, 2025

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CERTIFICATE OF DEPONENT

I hereby certify that I have read the foregoing pages of my deposition testimony in this proceeding, and with the exception of changes and/or corrections, if any, find them to be a true and correct transcription thereof.

Deponent

Date

NOTARY PUBLIC

Subscribed and sworn to before me this _____ day of _____, 20____.

Notary Republic

My Commission Expires: _____

1 INSTRUCTIONS TO WITNESS

2

3 Please read your deposition over carefully
4 and make any necessary corrections. You
5 should state the reason in the appropriate
6 space on the errata sheet for any corrections
7 that are made.

8 After doing so, please sign the errata
9 sheet and date it.

10 You are signing same subject to the changes
11 you have noted on the errata sheet, which
12 will be attached to your deposition.

13 It is imperative that you return the
14 original errata sheet to the deposing
15 attorney within thirty (30) days of
16 receipt of the deposition transcript by
17 you. If you fail to do so, the deposition
18 transcript may be deemed to be accurate
19 and may be used in court.

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ERRATA SHEET			
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