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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

-----)	
)	
CISCO SYSTEMS, INC.,)	
)	
Petitioner,)	
)	
vs.)	Case IPR2016-01744
)	Patent No.
)	7,941,822 B2
)	
CHANBOND LLC,)	
)	
Patent Owner.)	
-----)	

DEPOSITION OF SCOTT M. NETTLES, Ph.D.
New York, New York
June 30, 2017

Reported by: BONNIE PRUSZYNSKI, RMR, RPR, CLR
Job No: 125422

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June 30, 2017
9:00 A.M.

DEPOSITION OF SCOTT M. NETTLES,
Ph.D., held at the offices of Mishcon de Reya New
York, 156 Fifth Avenue of the Americas, New York,
New York, before Bonnie Pruszynski, a Registered
Professional Reporter, Registered Merit Reporter,
Certified Livenote Reporter, and Notary Public of
the State of New York.

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

BAKER BOTTS

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New York, NY 10010

BY: ANDREA PACELLI, Ph.D., ESQ.

1 S. Nettles

2 (Witness sworn.)

3 SCOTT MCBRIDE NETTLES, Ph.D.

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

7 EXAMINATION

8 BY MR. STACY:

9 Q. So, can you state your name for the
10 record?

11 A. Scott McBride Nettles, Ph.D.

12 Q. Dr. Nettles, I believe you
13 submitted an expert declaration in IPR
14 2016-1744?

15 A. I will take your word for it that
16 that's the correct number, but, yes, sir.

17 Q. So, if you look at Exhibit 2002
18 that you have in front of you, do you see
19 that document?

20 A. I do.

21 Q. And you can see that's IPR
22 2016-1744?

23 A. I can.

24 Q. And is this your expert report?

25 A. It appears to be, and I see my

1 S. Nettles

2 signature on the proper page.

3 Q. Any reason to think it's not --

4 A. No.

5 Q. -- your complete expert report?

6 A. I'm welcome to accept your
7 representation, but it looks like it's all
8 here.

9 Q. Just take a second and flip
10 through, make sure you don't see any copy
11 errors and that you are looking at your full
12 report.

13 A. So, this appears, on the basis of a
14 quick visual inspection, to be the full
15 report plus my CV.

16 Q. Okay. And this is the only report
17 you submitted in the 1744 IPR?

18 A. That's correct. Or declaration, I
19 should say.

20 Q. Sorry, yes. My language is bad.
21 This is the only declaration at Exhibit 2002
22 that you submitted in the 1744 IPR?

23 A. Yes, sir, that's correct.

24 Q. And the Exhibit 2002 contains your
25 opinions that you intend for the record to

1 S. Nettles

2 consider in this matter?

3 A. That's correct.

4 Q. And you understand that it's
5 important that all of your opinions be
6 reflected in Exhibit 2002?

7 A. Yes, sir, I do.

8 Q. So, in front of you, you have what
9 was originally marked as Exhibit 1001. That
10 is the '822 patent.

11 A. Yes, sir, I see that.

12 Q. And if you wouldn't mind just
13 flipping through, make sure you have the full
14 document there in front of you.

15 A. It appears to be complete. I don't
16 see any missing pages.

17 Q. And the '822 patent is the patent
18 that you rendered your opinion on in this
19 case?

20 A. Well, it's one of the patents, but
21 it's the one for which -- the issue here is
22 about this patent.

23 Q. Perfect. Thank you for that
24 clarification.

25 So the '822 patent is the subject

1 S. Nettles

2 of the 1744 IPR?

3 A. That's correct.

4 Q. And talking about the '822 patent,
5 you gave an opinion about the term "channel"
6 as the '822 patent uses that term in the
7 claims.

8 A. That's correct.

9 Q. And in your opinion, the term
10 "channel" as used in the '822 claims refers
11 to a frequency channel.

12 A. Well, I think I eventually said the
13 definition should be frequency band. Let's
14 see. Page 29. Right. So, on page 29 of my
15 declaration, just above -- I guess this is
16 paragraph 42. At the very end, it says,
17 "Thus, in my opinion, both 'channel' and 'RF
18 channel' should be construed as frequency
19 band."

20 Q. And it's your opinion as expressed
21 in your report that "frequency band" is the
22 same as "frequency channel"?

23 A. Well, again, referencing what I
24 said on page 29, yeah. So, "both 'channel'
25 and 'RF channel' should be construed as

1 S. Nettles

2 frequency band," so that's saying that RF
3 channel is equivalent to frequency band in
4 this case. I think that's your question.

5 Q. I point you to page 23 of your
6 expert report, paragraph 36.

7 A. Yes, sir. So, again, I think the
8 place I have been citing is where I am sort
9 of stating my final conclusion, but here what
10 I say is, I talk about channels, RF channels,
11 frequency channels, and then I talk
12 specifically about frequency bands.

13 Q. Looking at the first sentence of
14 paragraph 36, you state, "Each of the
15 embodiments of the '822 patent's invention
16 discloses channels that are RF channels or
17 frequency channels, i.e., frequency bands in
18 a frequency division multiplexing scheme."

19 A. That's correct.

20 Q. And is it -- your opinion as
21 expressed here is that "channel" is the same
22 as "RF channel" as used in the '822 patent
23 claims?

24 A. Yes, sir. "Channel" and "RF
25 channel" are used interchangeably in the

1 S. Nettles

2 '822.

3 Q. And "channel" means frequency
4 channel, according to your paragraph 36;
5 correct?

6 A. Right. I think what I am really
7 saying is that all these things are
8 equivalent. I think my final sort of
9 statement, if I was going to make a chart of
10 what the claim construction was, I would put
11 "frequency band."

12 Q. In paragraph 36, you chose to
13 state, "i.e., frequency bands in a frequency
14 division multiplexing scheme," didn't you?

15 A. Yes, sir.

16 Q. And did you intend that "i.e." to
17 indicate that a channel is the same as
18 frequency bands in a frequency division
19 multiplexing scheme?

20 A. Yes, sir.

21 Q. So, for the claims of the '822
22 patent, when the claims use the word
23 "channel," you opine that "channel" means
24 frequency bands in a frequency division
25 multiplexing scheme?

1 S. Nettles

2 A. Yes, sir.

3 Q. The '822 patent does not use the
4 phrase "frequency channel," does it?

5 A. Not to the best of my recollection,
6 but I haven't memorized the '822, so I --

7 Q. Feel free to -- you have got the
8 '822 there in front of you.

9 A. I won't be able to search the
10 specification in a reasonable amount of time
11 without an electronic version for something
12 like that, unless you want me to literally
13 read the entire specification while we sit
14 here. I am glad to take your representation.
15 I don't remember as I sit here a place where
16 it uses the word "frequency channel."

17 Q. In your expert report, you don't
18 contend that the '822 patent uses the term
19 "frequency channel."

20 A. Not to the best of my recollection,
21 I don't contend that, no.

22 Q. And the '822 patent does not use
23 the term "frequency bands," does it?

24 A. I'm not sure that that's true. It
25 certainly has the notion and idea of

1 S. Nettles
2 frequency bands. I don't remember a specific
3 place where it uses the word "frequency
4 band," but certainly the basic idea of
5 frequency bonds is found throughout the
6 specifications.

7 Q. I understand. My question was more
8 about the content of the '822 patent. It
9 does not use the term "frequency band" that
10 you recall?

11 A. As, to the best of my recollection,
12 that is -- it does not, but again, the idea
13 of frequency bands are used throughout the
14 specification, and I believe that the board's
15 used the word "frequency bands" in the
16 context of patents that have the same
17 specification. So, I don't think the use of
18 the word "frequency band" is surprising or
19 out of context.

20 MR. STACY: I'm going to object as
21 nonresponsive.

22 Q. My question was straightforward,
23 sir. You are not aware of anyplace in the
24 '822 patent that the term "frequency band" is
25 used?

1 S. Nettles

2 A. Again, and my previous answer was
3 completely responsive, because the first
4 thing I said was the following: To the best
5 of my recollection, I don't know that the
6 term "frequency band" appears literally in
7 the specification; however, the idea of
8 frequency band occurs frequently, and I know
9 that the Board used the word -- the term
10 "frequency band" in the context of other
11 patents that have this same specification.

12 MR. STACY: I'm going to again
13 object as nonresponsive.

14 Q. Sir, you understand it's important
15 to answer the questions I ask.

16 A. Yes, sir, I do. And I am answering
17 that question.

18 Q. And you understand that your
19 counsel will be able to ask you questions
20 later if you care to elaborate?

21 A. I do.

22 Q. Thank you.

23 My question was: Do you have any
24 recollection of the term "frequency band"
25 appearing in the '822 patent?

1 S. Nettles

2 A. And my answer is, to the best of my
3 recollection, I don't remember that exact
4 phrase appearing in the specification.
5 However, the idea of frequency bands occurs
6 throughout the patent specification, and it's
7 further my understanding the Board has used
8 the word "frequency band" to describe
9 channels and RF channels with respect to
10 other patents that share a specification with
11 this one.

12 MR. STACY: I'm going to continue
13 to object as nonresponsive, and if we
14 need to, Counselor, you can talk with
15 your client, but those kinds of answers
16 are going to cause me to get the Board on
17 the line.

18 It's a pretty straightforward
19 question. It will be a long day if we
20 have to go through that. So, if we
21 continue to get deliberately
22 nonresponsive time-wasting answers, we
23 are going to call the Board and put the
24 transcript in front of them.

25 MR. PACELLI: I believe the witness

1 S. Nettles
2 is answering the question as asked, but
3 it's your deposition, Counselor.

4 MR. STACY: Like I said, if we go
5 down this path, if that's how he's been
6 coached, then we will get the Board and
7 let the Board look at the answers.

8 THE WITNESS: I -- I am going to
9 disagree with your statement. So, I
10 haven't been coached. I think the answer
11 that I am giving is responsive.

12 I have made it clear that my
13 opinion is that, to the best of my
14 recollection, that literal phrase does
15 not appear, but I also made it clear that
16 my opinion is that the idea does appear,
17 and furthermore, that literal phrase has
18 been used by the Board. I think that is
19 responsive to your question.

20 MR. STACY: There was no question
21 pending. I'm going to object. The
22 witness is now just testifying to no
23 pending question.

24 MR. PACELLI: I think that the
25 witness was rectifying a statement that

1 S. Nettles
2 you made about him having been coached.
3 And my other comment is that it
4 looks like you are trying to have the
5 witness say something about what the
6 document says, whether a term appears or
7 not, and my comment would be that the
8 document speaks for itself, and you can
9 do a word search as well as the witness,
10 probably better, because the witness does
11 not have access to an electronic copy of
12 the document.

13 MR. STACY: Now, Counsel, you are
14 well past the boundaries of defense in
15 the Patent Office. You know the rules.
16 You are now providing the witness with
17 answers, without even making an
18 objection. You are now actively coaching
19 on the record.

20 Please restrict your comments. If
21 you would like to talk with me, we can
22 excuse the witness.

23 MR. PACELLI: I disagree with that.
24 We can move forward.

25 MR. STACY: You are aware of the

1 S. Nettles

2 objection rules in the PTAB, aren't you,
3 sir?

4 MR. PACELLI: Yes, absolutely.

5 MR. STACY: Okay. Then let's stick
6 with those for today, can we? Do you
7 agree with that?

8 MR. PACELLI: Sure.

9 MR. STACY: Thank you.

10 Q. We are going to go back -- I think
11 you have stated that the term "frequency
12 band" does not appear in the text of the '822
13 patent. Did we agree on that?

14 A. What I said was that to the best of
15 my recollection, which isn't perfect, and I
16 requested the ability to search but you
17 wouldn't provide it, that particular term
18 does not literally appear; however, the
19 concept of frequency band does appear, and
20 that literal term has been used by the Board
21 in a context that is applicable.

22 So, I think that term is a
23 reasonable term to choose for the claim
24 construction.

25 Q. What was my question, sir?

1 S. Nettles

2 A. I answered your question.

3 Q. What was my question, sir?

4 A. Your question, as best I remember,
5 it was -- it stated what I had testified to,
6 and it said that incorrectly, and so I stated
7 how I had testified. You said that I
8 testified that it did not appear, and that
9 was not correct.

10 Q. To the best of your recollection,
11 in the '822 patent, the term "frequency band"
12 does not appear in the text. Is that a
13 correct statement?

14 A. That's correct. To the best of my
15 recollection, the literal phrase "frequency
16 band" does not appear in the '822 patent;
17 however, the concept of frequency bands does
18 appear throughout, and furthermore, that
19 literal phrase was used by the Board in this
20 same context with respect to some other
21 proceedings.

22 So, I think it's a reasonable term,
23 even if it doesn't appear in the spec.

24 MR. STACY: Object as
25 nonresponsive.

1 S. Nettles

2 Q. You equate "channel" in
3 paragraph 36 of your expert report with,
4 quote, "frequency bands in a frequency
5 division multiplexing scheme," end quote.
6 Correct?

7 A. On page 23 of my declaration,
8 paragraph 36, I say, "Each of the embodiments
9 of the '822 patent's invention discloses
10 channels that are RF channels or frequency
11 channels, i.e., frequency bands in a
12 frequency division multiplexing scheme."

13 That's what I testified to in my
14 declaration.

15 Q. And where in the '822 patent is the
16 phrase "frequency bands in a frequency
17 division multiplexing scheme" found?

18 A. Again, I don't know where that --
19 actually, I don't think that literal phrase
20 appears in the '822 patent, but it is clearly
21 a description of what the '822 patent does
22 and requires. The '822 patent is all about
23 frequency bands in frequency division
24 multiplexing schemes.

25 Q. I understand that is your opinion.

1 S. Nettles

2 The term or phrase "frequency bands
3 in a frequency division multiplexing scheme"
4 is a phrase that you coined?

5 A. It's a description. It's not
6 coined. It's a technical description of the
7 system.

8 Q. And that phrase does not appear in
9 the '822 patent, as you recall it?

10 A. To the best of my recollection,
11 that phrase does not appear. The idea
12 appears throughout.

13 Q. And it's your opinion that the '822
14 patent uses the term "channel"
15 interchangeably with the term "frequency
16 channel"?

17 A. Well, I think we have just been
18 discussing the fact that at least to the best
19 of my recollection, the term "frequency
20 channel" does not appear, even though
21 certainly the concept does. But I think the
22 interchangeability is primarily between
23 "channel" and "RF channel."

24 Q. So, your opinion is that each and
25 every time the '822 patent uses the word

1 S. Nettles

2 "channel," it's referring to a frequency
3 channel?

4 A. So, again, my opinion really is
5 that when the claim used the word "channel,"
6 it is referring to a frequency band.

7 Q. So, is it your opinion as stated in
8 your report that each and every time the '822
9 patent uses the word "channel," it's
10 referring to a frequency band?

11 A. That's my opinion with respect to
12 the claims. I don't remember if I opined
13 about every use in the spec, but if I did,
14 then I certainly would agree with what I
15 stated here. I would have to go and actually
16 search the spec to determine again. If you
17 could -- if you would like to point me
18 someplace, that might be helpful.

19 Here is what I say. In
20 paragraph 35, I say, "Throughout the entire
21 specification of the '822 patent, and each of
22 the embodiments, the terms 'channel' and 'RF
23 channel' are both used solely and
24 consistently to refer to a frequency band."

25 I don't think that is a

1 S. Nettles
2 representation -- no. I think that is a
3 representation that the uses of "channel"
4 throughout the specification refers to a
5 frequency band.

6 Q. So, looking at your opinion as
7 expressed in paragraph 35 of Exhibit 2002,
8 you opined that each and every use of the
9 word channel in the '822 patent, both
10 specification and claims, refers solely and
11 consistently to a frequency band.

12 A. What I say in paragraph 35 is,
13 "Throughout the entire specification of the
14 '822 patent, and in each of the embodiments,
15 the terms 'channel' and 'RF channel' are both
16 used solely and consistently to refer to a
17 frequency band."

18 Q. And when you use the word "solely,"
19 sir, do you mean exclusively?

20 A. Yes.

21 Q. So, it's your opinion that the
22 entire specification in the '822 patent only
23 uses the term "channel" to refer to a
24 frequency band?

25 A. That's what I say here, yes.

1 S. Nettles

2 Q. And that's still your opinion here
3 today?

4 A. It is.

5 Q. Are you aware of any use in the
6 '822 patent of "channel" that is not solely
7 related to frequency bands?

8 A. I mean, again, I have just
9 reaffirmed what I said in 35, so as I sit
10 here, no, I don't.

11 Q. And would you expect your opinion
12 to change if you looked at the '822 patent
13 sitting in front of you?

14 A. No, sir.

15 Q. So, I want to switch gears a little
16 bit. You have heard of the phrase "RF
17 signal," before being engaged to represent
18 the patent owner; correct?

19 A. RF signal, yes, sir.

20 Q. How far back in your career have
21 you used the term "RF signal"?

22 A. I mean, how long have I been aware
23 of the term "RF signal"?

24 Q. Fair. Roughly.

25 A. Fifty years.

1 S. Nettles

2 Q. So, it's fair to say that "RF
3 signal" is a common term?

4 A. Yes, sir.

5 Q. And what is the common definition
6 of "RF signal"?

7 MR. PACELLI: Objection, calls for
8 a legal conclusion.

9 A. Well, so in the physics of light,
10 there is something called the electromagnetic
11 spectrum, and inside the electromagnetic
12 spectrum, there are various bands that are
13 defined by -- there are various frequency
14 bands, and we label those various frequency
15 bands, roughly speaking, with their use. So,
16 for example, there is the visible band.
17 That's called that because it's visible.

18 A radio frequency signal would be
19 in the radio frequency part of the spectrum.
20 I don't really remember where that starts,
21 but numbers like, you know, hundreds of
22 megahertz are typical of the RF spectrum.
23 It's also a little unclear where it ends,
24 because eventually, it gets short enough that
25 it becomes microwave, and some people might

1 S. Nettles

2 call that the microwave spectrum and some
3 people might call that the RF spectrum.

4 And that is a general -- you know,
5 in the context where does the word "RF
6 signal" come from, it comes from those
7 notions about how the electromagnetic
8 spectrum is divided up.

9 Q. So, based on your spectrum
10 explanation of an RF signal, AM radio is an
11 RF signal?

12 A. Yes, sir.

13 Q. FM radio is an RF signal?

14 A. Yes, sir.

15 Q. What about satellite broadcasts, is
16 that an RF signal?

17 A. Well, that might be one of the
18 places where this question of RF versus
19 microwave comes up, but yes, sir, in general.

20 Q. Cell phone broadcasts would be on
21 an RF signal?

22 A. Potentially. That is a very vague
23 term, "cell phone."

24 Q. Your 4G phone, would that be an RF
25 signal that is providing data over your 4G

1 S. Nettles

2 phone?

3 A. Yes.

4 Q. 3G phone?

5 A. Yes, sir. As those phrases are
6 commonly understood.

7 Q. Understood.

8 And do you -- you understand the
9 term "CDMA"?

10 A. Yes, sir.

11 Q. And CDMA data would be transmitted
12 on an RF signal?

13 A. Not necessarily.

14 Q. It could be?

15 A. Could be.

16 Q. CDMA is a typical cell phone
17 protocol; is that correct?

18 A. It's used in cell phones.

19 Q. Okay. It is a protocol used by
20 certain cell phones?

21 A. Yes, sir.

22 Q. Popularized by Qualcomm?

23 A. I mean, I might argue that it was
24 popularized by European standards bodies, but
25 it's a common cell phone technology, and

1 S. Nettles

2 Qualcomm was certainly involved in the
3 innovations that led to it becoming such.

4 Q. I think, what, European GSM would
5 be the CDMA?

6 A. That's the best I remember.

7 Q. And that GSM would be an RF signal?

8 A. Yes, sir.

9 Q. So, the term "RF signal" doesn't
10 imply a particular slice of the RF spectrum,
11 does it?

12 A. Not unadorned. I mean, again, the
13 RF spectrum has some bounds. It doesn't
14 include light, visible light; right? But
15 within those bounds, I don't think "RF
16 signal" says this is a 100 megahertz signal
17 or this is a 32 gigahertz signal or whatever.

18 Q. TV broadcast is an RF signal?

19 A. Yes, sir.

20 Q. Both analog and digital TV
21 broadcast would be an RF signal?

22 A. Yes, sir.

23 Q. But the term "RF signal" doesn't
24 tell you whether we are looking at the AM
25 piece of the spectrum or the analog TV piece

1 S. Nettles

2 of the spectrum; true?

3 A. Just hearing "RF signal" doesn't
4 tell you what frequency band you are
5 concerned with.

6 Q. Does just the term "RF signal" tell
7 you how data on that signal is modulated?

8 A. No.

9 Q. So, it could be amplitude
10 modulated?

11 A. Yes, sir.

12 Q. Data could be frequency --

13 A. Let's just be clear. It's not
14 clear that -- when we talk about amplitude
15 modulation, now you -- just sort of the
16 natural thing is to think about that as AM
17 radio. That is an analog technology.

18 So, this question about data, the
19 modulation techniques that are used for data
20 are a little more complicated than just
21 analog and frequency, but --

22 Q. Understood.

23 A. -- there are a wide variety of
24 modulation techniques that can be used to
25 transport digital data over an RF signal.

1 S. Nettles

2 Q. Okay, fair enough.

3 But the term "RF signal" doesn't
4 tell you which of those wide variety of
5 modulation techniques would be used.

6 A. No, sir.

7 Q. Do you -- just so I am making sure
8 we have the same language, do you consider
9 TDMA a modulation technique?

10 A. Well, it's not really a modulation
11 technique, but it's a multiple access
12 technique.

13 Q. And the same for CDMA, you consider
14 that an access technique?

15 A. Well, there it's a little -- it's a
16 little more tied to modulation, because it's
17 certainly implying that the modulation is
18 going to somehow be based on code division,
19 so, I think CDMA probably is more closely
20 tied to the modulation.

21 Q. Okay.

22 A. But it still is primarily a
23 multiple access technique.

24 Q. And the phrase "RF signal" doesn't
25 tell you about a particular type of multiple

1 S. Nettles

2 access technique that is being utilized?

3 A. No, sir.

4 Q. Now I'm going to turn to the term
5 "channel." With regard to signals, I mean,
6 when is the first time you remember hearing
7 about the concept of channels?

8 A. Well, I don't know. I guess
9 probably when I was three.

10 Q. For an old TV or radio channels?

11 A. Well, those are channels.

12 Q. And in your professional life as a
13 scientist, you have had opportunity to study
14 channels?

15 A. Yes, sir.

16 Q. "Channels" is a term you have used
17 long before you were engaged in the -- in
18 this IPR proceeding?

19 A. Yes, sir. And it has meanings that
20 go beyond what are in the '822.

21 Q. Well, let's just talk about the
22 general word for a minute. I want to make
23 sure we all have the same vocabulary.

24 Generally, with regard to signals,
25 what is a channel?

1 S. Nettles

2 A. I can't answer that without some
3 context.

4 Q. What kind of context would you need
5 to answer that type of question?

6 A. Well, the easiest context is the
7 '822. That is really what we are considering
8 here.

9 Q. Well, I just -- I'm trying to
10 understand just the broad definition of
11 "channel." If I asked you for a definition
12 of a channel, what would you tell me a
13 channel is?

14 A. But that's why what I -- what I
15 said I can't do without having some context.
16 So, for example, one of the most important
17 places where the idea of channel comes up is
18 in information theory, and in information
19 theory, the idea of a channel, it's one of
20 the basic constructs of information theory.

21 Well, in that -- in information
22 theory, channel is an abstraction. It's a
23 mathematical abstraction. It has nothing to
24 do with radio frequencies or any of those
25 things. It's a mathematical -- I mean, it

1 S. Nettles
2 eventually gets tied to those through
3 practical application, but it's an
4 abstraction of a communication channel.

5 Q. Okay. So, let's talk about, I
6 think, communication channel. What would you
7 call a TV channel? What type of channel is
8 that?

9 A. Well, it's a channel.

10 Q. Okay. And what would the
11 definition of "channel" be with regard to a
12 TV station?

13 A. Well, in that case, a channel, we
14 know that in the specific context of TV, a
15 channel is a frequency band.

16 Q. And are there other types of
17 channels besides frequency bands?

18 A. Well, sure. Again, we just talked
19 about information theory where a channel
20 isn't a frequency band, it's a mathematical
21 abstraction.

22 Q. What other types of channels are
23 there? Frequency band, a mathematical
24 abstraction. What other types of channels?

25 A. Well, I think that TDMA certainly

1 S. Nettles

2 defines time division kinds of channels.

3 I think in the context of CDMA, the
4 code-division multiplexing pieces are usually
5 referred to as subchannels.

6 Q. Any other channels that you are
7 aware of?

8 A. Well, I mean, we could enumerate
9 all the various kinds of radio technologies,
10 and they would all have channels, AM radio,
11 FM radio, various digital radios. Those are
12 all going to have channels associated with
13 them.

14 I'm sure you can think about
15 optical networking in the context of
16 channels.

17 Q. Okay. So, the term "channel"
18 itself encompasses many different concepts?

19 A. Well, in general, it's talking
20 about something that you can use for
21 communication, but, yes, it's a very broad
22 term. That's one of the reasons it's
23 important to look to the spec to understand
24 what is meant.

25 Q. Well, if I say, if I told you that

1 S. Nettles

2 I wanted to ask a -- strike that.

3 So, when the word "channel" is
4 used, it -- you don't understand a particular
5 modulation scheme to be required?

6 A. Well, I mean, just to be clear,
7 even -- even in the context of the '822
8 patent, the word "channel" doesn't have --
9 doesn't imply a particular modulation scheme.

10 Q. Okay. But -- Okay. So separate
11 from the '822 patent, the word "channel" just
12 doesn't imply a required modulation scheme.

13 A. Again, it's -- it's sort of -- it's
14 sort of like, you could certainly add
15 modifiers to the word "channel" which would
16 cause you to start thinking about either
17 modulation schemes or multiple access
18 techniques. I think you are sort of
19 interchanging those two ideas in your
20 questions, but -- but you could -- but
21 "channel" itself doesn't say anything about
22 the specific modulation scheme.

23 Q. And you are familiar with the
24 phrase "code channels"?

25 A. I am.

1 S. Nettles

2 Q. And code channels refers to
3 channels in CDMA?

4 A. Well, again, it kind of depends on
5 the context.

6 Q. What can code channels refer to?

7 A. Well, again, if we look at
8 information theory, it's going to be a
9 channel which is somehow coded.

10 Q. What about with regard to RF
11 signals, what does "code channel" mean?

12 A. I mean, again, it can be -- it can
13 be a channel that is coded in lots of
14 different ways. You could code an RF channel
15 for lots of different purposes.

16 Q. CDMA is one type of coding for a
17 code channel?

18 A. That's correct.

19 Q. So, there are other types of coding
20 schemes that can be used to create a code
21 channel.

22 A. Encryption.

23 Q. Okay.

24 A. Encryption might be a little too
25 powerful to be called a coding scheme. I'm

1 S. Nettles
2 not quite clear about that, but error
3 correction.

4 Q. So, just -- as I have gone through
5 here, the types of channels, we have
6 frequency channels, frequency band channels,
7 and you have got TDMA channels, we have got
8 code channels, you have talked about TV
9 channels, radio channels, and you even
10 mentioned digital radio channels.

11 Can you think of any other
12 modifiers for types of channels?

13 MR. PACELLI: Objection, misstates
14 the testimony.

15 A. I mean, I probably could, but I
16 think I have enumerated all the ones that
17 might be at issue here, as well as a lot of
18 others. Well, let me mention a few others.
19 So, we have been talking a lot about RF.
20 There are also channels that are carried over
21 sound frequencies. So, you can use sound as
22 a transmission medium, and those create
23 channels, and many of the different types of
24 channels we have already been talking about
25 could have instances in that context as well.

1 S. Nettles

2 Q. So, you have RF signals, and you
3 are talking about sounds, sound signals,
4 effectively, two different types of signals?

5 A. Yeah. It's a different
6 transmission medium.

7 Q. So, RF signal is a transmission
8 medium?

9 A. It's one of the ways you could call
10 it, yes. Their radio is the -- radio
11 frequencies are what you are transmitting
12 over. And sound is fundamentally different
13 from the electromagnetic spectrum.

14 Q. But in the sound medium, you could
15 also have channels?

16 A. You could have frequency division
17 channels. You could have time division
18 channels, et cetera. All of those things
19 still apply.

20 Q. And now -- sorry.

21 A. I would like to get some water.

22 MR. STACY: Absolutely. Can we
23 take a short break?

24 (Pause.)

25 BY MR. STACY:

1 S. Nettles

2 Q. So, I would like to take you back
3 to your expert report.

4 A. Declaration.

5 Q. Sorry.

6 A. That's okay.

7 Q. And actually, before we get there,
8 let me --

9 A. We can agree to use the words
10 interchangeably.

11 Q. We may have to. That is an old
12 habit.

13 A. Yeah. Me, too.

14 Q. Let me back up a little bit. What
15 is your understanding of the law of claim
16 construction?

17 A. So, as you know, I'm not an
18 attorney, and so my understanding of the law
19 comes from the representations made to me by
20 Chanbond's attorney, and in particular, my
21 understanding of claim construction starts on
22 page eight of my report.

23 Q. Okay. So, your understanding of
24 claim construction is reflected in paragraphs
25 14 and 15 on page eight of your report?

1 S. Nettles

2 A. For the purposes of this matter,
3 yes, although understand I have been involved
4 in these matters before, so I have a general
5 understanding of claim construction from just
6 experience.

7 Q. How many IPRs have you given
8 testimony in?

9 A. Six or seven. It might be eight.
10 I would have to look at my CV and count. And
11 A couple of CBMs also.

12 Q. Roughly ten or so Patent Office
13 proceedings?

14 A. Something like that.

15 Q. And your understanding in paragraph
16 14 and 15 was conveyed to you by patent
17 owner's attorney?

18 A. Yes.

19 Q. Was there any other claim
20 construction law that you applied when coming
21 up with your constructions other than what is
22 reflected in paragraphs 14 and 15?

23 A. Well, not that I recall, but if
24 there was -- let me just read these
25 paragraphs.

1 S. Nettles

2 No, sir, I don't recall applying
3 any legal standards beyond these, with
4 respect to claim construction, just to be
5 clear.

6 Q. Fair enough.

7 With respect to claim construction,
8 the only principles that you recall applying
9 are reflected in paragraphs 14 and 15 of your
10 expert declaration?

11 A. That's correct.

12 Q. Okay. And to be clear, when you
13 construed the term "channel" in your expert
14 declaration, you applied only the claim
15 construction principles in paragraphs 14 and
16 15?

17 A. Yes, sir.

18 Q. And if you used any other
19 principles, you understand it would have been
20 important to recite those principles in your
21 expert declaration?

22 A. Yes, sir. The reason that I
23 hesitated and I stopped to read those
24 paragraphs was to verify that everything I
25 remembered using was there. If there were

1 S. Nettles

2 any other principles that were applied, they
3 would certainly be stated explicitly in the
4 document. I just wanted to shortcut looking
5 through the document.

6 Q. Thank you.

7 A. But to be clear, if there are some
8 elucidated in the document, that would
9 certainly apply.

10 Q. I understand.

11 Sir, I would like to take you, now
12 that you have got it in front of you there,
13 to Exhibit 1044. It's the Gorsuch patent.

14 A. Okay. I have it.

15 Q. And do you need a moment to look at
16 the Gorsuch patent?

17 A. I have looked at it recently.

18 Q. Okay. So, I would like to take you
19 to figure one of the Gorsuch patent.

20 A. Yes, sir.

21 Q. And when you look at element 1001.

22 A. Okay.

23 Q. I apologize. When you look at
24 element 140.

25 A. Okay.

1 S. Nettles

2 Q. My apologies. Let me start over on
3 that question.

4 Look at element 140, and element
5 140 is labeled "CDMA transceiver."

6 A. That's correct.

7 Q. And element 140 is a wireless
8 transceiver.

9 A. Yes, sir. You can see an antenna
10 there.

11 Q. And the antenna you are referring
12 to is element 150?

13 A. With respect to 140, yes.

14 Q. And CDMA is one of the
15 modulation-type techniques that we discussed
16 earlier?

17 A. No, sir. It's a multiple access
18 technique. It uses a modulation technique,
19 but it's a multiple access technique.

20 Q. CDMA is a multiple access technique
21 by which the base station and transceiver
22 exchange information?

23 A. Yes, sir.

24 Q. And the base station is element
25 172?

1 S. Nettles

2 A. I think it's really element 170.

3 Q. Okay.

4 A. But I would have to read the
5 specification to be sure. It's certainly the
6 blocks that are 170, 172, those pieces there
7 in the picture.

8 Q. And look at figure one again. On
9 the left-hand side of Gorsuch figure one, you
10 will see elements 112-1, 112-2 and 110.

11 A. Yes, sir.

12 Q. Do you see those?

13 So, 112-1 and 112-2 are two
14 separate phones. Do you agree?

15 A. Yes, sir. I don't remember their
16 capabilities exactly. They may be described
17 more in the specification. But they are two
18 separate phones.

19 Q. And then 110 is a computer?

20 A. Yes, sir.

21 Q. And do you agree that phone 112-1,
22 112-2, and computer 110 are all individually
23 addressable?

24 A. So, to be clearer, I think in
25 general, it's not clear that phones are

1 S. Nettles

2 individually addressable. I think a person
3 of ordinary skill would expect that a
4 computer would be individually addressable.
5 In this context, though, given that it's
6 connected to this ISDN modem, I think, I
7 think the phones here are addressable.

8 Q. So 112-1, 112-2, and computer 110
9 are all individually addressable, as you
10 understand Gorsuch?

11 A. That is my understanding.

12 Q. So, I want to go back and make sure
13 we can talk about the same numbers. The base
14 station, would you prefer to refer to it as
15 170 or 172?

16 A. I'm going to have to look at the
17 specification to understand that question.
18 That's kind of what I was kind of trying to
19 pre-fetch.

20 Q. Go ahead and take a moment and
21 determine which element you want to refer to
22 as the base station.

23 A. Well, it's not which one I want to.
24 It's which one is referred to in the spec.
25 The base station equipment, 170, typically

1 S. Nettles

2 consists of, so it's referring to the base
3 station as 170, and then it's referring to
4 the PSTN as 180.

5 Q. Okay. So, the base station 170
6 includes a CDMA transceiver which is labeled
7 as 172.

8 A. That's correct.

9 Q. And a transceiver is capable of
10 both transmitting and receiving RF signals?

11 A. Hence the name "transceiver"; yes,
12 sir.

13 Q. And in this case, the CDMA
14 transceiver would broadcast -- strike that.
15 It's a terrible word.

16 Looking at figure one, the base
17 station 170 would transmit a signal, would
18 transmit an RF signal to device 101?

19 A. I'm sorry, I -- could you restate.

20 Q. Take a minute and look at it and
21 then --

22 A. No, I just -- I was -- I was
23 thinking about something different when you
24 were asking the question. I apologize.

25 Q. The base station 170 would transmit

1 S. Nettles

2 an RF signal to device 101?

3 A. Yes, sir.

4 Q. And that RF signal would include
5 data -- let me leave it at that. The first
6 question would be that. The RF signal being
7 transmitted from the base station to
8 device 101 could include data?

9 A. It could, yes.

10 Q. And it could include data that is
11 addressed to one of the two phones or the
12 computer attached to the modem?

13 A. Yes, sir, that's correct.

14 Q. And the RF signal being transmitted
15 from the base station 170 to the device 101
16 could include multiple code channels?

17 A. I don't think I understand your
18 question. The 101 can only receive data for
19 one code. I don't --

20 Q. Fair enough. Thank you.

21 The data rate of any data
22 transmitted between the base station 170 and
23 device 101 could impact the user experience
24 of the devices 112-1, 112-2, and 112-10.
25 Would you agree?

1 S. Nettles

2 A. No. I don't have any context to
3 have an opinion about that.

4 Q. Let's back up.

5 Does a low data rate have the
6 potential to impact the user experience in a
7 data receiving environment?

8 A. I am not an expert on, on users'
9 experience. I am not a psychologist. I
10 mean, so informally, outside of my expertise,
11 I would agree.

12 Q. So, let me state it in a little
13 more simple way.

14 If I have a low data rate being
15 transmitted between the base station 170 and
16 the device 101, my web page could load slower
17 on device 101?

18 A. Your web page doesn't load on
19 device 101 at all.

20 Q. It doesn't?

21 A. No. It's not a -- this is a --
22 this is a transceiver sort of thing. This
23 isn't -- 101 isn't something that you can --
24 it doesn't have a display.

25 Q. Sorry. Sorry. Let me go back and

1 S. Nettles

2 ask that again. I meant 110.

3 A. Okay.

4 Q. So, the data, the data rate between
5 base station 170 and device 101 could impact
6 the experience of the user on computer 110,
7 for example, loading a web page?

8 A. Well, again, once you start talking
9 about user experience, then you are starting
10 to talk about a different area of expertise,
11 and the people who study user experiences
12 are -- sometimes they are computer
13 scientists, but they are mostly experimental
14 psychologists. I don't have that background.

15 Informally, with respect to the web
16 page loading, yes, if the data rate was lower
17 between 170 and 101, the web page that was
18 loaded on 110 would load slower. How that
19 would affect the user experience I'm not in a
20 position to testify to.

21 Q. In your own -- you use the web, I
22 take it.

23 A. Occasionally.

24 Q. Do you personally prefer web pages
25 that load quickly or slowly?

1 S. Nettles

2 A. There is no question about what I
3 personally prefer. It's just a question
4 about what I can testify to as an expert.

5 Q. I asked, what do you personally
6 prefer?

7 A. I definitely prefer to have a
8 faster loading web page.

9 Q. In your experience in the industry,
10 are companies typically trying to deliver
11 faster data to customers?

12 MR. PACELLI: Objection. Calls for
13 speculation.

14 A. Well, I mean, it's a pretty
15 imprecise statement, so, I certainly know
16 plenty of examples where people are not
17 trying to deliver faster data, and I know
18 plenty of examples where they are. So, it
19 depends.

20 Q. Were you aware of any examples
21 where people are trying to deliver data in a
22 slower way?

23 A. If in the process of delivering the
24 data in a slower way it becomes more reliable
25 or more secure, yes, absolutely.

1 S. Nettles

2 Q. And with regard to the move from --
3 well, are you familiar with the term "2G"?

4 A. Yes, sir.

5 Q. And the term "3G"?

6 A. Yes, sir.

7 Q. And the term "4G"?

8 A. Yes, sir.

9 Q. 3G is a wireless protocol; correct?

10 A. Well, it's a category of wireless
11 protocols.

12 Q. 3G is capable of delivering data to
13 user devices faster than 4G -- sorry, strike
14 that.

15 3G is capable of delivering data to
16 user devices faster than 2G was capable of
17 delivering data?

18 A. Potentially, yes.

19 Q. And 4G is capable of delivering
20 data faster than 3G?

21 A. Again, potentially, yes.

22 Q. And 4G is capable of delivering
23 data faster than 2G?

24 A. Again, potentially, yes.

25 Q. So, again, it's fair to

1 S. Nettles

2 characterize the development of the wireless
3 protocols as delivering a higher data rate
4 over time?

5 A. No, I don't think that is a fair
6 characterization. I think it's correct, but
7 I think it sweeps a lot of the development of
8 those standards and approaches under the rug.
9 So, I think it's overly simplistic, and as a
10 result, I think it's not a fair description.

11 Q. For many consumer-based uses --
12 strike that.

13 I believe you said you had an iPad?

14 A. Not on the record, but, yes, sir.

15 Q. You have an iPad?

16 A. Yes, sir.

17 Q. And it has cellular capabilities?

18 A. It does.

19 Q. And 4G capabilities?

20 A. It supports LTE.

21 Q. So, I want to take you back now to
22 before the filing of the '822 patent in 2000,
23 let's say the middle of 2000.

24 A. Okay.

25 Q. You were -- what were you doing at

1 S. Nettles

2 that point in time?

3 A. I was a professor at the University
4 of Texas at Austin in the electrical and
5 computer engineering department.

6 Q. So, in the 2000 time frame, you
7 would have considered yourself one of skill
8 in the art?

9 A. Yes, sir. More than -- just to be
10 clear, more than one of skill in the art.

11 Q. Fair enough. I didn't mean to --

12 A. I just --

13 Q. I didn't mean to imply anything
14 negative there.

15 A. I understand.

16 Q. So, back in 2000, you would say
17 that you were at least --

18 A. That's correct.

19 Q. -- someone of skill in the art?

20 A. That's correct.

21 Q. And you would agree that in the
22 middle of 2000, it was known, publicly known,
23 to connect multiple individual devices to a
24 wireless transceiver?

25 A. Could you say that again?

1 S. Nettles

2 Q. So, we are taking you back to the
3 middle of 2000. I -- was it publicly known
4 to connect multiple individually addressable
5 devices to a wireless transceiver?

6 A. I mean, you can't really connect
7 individually addressable devices directly to
8 a wireless transceiver.

9 Q. So, what you are referring to is
10 that there has got to be a modem or some
11 other kinds of technology?

12 A. There is additional hardware and
13 software between the transceiver and the
14 addressable device. I mean, transceivers,
15 one of the things that is important to
16 understand is that transceivers are acting at
17 the physical layer, and at the physical
18 layer, there aren't even addresses. So the
19 addresses are inside there someplace, but the
20 transceiver isn't even dealing in addresses.

21 Q. In the 2000 time frame, were you
22 aware of anyone connecting a modem to a
23 wireless transceiver?

24 A. Yes.

25 Q. And tell me about the context that

1 S. Nettles

2 you knew about in 2000.

3 A. Well, just to be clear, I'm taking
4 "modem" to be a little bit broader than what
5 it literally is, because a modem is literally
6 a modulator/demodulator, which is very much
7 like a transceiver. But I am assuming you
8 are thinking about a typical telephone modem
9 of that time frame, so that would actually
10 have the additional required circuitry and
11 stuff to do addressing.

12 I mean, it seems to me that really
13 all of the -- all of the wireless LANs really
14 would match that.

15 Q. So, in the middle of 2000, wireless
16 LANs were capable of receiving an RF signal
17 and then distributing it to individually
18 addressable devices?

19 A. Well, the individually addressable
20 devices would actually contain the
21 functionality of the wireless LAN.

22 Q. Can you say that again?

23 A. Well, I mean, we are talking about
24 a wireless LAN that is talking to a laptop.
25 The laptop is the addressable device, but the

1 S. Nettles
2 functionality that is acting as the
3 transceiver is part of the laptop. It's not,
4 there is a box here and then there is a
5 laptop. They are all together.

6 Q. In the scenario you are talking
7 about, what's transmitting the signal?

8 A. There is a base station.

9 Q. In the scenario you are talking
10 about, it's a wireless base station
11 transmitting to a single device?

12 A. Well, I mean, you are just -- the
13 question you asked was, am I aware of modems
14 connected wirelessly to addressable devices,
15 and that's an example.

16 Q. I'm just trying to understand where
17 your head is on that, so I know what to ask,
18 so I appreciate that.

19 In the 2000 time frame, were you
20 aware of -- well, in the 2000 time frame,
21 were you aware of any of the work Qualcomm
22 was doing with regard to wireless routers?

23 MR. PACELLI: Objection, vague.

24 A. I am not in general aware of work
25 that Qualcomm has done. I mean, the word

1 S. Nettles

2 "wireless router" doesn't really make much
3 sense.

4 Q. Are you familiar with the word
5 "tethering"?

6 A. Yeah.

7 Q. And what does "tethering" mean to
8 you?

9 A. Well, it means attaching something
10 to -- to something else. I mean, I would
11 have to see the exact context that you mean
12 it here.

13 Q. Are you familiar with the concept
14 of wireless tethering?

15 A. I guess I can guess what it is, but
16 I don't know exactly what you are referring
17 to. If you have a document, I can take a
18 look. It's sort of a general term.

19 Q. I understand. I am -- I'm just
20 trying to go off of your report and kind of
21 what was -- what was in there. Give me just
22 a second.

23 MR. STACY: Why don't we take a
24 short break, and I will pull the document
25 up that I want.

1 S. Nettles

2 THE WITNESS: Okay.

3 (Recess from 10:15 to 10:29 p.m.)

4 BY MR. STACY:

5 Q. So, Dr. Nettles, I'd like to take
6 you to your expert report, Exhibit 2002,
7 paragraph 87.

8 A. Okay. I'm there.

9 Q. In paragraph 87, you state, "The
10 base station as disclosed in Tiedemann is
11 only cable of sending voice data to a
12 cellular telephone."

13 Do you see that?

14 A. Yes, sir.

15 Q. And you provide no citation for
16 that sentence, do you?

17 A. Well, I have an extensive
18 discussion of the voice limitations of
19 Tiedemann earlier where I do provide
20 citations, and this is just a reference to my
21 previous testimony.

22 Q. Let's talk about Tiedemann. I
23 believe you have that in front of you.

24 A. I do.

25 Q. Tiedemann never states that it is

1 S. Nettles

2 limited to voice, does it?

3 A. It doesn't give any examples of
4 anything but voice.

5 Q. So, your position is that if it
6 doesn't give any examples of anything but
7 voice, it's therefore limited to voice?

8 A. Well, there is no disclosure here
9 of anything but voice communication. That is
10 my opinion. And that's discussed extensively
11 in my discussion of Tiedemann, which starts
12 on page 30, which is where the citations are
13 about this.

14 Q. And Tiedemann uses CDMA?

15 A. It does.

16 Q. And CDMA is known for transmitting
17 digital data?

18 A. In some contexts, yes, but
19 Tiedemann certainly doesn't disclose it.

20 Q. CDMA transmits digital data?

21 A. Digital voice data. Remember,
22 voice is digital.

23 Q. And what's the difference in CDMA
24 between digital voice data and other types of
25 digital data?

1 S. Nettles

2 A. It's not voice, and the disclosure
3 in Tiedemann is of voice data.

4 Q. And in the CDMA standard, you will
5 agree that the CDMA standard does not
6 distinguish between voice data and other
7 types of data?

8 A. There is no such thing as the CDMA
9 standard.

10 Q. How about the CDMA protocol? Do
11 you understand that term, when I say "CDMA
12 protocol"?

13 A. That's very imprecise.

14 Q. Do you point to any document in
15 your expert report that indicates that CDMA
16 distinguishes between voice data and other
17 types of data?

18 A. I point to Tiedemann, which
19 distinguishes between other kinds of data,
20 because specifically, it makes it clear that
21 the data it's dealing with is voice data.

22 Q. You say it makes it clear.

23 A. Yes.

24 Q. That's your word, "clear." Where
25 in Tiedemann does it make it clear that it's

1 S. Nettles

2 dealing with only voice data?

3 A. So, my discussion of this starts on
4 paragraph 48 of my report. And that's where
5 I have citations. And, for example, when he
6 actually talks about what kind of data he is
7 transmitting, if we look at, I think, column
8 two, line three. That citation seems -- oh,
9 right.

10 So, so for example, in column two,
11 basically starting at the beginning, they
12 talk about, he talks about a variable rate
13 data source, and now he talks about a
14 variable rate vocoder. That's voice data.
15 So, his disclosure of data, the kind of data
16 he is dealing with is voice data.

17 Q. Let me read to you that sentence,
18 sir. I'm looking at Tiedemann. It's
19 Exhibit 1009. And column two, it says, "An
20 example of variable rate data source is a
21 variable rate vocoder, which is detailed in
22 U.S. Patent Number 5,414,796, entitled
23 'Variable Rate Vocoder, assigned to the
24 assignee of the present invention and
25 incorporated herein by reference."

1 S. Nettles

2 Did I read that correctly?

3 A. You did.

4 Q. And Tiedemann specifically says "an
5 example of variable rate data source." Is
6 that the language in that sentence?

7 A. That's right. It's the only
8 example he gives.

9 Q. So, that's the only -- you say that
10 the only example he gives is a vocoder, but
11 there is nothing in Tiedemann that says he is
12 excluding other types of data from his
13 invention, does he?

14 A. Well, I mean, we were looking at
15 the disclosure of Tiedemann. He doesn't
16 disclose other kinds of data. He discloses
17 only voice data. Again, the same discussion
18 applies later.

19 So, you know, my opinions had to do
20 with what the disclosures in Tiedemann are,
21 and the disclosures in Tiedemann are of voice
22 data. It's not at all clear that Tiedemann
23 was designed to do anything but facilitate
24 this variable rate vocoder.

25 Q. How does the -- well, you said that

1 S. Nettles

2 CDMA is not a protocol.

3 A. It's not. It's a class of
4 protocols. It's a way of describing a
5 protocol, but it's not a specific protocol.

6 Q. And in this class of protocols for
7 CDMA, it deals with digital data.

8 A. CDMA in general -- I mean, it
9 doesn't, I don't think, strictly have to be
10 digital data, but the typical examples
11 involve digital data, yes.

12 Q. And Tiedemann is a digital data
13 system?

14 A. Well, I mean, for digital voice
15 data, yes, but it's not at all clear that
16 it's for non-voice data. In fact, it doesn't
17 disclose non-voice data. And I don't think
18 in the field of -- I don't think that
19 Tiedemann uses the phrase that you just used
20 to describe itself.

21 Q. And what phrase are you referring
22 to?

23 A. You called it a digital --

24 THE WITNESS: Could you read back
25 the question maybe?

1 S. Nettles

2 Q. Well, I will just ask it again.

3 A. Well, no. I want -- I want to hear
4 the phrase.

5 Q. Okay.

6 (Record read.)

7 A. And Tiedemann is a digital data
8 system. I don't believe that Tiedemann
9 describes itself that way. Certainly in the
10 field of the invention, it doesn't say it's a
11 digital data system.

12 Q. Well, is it your opinion that
13 Tiedemann is an analog system?

14 A. No. It deals with digital data,
15 but I don't think characterizing it sort of
16 broadly that way matches what it is. I think
17 it's a -- I mean, I think it's -- it's really
18 the receiver for variable rate voice data.
19 That's pretty clear.

20 Q. So, you would agree that Tiedemann
21 discloses a system for handling digital data?

22 A. Digital voice data, yes.

23 Q. And what is the difference between
24 voice data and other types of data?

25 A. Well, for example, digital data is

1 S. Nettles
2 sampled at a certain rate -- voice data,
3 excuse me, is sampled at a certain rate with
4 a certain granularity of resolution, and it's
5 going to be formatted specially. I don't
6 know the details of exactly how the
7 formatting is done, but it's going to be
8 formatted in a way that indicates it's voice
9 data. It's just -- it's distinguishable.

10 Q. You can't point to a single place
11 in Tiedemann where Tiedemann restricts itself
12 to voice data and only voice data?

13 A. There is no place in Tiedemann
14 where it discloses anything except for voice
15 data.

16 Q. Well, let's read the field of the
17 invention. I mean, "the present invention
18 relates to communications. More
19 particularly, the present invention relates
20 to a novel and improved communication system
21 wherein a user transmits data on a primary
22 channel."

23 Did I read that correctly?

24 A. You did.

25 Q. And it says "data" in that, those

1 S. Nettles

2 two sentences; correct?

3 A. It does.

4 Q. It doesn't say voice data.

5 A. The only disclosure it gives of
6 data, especially of variable rate data, which
7 is the data that it cares about, is the voice
8 data. I mean the fact that --

9 Q. It doesn't say "voice data."

10 A. But its only disclosure is the
11 voice data. That is the point.

12 Q. And so, you point to column two,
13 where it says, "An example of variable rate
14 source is a variable rate vocoder," as a
15 place where Tiedemann limits itself to voice
16 data; correct?

17 A. So, I am not claiming, as you seem
18 to want to put words in my mouth, that
19 Tiedemann says in that paragraph this is only
20 voice data. What I am claiming is that
21 that's the only disclosure of data.

22 If you want to understand what kind
23 of data is being received, and you try to
24 understand it, there is a disclosure of
25 variable rate voice data. That is the only

1 S. Nettles

2 thing that is disclosed.

3 If there wasn't an explicit
4 disclosure, then maybe this sort of general
5 use of "data" would be ambiguous, but I think
6 here it's pretty clear the kind of voice data
7 is the kind he's disclosed, and the kind of
8 data is the kind he's disclosed.

9 Q. Let me take you back to 2000.
10 Actually, let's go back to 1996. Were you
11 familiar with Qualcomm's work in 1996?

12 A. Qualcomm is a big company, so I
13 don't have a specific remembrance of in 1996
14 Qualcomm was engineering this product versus
15 that product. So, in that sense, no.

16 I'm generally aware of the sort of
17 things that Qualcomm was doing, and if you
18 want to suggest to me certain things that
19 were happening in 1996, I could tell you
20 whether or not I think that is probably true.
21 But I don't remember exactly what Qualcomm
22 was doing then.

23 Q. And the commercial standard or the
24 name for the commercial standard applying
25 CDMA was GSM?

1 S. Nettles

2 A. There is a commercial standard GSM
3 that used CDMA.

4 Q. And that was 1996 GSM?

5 A. I don't remember the dates on GSM.

6 Q. In 1996, was CDMA used to transmit
7 voice data?

8 A. In 1996, yeah, CDMA was used to
9 transmit voice data.

10 Q. In 1996, was CDMA used to transmit
11 non-voice data?

12 A. There, I am not sure. I don't
13 remember exactly what those old GSM standards
14 allowed.

15 Q. So, I want to take you to figure
16 three.

17 A. Okay.

18 Q. And looking at figure three, is
19 there anything in figure three that prevents
20 the usage of non-digital voice data? Let me
21 strike that.

22 Is there anything in figure three
23 that prohibits the use of non-voice digital
24 data?

25 A. No. There is nothing that

1 S. Nettles

2 restricts it in figure three.

3 Q. Looking at figure three -- strike
4 that.

5 So, looking at Tiedemann figure
6 three of Exhibit 109, the system depicted can
7 process digital voice data?

8 A. That's my understanding of the
9 disclosure in Tiedemann, yes.

10 Q. And looking at the system of figure
11 three, there is nothing that prohibits it
12 from processing other types of digital data.

13 A. Not looking just at figure three,
14 but there is no disclosure of any other kind
15 of data in this system.

16 Q. So, I would like you to take a
17 moment with Tiedemann and point out any
18 section of Tiedemann that you claim prohibits
19 the use of non-voice digital data.

20 A. I don't think I made such a claim.

21 Q. Are you aware of any sections in
22 Tiedemann that prohibit the use of non-voice
23 digital data?

24 A. I think what I have already
25 testified to is that the only disclosure of

1 S. Nettles

2 data of any kind in Tiedemann is of voice
3 data. I don't think I have made any claims
4 that there are any explicit restrictions or
5 even implicit restrictions.

6 Q. Okay. So, let me take those two
7 words and ask some hopefully clean questions
8 for you.

9 Are you claiming that Tiedemann has
10 any explicit restriction on the use of
11 non-voice digital data?

12 A. I mean, I am restricted to what's
13 in my report, and so the only claims I am
14 making about Tiedemann are found in the
15 report, and I don't remember making a claim
16 like that in the declaration. We already had
17 to make it interchangeable. So, I mean, you
18 know, what I have said in the declaration I
19 think stands for itself.

20 Q. Well, I am entitled to ask
21 questions, and you can answer them based on
22 what's in your report, so I don't think it's
23 appropriate to just point me to the report
24 for whatever answers I want.

25 A. Well, I mean, I'm just saying -- I

1 S. Nettles

2 mean, I'm answering your question. I'm
3 saying that I'm limited to what's in the
4 report, and you are asking me a question
5 about point out such a thing, and I don't
6 think I have done that in the report.

7 That's -- so that's sort of my -- that's my
8 answer. I'm not trying to say just go look
9 in the report.

10 Q. Then let me ask that question. In
11 your report -- strike that.

12 In your declaration, do you make
13 any explicit claims that Tiedemann cannot
14 work with non-voice digital data?

15 A. Well, what I do say is that it's
16 clear that this system of Tiedemann is a
17 mobile phone, and there is no indication that
18 it's anything but a conventional mobile phone
19 at the time, where you wouldn't expect it to
20 necessarily be a data sync, a non-voice data
21 sync, but I don't think I have any discussion
22 in the report -- I think that is the
23 discussion, is that it's a cellular phone,
24 but I don't think I had any discussion of
25 where I say he ruled out the possibility, and

1 S. Nettles

2 in particular, he doesn't really explain
3 anything about the data sync.

4 And that would be where you would
5 be most likely to see a further disclosure of
6 non-voice data. So he hasn't bothered to
7 make the disclosure, so I think the
8 disclosure is voice data.

9 Q. So, my question was, anything in
10 Tiedemann -- or strike that.

11 Do you have anything in your report
12 that says Tiedemann cannot work with
13 non-voice digital data?

14 A. No. I think I say that it's clear
15 that Tiedemann is a mobile phone, and mobile
16 phones at that time would not necessarily
17 work with non-voice data. And there is only
18 a disclosure of voice data.

19 Q. So, it's your opinion that in 1996,
20 mobile phones only worked with digital voice
21 data?

22 A. No. I said that in general, a
23 conventional phone, without some other
24 additional sort of disclosure, I think you
25 would expect it to be primarily, primarily

1 S. Nettles

2 voice, and in addition, just to be clear, the
3 only -- the only source of data here is the
4 public telephone switching network, and that
5 is again voice data.

6 Q. So, it's your opinion as an expert
7 in the field that in 1996, the only data that
8 could come from the PTSN is voice data?

9 A. The public switched telephone
10 network switches telephone calls. So yes.

11 Q. The only data available from the
12 PSTN in 1996 was voice data?

13 A. No. I guess -- I guess at the
14 time -- at the time, for example, frame relay
15 services would probably have gone over the
16 PSTN, and that would be non-voice data. But
17 none of those services would be provided to
18 the mobile telephone. I mean, that is not
19 something you can -- frame relay isn't
20 something you can send to a cell phone.

21 So, I think what I say is, the only
22 data -- yeah. So, the data on the PSTN that
23 would be intended for a phone, which is what
24 these are, would be voice data. I mean, if
25 they showed a connection to the internet, it

1 S. Nettles

2 would be different, but --

3 Q. So, if you had the internet
4 connected to the PTSN, it would be different
5 for you?

6 A. Well, if the internet -- if there
7 was some obvious source for non-voice data to
8 get into this system, it would be more of a
9 disclosure of non-, non-voice data. But as
10 it is, this seems to be consistent with the
11 understanding that it's voice data that is
12 disclosed.

13 Q. I want to go back and make sure
14 that we have your official opinion on this.
15 In 1996, it's your opinion that the only
16 phones are -- strike that.

17 In 1996, it's your official opinion
18 that the only mobile phones available
19 received voice data?

20 A. Well, I mean, all mobile phones
21 would receive voice data, yes.

22 Q. I said only voice data.

23 A. No, you didn't say that.

24 Q. Then let me ask that again.

25 It's your opinion as an expert in

1 S. Nettles

2 the field that in 1996, mobile phones
3 received voice data and only voice data?

4 A. No. I'm sure that there were
5 examples -- I mean, I know there were
6 examples of them receiving non-voice data.
7 But I don't think there is any disclosure of
8 that in Tiedemann.

9 Q. So, in 1996, there were mobile
10 phones capable of receiving non-voice data?

11 A. That's the best of my recollection,
12 but I am not positive. But again, there is
13 no disclosure of this, and that certainly
14 would not have been common.

15 Q. And it's your opinion that in 1996,
16 the PTSN would carry voice data and only
17 voice data directed toward mobile phones?

18 A. No. I said it would -- I said it
19 would carry -- the PTSN would carry other
20 kinds of data, and I mentioned frame relay,
21 and there are probably some other examples,
22 but when the PTSN is carrying a telephone
23 call, that is going to be voice data, and
24 here we are talking about the mobile
25 telephone switching office, and we are

1 S. Nettles
2 talking about cell phones. So, I don't
3 think -- I think this disclosure in figure
4 one is of voice data.

5 Q. So, it's your opinion that the
6 disclosure in figure one carries voice data
7 and only voice data?

8 A. I don't think it represents a
9 disclosure that Tiedemann supports non-voice
10 digital data.

11 Q. That wasn't my question.

12 My question to you was: Does
13 figure one disclose that Tiedemann carries
14 voice data and only voice data.

15 A. And again, my testimony is that I
16 don't consider figure one to be a disclosure
17 in Tiedemann of anything beyond voice digital
18 data.

19 Q. Does anything in figure one
20 expressly disclaim Tiedemann's ability to
21 carry non-voice data?

22 A. No.

23 Q. And by the middle of 2000, you
24 would agree that it was well known for cell
25 phones to receive both voice data and

1 S. Nettles

2 non-voice data?

3 A. Yes.

4 Q. And by the middle of 2000, you
5 would agree that it was well known to use
6 CDMA to deliver voice and non-voice data?

7 A. I am just -- it's a long time ago,
8 so it's hard to -- to tease out what was true
9 then. I think that would have been true
10 then, yes.

11 Q. And in your preparation of your
12 report, you reviewed the Qualcomm data
13 connectivity kit document?

14 A. At least briefly, yes. That was
15 one of the documents that was included in the
16 initial petition.

17 Q. And you know that document is dated
18 1999?

19 A. I don't remember the date on that
20 document. There were many documents
21 included.

22 Q. And you know that the Qualcomm data
23 connectivity document referred to the
24 delivery of non-voice data to cellular
25 telephones?

1 S. Nettles

2 A. I don't remember that, but I
3 remember that the Board explicitly
4 disregarded that particular reference and its
5 discussions.

6 MR. STACY: I am going to object as
7 nonresponsive.

8 Q. I asked you a question about the
9 reference, not to elaborate on what the Board
10 has done, so let's focus on the question in
11 front of you.

12 MR. STACY: Would you mind reading
13 it back.

14 (Record read.)

15 A. I don't know that for a fact, no.

16 Q. Thank you.

17 So, in your opinion -- is it your
18 opinion that Tiedemann and Gorsuch -- strike
19 that.

20 Is it your opinion that a person of
21 ordinary skill in the art would not combine
22 Gorsuch with Tiedemann?

23 MR. PACELLI: Objection, vague.

24 A. My opinion is that such a
25 combination is inoperable, and my

1 S. Nettles
2 understanding is that that means that it
3 would not be -- if the result is inoperable,
4 then you can't do that combination. So, I
5 think with that specific comment, I think the
6 answer to your question is yes.

7 Q. And what law of obviousness did you
8 apply to come to your conclusion?

9 A. Well, my understanding is that --
10 so, if we look at paragraph 22: "I am
11 informed that a reference may be said to
12 teach away from the invention when a person
13 of ordinary skill, upon reading the
14 reference, would be discouraged from
15 following the path set out in the reference
16 or would be led in a direction divergent from
17 the path that was taken by the inventor. I
18 understand that references teach away from
19 their combination if when combined they would
20 produce a seemingly inoperative device. I
21 also understand that conflicting teachings of
22 different references do not suggest their
23 combination."

24 Q. And did you apply any other law?

25 A. For this specific issue of

1 S. Nettles

2 inoperability, I think this is pretty clear,
3 I don't remember -- I don't -- I didn't apply
4 any other law, because I didn't need to.

5 MR. STACY: Okay. I have no
6 further questions.

7 MR. PACELLI: If we can take a few
8 minutes so I can organize my notes.

9 (Recess from 11:03 to 11:10 a.m.)

10 MR. PACELLI: All right. Only a
11 few questions.

12 THE WITNESS: Okay.

13 EXAMINATION

14 BY MR. PACELLI:

15 Q. The first one. Counsel for
16 petitioner asked you a question whether the
17 '822 patent uses the term "frequency
18 channel."

19 Do you recall that?

20 A. I do.

21 Q. If you could turn to Exhibit 1001.
22 The '822 patent at column ten, lines eight
23 through ten, if you could please read it to
24 yourself.

25 And if you would like to clarify

1 S. Nettles

2 your testimony about whether or not the '822
3 patent uses the term "frequency channel."

4 A. Yes. So, starting on line -- on
5 column ten, on line eight, of the '822
6 patent, it says, "The RF channel frequency is
7 selected from at least two available
8 frequency channels." So, I had forgotten
9 that specific use of "frequency channels"
10 when I was being asked. So, in fact, that
11 phrase does appear literally in the text of
12 the specification.

13 Q. Counsel for petitioner asked you
14 several questions about the usage of the term
15 "RF signal." Do you recall that?

16 A. Yes, sir.

17 Q. Could you clarify whether or not
18 that testimony was in the context of the
19 claims of the '822 patent?

20 A. No, sir. Those were general
21 questions about what RF signals were, and --
22 and not restricted to the specification, or
23 the claims.

24 Q. Counsel for petitioner asked you
25 several questions about the usage of the word

1 S. Nettles

2 "channel." Do you recall that?

3 A. Yes, sir.

4 Q. Could you clarify whether or not
5 that testimony was in the context of the
6 claims or the specification of the '822
7 patent?

8 A. No, sir, it wasn't. In fact, in
9 answering those questions, I repeatedly
10 mentioned that fact.

11 MR. PACELLI: No further questions.

12 MR. STACY: Give me two minutes and
13 I think we are done.

14 (Pause.)

15 (Continued on next page
16 with witness jurat.)

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S. Nettles

MR. STACY: Pass the witness.

Thank you.

(Time noted: 11:13 a.m.)

oOo

I, SCOTT M. NETTLES, Ph.D. , the witness herein, do hereby certify that the foregoing testimony of the pages of this deposition to be a true and correct transcript, subject to the corrections, if any, shown on the attached page.

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

NOTARY PUBLIC

1 NAME OF CASE:

2 DATE OF DEPOSITION:

3 NAME OF WITNESS:

4 Reason Codes:

5 1. To clarify the record.

6 2. To conform to the facts.

7 3. To correct transcription errors.

8 Page _____ Line _____ Reason _____

9 From _____ to _____

10 Page _____ Line _____ Reason _____

11 From _____ to _____

12 Page _____ Line _____ Reason _____

13 From _____ to _____

14 Page _____ Line _____ Reason _____

15 From _____ to _____

16 Page _____ Line _____ Reason _____

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C E R T I F I C A T E

STATE OF NEW YORK)

: SS.

COUNTY OF NEW YORK)

I, BONNIE PRUSZYNSKI, a Notary
Public with and for the State of New York,
do hereby certify:

That SCOTT M. NETTLES, Ph.D. , the witness
whose deposition is hereinbefore set forth,
was duly sworn by me and that such deposition
is a true record of the testimony given by
the witness.

I further certify that I am not related
to any of the parties to this action by
blood or marriage, and that I am in no way
interested in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto
set my hand this 13th of July, 2017.

Bonnie Pruszynski

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