

Exhibit F

1 IN THE UNITED STATES DISTRICT COURT
2 FOR THE EASTERN DISTRICT OF TEXAS
3 TYLER DIVISION

3 WI-LAN, INC.)
4) DOCKET NO. 6:10cv521
5 -vs-)
6 ALCATEL-LUCENT USA, INC.,) Tyler, Texas
7 ET AL) 9:01 a.m.
8) July 12, 2013

7 *****

8 WI-LAN, INC.)
9) DOCKET NO. 6:13cv252
10 -vs-)
11 HTC CORPORATION,
12 ET AL)
13

14 TRANSCRIPT OF TRIAL
15 MORNING SESSION
16 BEFORE THE HONORABLE LEONARD DAVIS,
17 UNITED STATES CHIEF DISTRICT JUDGE, AND A JURY

18
19
20 COURT REPORTERS: MS. SHEA SLOAN
21 MS. JUDY WERLINGER
22 211 W. Ferguson
Tyler, Texas 75702
shea_sloan@txed.uscourts.gov

23
24 Proceedings taken by Machine Stenotype; transcript was
25 produced by a Computer.

1 participate in 3GPP?

2 ANSWER: No.

3 QUESTION: Airspan never asked if it
4 could be part of 3GPP?

5 ANSWER: Correct.

6 (End of video clip.)

7 MR. APPLEBY: Your Honor, Defendants call
8 Mark Lanning.

9 THE COURT: All right. Has he been
10 sworn, counsel?

11 MR. APPLEBY: I believe he has.

12 THE WITNESS: Yes, sir.

13 THE COURT: Proceed.

14 MR. APPLEBY: Thank you, Your Honor.

15 MARK LANNING, DEFENDANTS' WITNESS, PREVIOUSLY SWORN

16 DIRECT EXAMINATION

17 BY MR. APPLEBY:

18 Q. Good morning, Mr. Lanning.

19 A. Good morning.

20 Q. Could you tell the jury what you do for a
21 living?

22 A. I'm a technical communications consultant, and
23 part of my consulting work is doing things like I'm
24 doing today.

25 Q. And what area do you -- do you do technical

1 consulting in?

2 A. Telecommunications in general. The main
3 thrust of my work is with cellular telephone networks.

4 Q. Where do you live, Mr. Lanning?

5 A. In Greenville, Texas.

6 Q. Can you tell us a little bit about yourself?

7 A. Yes. My wife and I, as I just said, live in
8 Greenville, Texas. Over the past 38 years, our family's
9 grown to three children and ten grandchildren. And
10 we're fortunate enough to have them all live in the
11 Dallas area, close to us.

12 Q. Now, have you been retained in this case to
13 provide an expert opinion?

14 A. Yes, I have.

15 Q. And what were you asked to do?

16 A. I was asked to review the Airspan patents and
17 provide opinions regarding validity of the asserted
18 claims in the Airspan patents.

19 Q. And did you arrive at any opinions after that
20 analysis?

21 A. Yes, I did.

22 Q. So I want to come back to those opinions a
23 bit -- in a few minutes, but for now, I'd like to step
24 back and review your background.

25 Could you tell us when you started your

1 technical career?

2 A. I've -- my technical career, I've designed or
3 developed communication telephone networks and equipment
4 all my adult life. It started in 1974, when I joined
5 the U.S. Army Signal Corps.

6 Q. So what were you doing in the Army that led
7 you to getting into the area of communications?

8 A. Well, after about two years and three
9 different classes that I attended on communications, I
10 felt that was the best way to get my education instead
11 of choosing to go to college. I was the top graduate
12 for all three courses.

13 After that, I was invited to join a small
14 group that was responsible for upgrading the White House
15 communications worldwide, for all of their encrypted
16 voice and data communications.

17 Q. Can you tell us a little bit about -- a little
18 more about that White House assignment?

19 A. Right. We -- I worked in the -- a security --
20 a top secured NSA building, National Security Agency, in
21 Maryland; and we were responsible for providing all the
22 encrypted equipment for voice and data communications
23 for the White House.

24 So the President, when you see -- in those
25 days, he had the red phone in his office in the Oval

1 Office. We were behind the scenes making those
2 connections to Russia and different places when he would
3 have conversations.

4 And one of the common questions I get asked
5 is, did we ever get in the Oval Office?

6 No, we were behind the scenes hooking the
7 wires up, so I've never been in the Oval Office to do
8 that.

9 But we were actually charged with providing
10 secure communications, which means they were all
11 encrypted. If someone were to eavesdrop on those
12 conversations, they wouldn't be able to understand
13 what -- what was being discussed.

14 Q. So how long did you stay in the Army?

15 A. For three years.

16 Q. And then what did you do then?

17 A. Then when I was discharged from the Army, I
18 joined a company called IT&T. Back then, it was a
19 competitor of AT&T, and I was part of the five-person
20 development group to develop a large system that would
21 connect all of the U.S. embassies with all of the
22 different federal offices in the U.S.

23 Then we called that system a message store and
24 forward system. Today, we call those e-mail systems.
25 And it's essentially the same thing, but it was back in

1 1977 that we were working on that.

2 Q. And did you also go to college during that
3 time?

4 A. Yes, I did. It took me a long time to get my
5 degree. I worked full-time and went to college
6 full-time, but I did get a degree.

7 Q. And what was that degree in?

8 A. It was a Bachelor of Science in computer
9 science at SMU in Dallas.

10 Q. So after you received that degree, where did
11 you go then?

12 A. I went to Digital Switch Corporation. You've
13 heard of DSC or Digital Switch Corporation in Plano,
14 Texas.

15 Q. And what were you doing for Digital Switch
16 Corporation?

17 A. That was the beginning of my cellular work on
18 cellular. That was just the beginning of the
19 first-generation cellular networks; and my team, as well
20 as some other teams, were responsible for converting a
21 telephone switch that was made for fixed-line calls --
22 for a fixed-line code and calls and networks, into a
23 cellular switch for Motorola that they could sell all
24 over the world to use for cellular calls and cellular
25 networks.

1 Q. So this was in 1983. Is that what you told
2 us?

3 A. Yes.

4 Q. So that was quite some time ago. What were
5 cellular phones like back then?

6 A. Cellular phones that we started using
7 resembled more of a woman's purse. As a matter of fact,
8 we called them bag phones. You actually had a handle or
9 a strap on them and a phone in the bag with the battery.

10 A big improvement came along when they were
11 reduced to the size of a house brick, if you remember
12 some of those phones for some of you. Half the phone
13 was battery that would burn your hand up when you used
14 it, and the other half was the phone.

15 Q. Now, how long did you stay at Digital Switch
16 Corporation?

17 A. 'Til 198 -- 1987.

18 Q. And where -- what did you do after that?

19 A. Then I was hired by Telecom, a Tandem
20 Telecommunications division, designing more cellular
21 equipment that actually tracks all of us subscribers as
22 we move around the country so the cell phone and
23 cellular networks know how to find us and how to connect
24 calls.

25 When I left Tandem Computers, before I left, I

1 was the Vice President of Development and Systems
2 Engineering and had over a hundred engineers working for
3 me on cellular-type systems.

4 Q. And how long did you stay there?

5 A. Until 1991.

6 Q. And what did you do then?

7 A. I divided -- it was time to start my own
8 consulting business, and I have been consulting for
9 telecommunications providers and equipment manufacturers
10 since 1991.

11 Q. Sir, I'd like to talk a little bit about your
12 experience as a consultant.

13 MR. APPLEBY: If we could put the slides
14 up.

15 Q. (By Mr. Appleby) And what are we looking at
16 here on this slide?

17 A. This slide represents the various companies
18 that I've consulted with.

19 Up at the top left is Motorola. That was my
20 first -- my first gig as a consultant, my first client.
21 And I worked with Motorola in Chicago to build their
22 next generation base station controller.

23 And you've heard a lot about different base
24 site or base station controllers. It was a lot
25 different than the one that Ericsson brought in to show

1 you. They were a lot bigger and had a lot different
2 type technology back then. But it was the state of the
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5 the network architect and program manager to roll out
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8 At that time, it was the largest cellular
9 network in the world, and quite a challenge. That took
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12 A. Nextel was after British Telecom, and Nextel
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15 They had been hit with success, and everyone
16 was buying their phones; but they got to a point where
17 they couldn't add any new phones on to their network and
18 had to quit selling phones and didn't know why, and
19 Nortel didn't know why, one of their suppliers.

20 So I was asked to come in and re-architect
21 their networks so they could keep selling phones and
22 stay in business. And so we re-architected their
23 network and made a lot of changes so that they could
24 grow.

25 Q. And how about Sprint and Nokia? What did you

1 do for them?

2 A. Similar type for Sprint, similar type
3 activities with their CDMA network here in the states.

4 You've heard of the IS-95 a little bit. We'll
5 talk about that a little bit later.

6 Nokia had to deal with their phones and how
7 their phones dialed 911, contacted the 911 and made sure
8 the emergency services worked correctly.

9 Q. So now we've gone through your background.
10 I'd like to spend just a moment to talk about what we're
11 here to do today.

12 I think you mentioned earlier that you had
13 arrived at some opinions regarding patent validity; is
14 that right?

15 A. Yes.

16 Q. So I'd like to talk generally about what that
17 means.

18 And could you briefly explain what the basic
19 rules are for receiving a patent.

20 A. Well, the basic rules are -- is that two
21 different boxes on the slide say you have to have a new
22 idea. Can't be an old idea, and it can't be someone
23 else's idea.

24 And also that idea can't be obvious to those
25 that are working in the industry. And that -- so it has

1 to be unique or novel, is the commonly used word.

2 Q. So focusing on the first aspect that you have
3 to have a new idea, what does that mean? If
4 something -- if there is something that is identical to
5 what's covered in the patent in the past, what would be
6 the ramifications of that?

7 A. Then the patentee or the invent -- the alleged
8 inventor or the proposed inventor wouldn't be eligible
9 for a patent, because someone else came up with the idea
10 before they -- they did.

11 Q. And -- and this other concept of obviousness,
12 what does that mean?

13 A. Well, that means that their invention might
14 not be exactly the same that was proposed earlier, but
15 any modifications would be obvious to those working in
16 the industry, that any -- just an obvious modification
17 could then be the invention.

18 Q. So if the United States Patent Office issues a
19 patent, can that -- can the validity of that patent be
20 challenged?

21 A. Yes, it can. And that was kind of new news to
22 me. I haven't been doing this type of work forever. I
23 just started about 10 years ago. And that was new news
24 to me, that a patent could be reversible; that it could
25 be invalidated, if it was found after the -- after it

1 was issued, that there was indeed prior art that
2 existed, an idea was not indeed new.

3 Q. And the -- and the jury in this case is --
4 would be entitled to find the patent invalid?

5 A. Yes, for the asserted claims. We're just
6 talking about -- it's not the whole patent of each of
7 these patents. We're only discussing the validity of
8 the asserted claims.

9 Q. Now, if a patent is found invalid, does that
10 mean that the United States Patent and Trademark Office
11 made a mistake?

12 A. No. I believe that the Patent and Trademark
13 Office, the Examiner in charge, looks at the information
14 that's provided by the inventors as potential prior art.

15 They do their own searches for patents. But
16 they can only make decisions based on the information
17 they have.

18 And what we're going to discuss today is
19 information the Patent Examiner did not have, to make
20 their decision whether these Airspan patents were valid
21 or not.

22 Q. So let's move to those opinions. You had --
23 you had mentioned earlier that you had arrived at some
24 opinions in this case. What are those opinions?

25 A. My opinions are that the six asserted claims

1 of the overlay patents are invalid for various reasons
2 that I'll discuss later.

3 Q. And you've just focused on the asserted
4 claims. You're not saying that every claim in those
5 patents is invalid, right?

6 A. No. It would just be -- for the overlay
7 patents, there are six claims. Specifically the '326
8 patent is Claim 2, Claim 5, Claim 9; for the '211
9 patent, it would be Claim 2 and Claim 5; for the '819
10 patent, it would be Claim 11.

11 Q. So before we get to the reasons that you
12 believe that those claims are invalid, I'd like to --
13 I'd like to talk about what you looked at to make that
14 determination.

15 Sir, could you -- could you summarize for us
16 the materials that you considered in the course of your
17 work in this case.

18 A. Sure. As you can see on this slide -- I won't
19 go back through it. It's similar to the other experts
20 that testified. Of course, I have to look at the
21 patents, and I look at all the claims. In invalidity, I
22 want to get a good idea about what the whole patent's
23 about.

24 So it's different for the non-infringement or
25 the infringement experts that just look at the asserted

1 claims. I look at all the claims and get a good feel
2 for the patents, read the patents.

3 I also look at the patent file histories to
4 see what the inventors said about the patents, what they
5 were and what they were not in some cases. And then I
6 have applied the Court's claim construction ruling.

7 Now, we've discussed that, and again, I'm not
8 that -- I'm somewhat new to this business. I didn't
9 know what that was at first. That's essentially a 20-
10 to 30-page document that's issued; and it was signed by
11 Judge Davis that said, for these certain terms, this is
12 the way you'll interpret those.

13 So when we see the Court's claim construction
14 ruling, really it's 20 to 30 pages I have in my hand
15 that tells me, for certain terms, how I should interpret
16 those.

17 Now, my work is a little different in the
18 bottom right-hand corner, because I need to look for
19 prior art. And I just don't need to look at the
20 different companies' hardware and software; I'm looking
21 for inventions and different papers.

22 And that could include -- it could include
23 publications other than patents. It can include patents
24 as well.

25 Q. And what does the term prior art mean?

1 A. Prior art means, as the name implies, that it
2 is documentation that is prior to the patents that we're
3 evaluating.

4 Q. So let's talk about what patents specifically
5 that you are going to talk about here today. And I know
6 in the slide there's something that you say -- that
7 you're calling the overlay code or the overlay patents.

8 Could you tell -- describe what we're looking
9 at?

10 A. Yes. These are the three patents in the
11 claims that I described. As you recall, there's a
12 patent missing from this group. It's the '327 patent.
13 These are the patents that I'm referring to as the
14 overlay patents.

15 Q. And why is the '327 patent not included?

16 A. Because I'm not making or providing any
17 invalidity opinions regarding the '327 patent. I'm only
18 providing invalidity opinions for these three patents.

19 Q. Okay. So let's kind of drill down and talk
20 about the basis for your invalidity opinion.

21 First, I'd like to talk about a concept called
22 anticipation. Can you explain what that means?

23 A. Anticipation means that these -- that a prior
24 art document only anticipates if it discloses each and
25 every limitation of the claim. So we have to find in

1 that document that it discloses or that it's inherent
2 with the disclosure.

3 Q. And do you understand that the Defendants bear
4 the burden of proof of clear and convincing evidence for
5 invalidity?

6 A. Yes.

7 Q. And have you applied that in your analysis?

8 A. Yes, I have.

9 Q. So let's take a look at one of the claims, and
10 this is Claim 2 of the '326 patent.

11 And can you tell us and describe for us what
12 we're looking at?

13 A. Okay. I think -- I've been sitting in the
14 courtroom with you all week, and I think you could tell
15 me about these as well as I could, but let me go through
16 them.

17 I've -- I've separated it in three separate
18 groups in three different colors. As you can see by the
19 top group, this is the group that deals with orthogonal
20 code generator and the set of orthogonal codes, as well
21 as the first encoder for encoding those codes.

22 The second that you see in pink or in the
23 orange color is the TDM encoder or the TDM techniques.

24 And then the last group at the bottom in
25 purple has to deal with the overlay codes and the second

1 encoder. And I've color-coded different parts of the
2 prior art as we go along for these three parts to kind
3 of help us follow along.

4 Q. So with -- with other witnesses in this case,
5 we've learned about the claims and the overlay code
6 patents, and they really have these -- these two Airspan
7 solutions.

8 Do you recall that testimony?

9 A. Yes.

10 Q. And one of those solutions was CDMA plus TDM
11 techniques. Is that reflected in Claim 2, as we see
12 here?

13 A. Yes. The CDMA would be the first group, as
14 the letters at the top of the box say, CDMA for the
15 orthogonal codes.

16 I think it would be easiest to try to match
17 them up. If you see orthogonal code, you can think CDMA
18 or vice versa.

19 And the TDM encoder and TDM techniques are in
20 the second box.

21 Q. And then the other solution was CDMA plus
22 overlay codes. Do we also see that here?

23 A. Yes. So for CDMA plus overlay codes, you
24 would take the first box and the third box, and it would
25 be those techniques together.

1 Q. Okay. Now I want to turn to -- kind of set
2 the stage for your invalidity analysis.

3 And you had mentioned that we're looking at
4 something called prior art, which is what is known
5 before the patents; is that right?

6 A. Yes.

7 Q. So I think the first thing I'd like to do is
8 talk about what that date is when the patents first
9 arrived at the scene.

10 When were the Airspan patents first filed?

11 A. This is the earliest date for the Airspan
12 patents on the timeline, which is December 1996.

13 Q. So when we're looking at prior art, we're
14 looking at things that existed prior to December of
15 1996; is that right?

16 A. Yes, that were published and known.

17 Q. And what did you do then?

18 A. I divided -- it was time to start my own
19 consulting business, and I have been consulting for
20 telecommunications providers and equipment manufacturers
21 since 1991.

22 Q. Sir, I'd like to talk a little bit about your
23 experience as a consultant.

24 MR. APPLEBY: If we could put the slides
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10 site or base station controllers. It was a lot
11 different than the one that Ericsson brought in to show
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13 type technology back then. But it was the state of the
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16 the network architect and program manager to roll out
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25 that right?

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3 I've -- I've separated it in three separate
4 groups in three different colors. As you can see by the
5 top group, this is the group that deals with orthogonal
6 code generator and the set of orthogonal codes, as well
7 as the first encoder for encoding those codes.

8 The second that you see in pink or in the
9 orange color is the TDM encoder or the TDM techniques.

10 And then the last group at the bottom in
11 purple has to deal with the overlay codes and the second
12 encoder. And I've color-coded different parts of the
13 prior art as we go along for these three parts to kind
14 of help us follow along.

15 Q. So with -- with other witnesses in this case,
16 we've learned about the claims and the overlay code
17 patents, and they really have these -- these two Airspan
18 solutions.

19 Do you recall that testimony?

20 A. Yes.

21 Q. And one of those solutions was CDMA plus TDM
22 techniques. Is that reflected in Claim 2, as we see
23 here?

24 A. Yes. The CDMA would be the first group, as
25 the letters at the top of the box say, CDMA for the

1 orthogonal codes.

2 I think it would be easiest to try to match
3 them up. If you see orthogonal code, you can think CDMA
4 or vice versa.

5 And the TDM encoder and TDM techniques are in
6 the second box.

7 Q. And then the other solution was CDMA plus
8 overlay codes. Do we also see that here?

9 A. Yes. So for CDMA plus overlay codes, you
10 would take the first box and the third box, and it would
11 be those techniques together.

12 Q. Okay. Now I want to turn to -- kind of set
13 the stage for your invalidity analysis.

14 And you had mentioned that we're looking at
15 something called prior art, which is what is known
16 before the patents; is that right?

17 A. Yes.

18 Q. So I think the first thing I'd like to do is
19 talk about what that date is when the patents first
20 arrived at the scene.

21 When were the Airspan patents first filed?

22 A. This is the earliest date for the Airspan
23 patents on the timeline, which is December 1996.

24 Q. So when we're looking at prior art, we're
25 looking at things that existed prior to December of

1 1996; is that right?

2 A. Yes, that were published and known.

3 Q. Okay. Have you seen that combination that Dr.
4 Wells asserts in the prior art?

5 A. Yes, I have.

6 Q. And where have you seen that?

7 A. One of the references would be in the
8 Tiedemann reference.

9 Q. So let's talk about that. And who is
10 Tiedemann?

11 A. Tiedemann is a Qualcomm employee. And what
12 I've shown here is a picture of Qualcomm and what this
13 picture is, is the co-founders are celebrating their
14 10th anniversary, and this occurred in 1985. So
15 Qualcomm had been around since 1975. And that's why
16 I've included this picture, to show that Qualcomm has
17 been around a long time.

18 Q. So let's talk specifically about this
19 Tiedemann reference, which is Defendants' Exhibit 124.

20 Can you tell us what we're looking at?

21 A. Yes. This is a document that Mr. Tiedemann
22 presented at a telecommunications conference that was
23 held in Boston in 1994. And as I mentioned, the name,
24 if you look at the top right, shows that it's Edward G.
25 Tiedemann, Jr., and he is employed by Qualcomm out of

1 San Diego.

2 Now, the title of the -- of the document that
3 he provided was CDMA for Cellular and PCS.

4 In the bottom right-hand corner, you see in
5 the highlighting that Mr. Tiedemann is explaining that
6 his solution for PCS, this personal communications
7 system, is an extension to IS-95.

8 Q. So I'd like to talk about what you found here
9 in this Tiedemann paper.

10 Did you find that Tiedemann describes CDMA
11 using orthogonal codes and orthogonal code generators?

12 A. Yes, I did.

13 Q. Can you explain that?

14 A. As shown on this slide, you see the text
15 that's highlighted, and it says the orthogonal covering
16 codes are a set -- are the set of 64-ary Walsh
17 functions. In English, that means that there are 64
18 squared, or they're a square box of 64, and that's the
19 same 64 Walsh codes that I showed you on the slide.

20 So that 64-ary is probably not a common word
21 many of us use, but that's what is meant by that.

22 Q. And did you also find that TDM -- or that
23 Tiedemann described TDM techniques?

24 A. Yes, I did.

25 Q. And could you explain that?

1 A. Yes. And if this looks similar, this is very
2 similar to the language that I showed you for the
3 IS-95-A specification. And here at the top,
4 Mr. Tiedemann is describing the paging channel that I
5 talked about. It's divided into slots of 80
6 milliseconds' duration.

7 So this is the interval of time, are those
8 80-millisecond slots. And then he describes that there
9 is a period of repetition, and that would be the frame.
10 And those are assigned slots.

11 And then he discusses that there's hash
12 functions that are used on the paging channel for a
13 specific slot that the mobile and the base station are
14 to use. The mobile is to monitor.

15 So you can see -- and that is almost the exact
16 language out of the IS-95-A specification.

17 Q. And so did you find that the Tiedemann
18 document itself described TDM techniques under the
19 Court's construction?

20 A. Yes.

21 Q. And did you also find that Tiedemann described
22 overlay codes?

23 A. Yes.

24 Q. And could you explain that?

25 A. As you can see -- as you can see, it's pretty

1 easy to find. It actually says there is a technique
2 called overlay encoding, and overlay encoding adds
3 additional orthogonal channels.

4 And then he actually refers to an overlay
5 encoder block to show how he's modifying IS-95, or
6 extending it to support these new PCS system
7 requirements.

8 Q. And so there is a diagram in Tiedemann, Figure
9 4-2. Can you explain what we're looking at?

10 A. Yes. Mr. Tiedemann provided this block
11 diagram in his paper on the left. And I draw your
12 attention first to the top box on the blue -- it's here
13 (indicating) -- that says Walsh Code generator. And
14 those are those Walsh codes. That's where the Walsh
15 codes are generated. Those 64-ary Walsh codes are that
16 whole page.

17 He also then shows where the overlay encoder
18 and generator is at. And now I've also included on the
19 page a figure, Figure 7A, from the overlay patents.

20 As you can see, I've colored-coded to show
21 that the overlay code of patents have overlay code
22 generator. That's in purple.

23 And we also have the RW code generator here.
24 The RW, remember it stands for Rademacher-Walsh codes.
25 Those are the Walsh codes that match the Walsh codes on

1 the left, and the encoder.

2 Q. I would now like to go through the claims of
3 the asserted patents and see if we can find each one of
4 the elements, and I have some boards to do that.

5 MR. APPLEBY: Your Honor, may I set up
6 one of the boards?

7 THE COURT: Yes, you may.

8 MR. APPLEBY: And I will wear the
9 microphone, so I can come up to the board.

10 Q. (By Mr. Appleby) With regard to the Tiedemann
11 reference itself, did you find that the Tiedemann
12 reference disclosed what we call the preamble of Claim
13 1?

14 We're looking at Claim 2, and you understand
15 Claim 2 is dependent on Claim 1?

16 A. That's correct.

17 Q. And what does that mean?

18 A. That's a shorthand way, that's another one of
19 those things I had to learn. Why didn't they just write
20 all the claims as independent claims.

21 Well, it's a shorthand way of writing a claim.
22 So if you see a dependent claim, like we have here in
23 Claim 2, you just include everything with Claim 1, like
24 it was all written for Claim 2, and then add the part
25 for Claim 2. At least that's the easiest way I use to

1 remember it.

2 It's just so they don't use a lot of pages, is
3 the way I figure it of rewriting the same text over and
4 over.

5 So if you have a dependent claim, we have to
6 first look at the components of the claim it depends on.

7 And it says it depends on Claim 1, so that's
8 what we'll look at first.

9 Q. Okay. So did you find the preamble of Claim 1
10 in Tiedemann?

11 A. Yes, I did.

12 Q. And could you explain that?

13 A. Tiedemann is -- has -- you need to turn it a
14 little more.

15 Q. Sorry, Mr. Lanning.

16 A. I'm struggling to stay at the microphone and
17 seeing the slide. There you go.

18 Tiedemann describes a transmission controller
19 for processing the data items transmitted over the
20 wireless link. Well, that would be at least for the
21 paging channel.

22 And then to the subscriber terminal, that's to
23 the mobile phone.

24 And then a single frequency channel, the CDMA
25 system that he's describing uses a single frequency

1 channel, and it's transmitting data items pertaining to
2 the plurality of frames, meaning to the different cell
3 phones.

4 Q. So can I check this that was found in the
5 preamble?

6 A. Yes.

7 Q. So did you find an orthogonal code generator
8 in the Tiedemann reference?

9 A. Yes, and I pointed to it. I'll point to it
10 again. That would be the Walsh code generator that you
11 see right there in blue.

12 Q. So can I check the orthogonal code generator?

13 A. Yes.

14 Q. And did you find a first encoder? This is the
15 first encoder element in the Tiedemann reference?

16 A. Yes. And I'll circle this one, and it is a
17 circle with a plus in it. That's the encoder. You see
18 the arrow that goes from the Walsh code generator,
19 that's where it goes down and it's encoded with other
20 codes. That's what that means.

21 Specifically, it's an exclusive -- or a gate,
22 but we did put a circle with a plus in there. That
23 means it's included.

24 Q. And may I check that element?

25 A. Yes.

1 Q. And did you find a TDM encoder arranged to
2 apply time division multiplexing techniques in the
3 Tiedemann reference?

4 A. Yes. As I explained earlier, this slide shows
5 that this is the TDM techniques that they're explaining
6 here; that it has all three components.

7 It has -- it has the interval of time; it has
8 the predetermined frame; and it has one or more
9 characteristics associated with the data item, which
10 would be the actual identification of the cell phone.

11 Q. And so can I check that off?

12 A. Yes.

13 Q. Now, moving down the Claim 2, did you find --

14 MR. APPLEBY: Can I have the slide back
15 up?

16 Q. (By Mr. Appleby) Did you find an overlay code
17 generator in the Tiedemann reference?

18 A. One more slide. There it is.

19 Yes. If we can look -- if we look at this box
20 in purple, it actually says overlay code encoder as
21 required by the claim.

22 Q. So may I check that box?

23 A. Yes.

24 I should be clear. This box has both the
25 overlay code generator, which is the first part of Claim

1 2, and it has the second encoder, which is the overlay
2 encoder.

3 Q. So I can check both of those?

4 A. Yes.

5 Q. And Claim 2 is a preamble, a transmission
6 controller as claimed in Claim 1. Do we have that?

7 A. Yes, because we have the same transmission
8 controller in Claim 1 that I described.

9 Q. So I may check that?

10 A. Yes.

11 Q. And in the Tiedemann reference, are the -- is
12 the overlay code -- is the overlay encoding done on the
13 same channels that the TDM techniques are done?

14 A. No, they're not.

15 Q. So they are on separate channels?

16 A. Yes. They're all orthogonal channels, but
17 because the way a cellular system needs to work, you
18 have two different types of channels, at least two. One
19 type are the control channels and paging channel is part
20 of the control channels. Then you have what we refer to
21 as the traffic channels. The traffic channels are used
22 to carry the voice conversation.

23 And so there's two different types of
24 channels. And so the overlay encoder is used in
25 Tiedemann for the traffic channels, and the TDM encoder

1 is used for the paging channel.

2 Q. And looking back at our figure, did you -- did
3 you compare Figure 4-2 from Tiedemann that we see from
4 the overlay patents?

5 A. Yes, I did. And you can see there the
6 comparisons with the color codes for the relevant
7 portions of each diagram.

8 Q. And we see the overlay code generator and
9 second encoder in that comparison?

10 A. Yes.

11 Q. Where is that?

12 A. The overlay encoder with the -- in the purple
13 box here, and you see the overlay code generator and
14 encoder here in the pink.

15 Q. And we also see the orthogonal code generator
16 and first encoder in that comparison?

17 A. Yes. Here is the overlay code generator.
18 Here's the overlay code encoder. Here is the overlay
19 code generator. Here is the overlay code encoder
20 (indicating).

21 Q. So now I'd like to -- so now that we've
22 checked all of Claim 2, what is your opinion as to
23 whether Claim 2 is anticipated by the Tiedemann
24 reference?

25 A. The '326 patent, Claim 2 is anticipated,

1 because I've shown you that it actually describes each
2 and every limitation of Claim 2, which includes Claim 1.

3 So my opinion is that Tiedemann anticipates
4 Claim 2.

5 Q. Okay. So now I'd like to move to another
6 claim. Asserted claim? I'm going to move to the '211
7 patent, Claim 2.

8 And could you tell us what's different -- what
9 difference, if any, exists between the '211 patent,
10 Claim 2 and the Claim 2 we just saw in the '326 patent?

11 A. I realize you've heard this before, but if you
12 can think of the '326 as the transmitter or the base
13 station. The '211 claims are the receiver for the
14 mobile phone. And that's why you see a difference.

15 Instead of an encoder, there's a decoder. It
16 has to do the reverse function at the mobile phone.

17 Q. Okay. So did you find the preamble of Claim 1
18 in -- of the '211 patent in Tiedemann?

19 A. Yes, I did, for the same reasons I specified
20 earlier for the '326, Claim 2.

21 Q. So may I check that?

22 A. Yes.

23 Q. And did you find the orthogonal code generator
24 and decoder elements of Claim 2 in the Tiedemann
25 reference?

1 A. Yes, I did. And, again, to remind you that's
2 that Walsh code generator and the encoder right there.

3 Q. And so may I check those?

4 A. Yes.

5 Q. And did you find a TDM decoder disclosed in
6 the Tiedemann reference?

7 A. Yes, I did, for the same reasons. Again,
8 that's the paging channel.

9 Q. And the Tiedemann reference discusses both the
10 base station and the mobiles --

11 A. Yes.

12 Q. -- is that correct?

13 A. Yes.

14 Q. And so '211 would be directed to the mobiles,
15 and the '326 is directed to the base station?

16 A. That's correct. Yes.

17 Q. So moving down to Claim 2, do we find a
18 reception controller as in Claim 1 in the Tiedemann
19 reference?

20 A. Yes.

21 Q. And why is that?

22 A. Tiedemann describes it, and this would be the
23 same controller that we discussed earlier. This whole
24 block diagram is the controller, essentially.

25 Q. And did we -- did you find an overlay code

1 generator and second decoder in Tiedemann for Claim 2 of
2 the '211 patent?

3 A. Yes. This right here would be that box. It
4 performs both of those functions.

5 Q. And may I check those?

6 A. Yes.

7 Q. So what is your opinion as to whether Claim 2
8 of the '211 patent is anticipated by Tiedemann?

9 A. The Tiedemann indeed does anticipate the '211,
10 Claim 2.

11 Q. Okay. So let me move to another claim. Let
12 me go to the '211 patent, Claim 5.

13 And this is -- the '211 patent is directed to
14 a subscriber terminal or mobile unit, right?

15 A. Yes.

16 Q. So let's go through this.

17 Did you find a subscriber terminal of the
18 wireless communication system in Tiedemann?

19 A. Yes, I did.

20 Q. And why is that?

21 A. It essentially is this whole block diagram
22 that it's describing.

23 Q. So may I check that?

24 A. Yes.

25 Q. And did you find the orthogonal code generator

1 and first decoder of Claim 5? Are these elements any
2 different from what we saw before?

3 A. No. They're the same elements as the '211,
4 Claim 2. So they should look familiar to you. They are
5 the same.

6 So I believe we should check those as well.

7 Q. And is the TDM decoder element any different
8 in Claim 5 from the element we saw in Claim 2?

9 A. No. It's the same as Claim 2. So we should
10 check that as well.

11 Q. And is -- the overlay code generator and
12 second decoder elements, are they any different than
13 what we saw in Claim 2?

14 A. No. So, again, we should be able to check
15 those.

16 Q. Now, this last element we see is a different
17 color. Is that because Claim 5 has added another
18 element?

19 A. Yes. This essentially is the only difference
20 between Claim 2 and Claim 5. Claim 5 adds the use of
21 Rademacher-Walsh codes.

22 Q. And did you find those in the Tiedemann
23 reference?

24 A. Yes. As the box actually says, there's the
25 Walsh codes that are used for that. And Walsh codes and

1 Rademacher-Walsh codes are the same. Some people just
2 call them by both names or just one name for short.

3 Q. So in -- can I check that?

4 A. Yes.

5 Q. And so what is your opinion as to whether
6 Claim 5 of the '211 patent is -- is anticipated by the
7 Tiedemann reference?

8 A. Tiedemann anticipates Claim 5 of the '211
9 patent.

10 Q. Okay. Now I'd like to move to another claim.
11 And this is the '326 patent, Claim 5. And are any of
12 these elements that we see in Claim 5 the same as the
13 elements that we saw in the '326 patent, Claim 2?

14 A. Yes. If you look at the -- from the
15 beginning, it's referred to as the preamble, to the
16 limitations all the way down the blue, the orange, and
17 the purple. All of those limitations are essentially
18 the same, if not exactly the same, as the '326, Claim 2.

19 Q. And so have we found those elements in the
20 Tiedemann reference for the same reasons that you gave
21 previously?

22 A. Yes. So I believe we can check all the way
23 down until you get to the last two colors. Those will
24 be different.

25 Q. And with respect to the last two, I'd actually

1 like to start with the last one, the green one: Wherein
2 the set of orthogonal codes comprise a set of
3 Rademacher-Walsh codes.

4 Did you find that in Tiedemann?

5 A. Yes, I did. As I just discussed for the '211,
6 Claim 5, that the Rademacher-Walsh codes are there,
7 again, as described in this box.

8 Q. So may I check that?

9 A. Yes.

10 Q. Now, the last element that we have yet to
11 check is storage. What is that directed to?

12 A. This limitation requires that the set of
13 orthogonal codes -- and what it means by the set of
14 orthogonal codes -- in this case, it would be those 64
15 orthogonal codes that are 64-bits long -- are stored.
16 And those are stored in this Walsh code generator.

17 Q. And why do you believe that the Tiedemann
18 reference discloses storage?

19 A. Because the 64 Walsh functions are fixed.
20 It's very straightforward, and it's the only feasible
21 way to actually use the 64 Walsh code functions, is to
22 just simply store them in memory and pull them out.

23 It's a very small amount of memory. It's
24 only -- it only takes 512 bytes of memory to store all
25 64 of these codes.

1 To give you an idea -- you probably don't have
2 anything to relate that to. If you have a song stored
3 on your smartphone or your computer or one of the kids
4 have it stored, it uses at least 3 million bytes for one
5 of those songs.

6 To store these Walsh codes would be only 512
7 bytes. So if you were to play 512 bytes, that's
8 3/100ths of a second, to give you a comparison of how
9 small it is to store this chip.

10 Q. Okay. So may I check that?

11 A. Yes.

12 Q. So what is your opinion as to whether the
13 '326, Claim 5 is anticipated by Tiedemann?

14 A. Tiedemann anticipates Claim 5 of the '326
15 patent.

16 Q. Okay. Sir, I think we've gone through four of
17 the six asserted claims, and we've found those to be
18 anticipated by Tiedemann. And just to put -- put this
19 in the timeframe, can we explain what we have on this
20 slide?

21 A. This shows -- we've already looked at and saw
22 where IS-95 came out in 1993, and IS-95-A in 1995. Now,
23 I've added Tiedemann on the timeline to show that it was
24 published in 1994, the middle of 1994, which is more
25 than two years, two-and-a-half years before the Airspan

1 patents.

2 Q. Okay. So I want to move to your opinions on
3 obviousness. What does -- what does obviousness -- can
4 you explain that for us?

5 A. Obviousness is different than anticipation.
6 If you recall, for anticipation, the document has to
7 disclose each and every limitation.

8 For obviousness, there's -- there's two tests.
9 And obviousness can be for one document or one
10 publication, and it would be obvious to a person of
11 ordinary skill in the art that you could make extensions
12 or that the modification could be made to meet the same
13 requirements listed by the invention.

14 Or there's another way to show obvious (sic),
15 and that's where I can combine two or more references
16 together to show that those two references would be
17 obvious to be combined together that would then disclose
18 or describe the invention that's in the claims.

19 Q. So do you have an opinion as to who a person
20 of ordinary skill in the art would be?

21 A. A person of ordinary skill in the art is a
22 legal definition that I need to use. It's for a
23 hypothetical person. But typically, just in English, it
24 means a person that's knowledgeable, has an appropriate
25 education, working in the industry looking at these

1 documents.

2 I've provided the specific type of degree and
3 education that they need to have, in my mind, and the
4 type of experience.

5 In the second bullet, you'll see that I
6 explain that they need to have two or more years
7 experience in the design and configuration of cellular
8 networks. They need to have some knowledge of what a
9 cellular network is like.

10 And they also need to be familiar with the
11 second-generation and third-generation cellular --
12 cellular networks. And this hypothetical person of
13 ordinary skill also has access to all the prior art.

14 It's like that they have a knowledge and know
15 that that prior art exists.

16 Q. So let's turn to Claim 9 and -- of the '326
17 patent and Claim 11 of the '819 patent.

18 And are those dependent claims?

19 A. Yes. Yes, they are.

20 Q. And Claim 9 of the '326 patent depends on
21 Claim 5?

22 A. That's correct.

23 Q. And we've already found that Claim 5 has all
24 the elements that Tiedemann shows, all the elements of
25 Claim 5; is that right?

1 A. That's correct.

2 Q. So what does Claim 9 require?

3 A. Claim 9 requires that a -- that the control
4 channel, or the acquisition channel, as specifically
5 listed here, includes overlay codes instead of time
6 slots, or TDM encoders, or that TDM techniques as we
7 describe.

8 Q. And is that disclosed by Tiedemann?

9 A. No, it's not.

10 Q. And why do you say that?

11 A. Tiedemann applies the overlay codes only to
12 the traffic channels for increasing the data-rate or
13 slowing the data-rate down on the traffic channels that
14 I described that were used for either data connections
15 or voice connections. Tiedemann does not describe
16 applying overlay codes to a paging channel.

17 Q. Why do you believe Claim 9 -- I should say do
18 you believe that Claim 9 would be obvious in light of
19 Tiedemann?

20 A. Yes. This is the first test. This would be
21 just a single reference, obviousness. One of ordinary
22 skill in the art, reading Claim 9 in Tiedemann, would
23 understand that it would be obvious to modify Tiedemann
24 to just apply the overlay codes to the paging channel,
25 because that -- or instead of the TDM encoder because

1 overlay codes are already being used. All the circuitry
2 is there. As you saw, that circuitry was in the block
3 diagram.

4 Q. And so is it your conclusion that Claim 9 is
5 obvious in light of the Tiedemann reference?

6 A. Yes.

7 Q. So let me move to Claim 11 of the '819 patent.

8 And Claim 11 depends from Claim 7 of that
9 patent; is that right?

10 A. Yes, that's correct.

11 Q. Now, looking at Claim 7, are -- the elements
12 in Claim 7, have we seen those elements already today?

13 A. Yes. These are all of the elements -- these
14 elements are in Claim 5 of the '326, I believe. Yes.

15 Q. And we have already found all of those
16 elements in the Tiedemann reference; is that right?

17 A. That's correct, yes.

18 Q. And Claim 11, what does Claim 11 add to Claim
19 7?

20 A. Claim 11 is like the opposite of Claim 9.

21 And if we can read it, it says: A TDM encoder
22 arranged to apply time division multiplexing techniques,
23 TDM techniques, to data items sent over the traffic
24 channel.

25 Well, remember Tiedemann puts TDM on the

1 paging channel, but he doesn't put TDM on the traffic
2 channels. He put overlay codes.

3 So this is somewhat just the reverse of Claim
4 9.

5 Q. And so did you find Claim 11 disclosed by
6 Tiedemann?

7 A. No, I did not.

8 Q. And why not?

9 A. Because Tiedemann does not have a TDM encoder
10 that would be used for the traffic channels. He uses
11 just the overlay encoder.

12 Q. Do you believe that Claim 11 would have been
13 obvious in light of Tiedemann?

14 A. Yes, I do.

15 Q. And why is that?

16 A. Because, again, the same circuitry is all
17 there. If one of ordinary skill in the art wanted to
18 add that TDM functionality, all those slots that we saw
19 on the paging channel, if they wanted to just add slots
20 on the traffic channels, they would just simply use the
21 same circuitry to do that.

22 Q. And what would the motivation or purpose of
23 one of ordinary skill in the art have for modifying
24 Tiedemann that way?

25 A. If they wanted to actually divide the traffic

1 channels into different slots so that they could support
2 different users for each overlay code, that would be the
3 motivation to --

4 Q. And --

5 A. -- make that modification.

6 Q. If Tiedemann shows that TDM encoder on a
7 control channel, why would it have been obvious to one
8 of skill in the art to use that on a traffic channel?

9 A. Again, for the same reasons you have the TDM
10 encoder on the paging channel, so that you can actually
11 divide that orthogonal channel up into multiple time
12 slots.

13 Q. If -- would one of ordinary skill in the art
14 recognize that if you could use a Tiedemann -- TDM
15 encoder on a paging channel, that you could also use it
16 on a traffic channel?

17 A. Yes. It's -- everything is the same
18 essentially. It's just the choice, do I want to engage
19 this encoder or this encoding circuitry for my traffic
20 channels.

21 Q. In looking back at Claim 9, would one of
22 ordinary -- Claim 9 of the '326 patent, would one of
23 ordinary skill in the art recognize that if you did
24 overlay coding on a traffic channel, you could also use
25 that on a control channel?

1 A. Again, it's all the same circuitry. Tiedemann
2 has described how you do it on a traffic channel. If
3 there was a reason that I wanted to divide up the
4 channel for the paging channel using overlay codes, I
5 could do the same thing with the same circuitry, same
6 block diagram.

7 Q. Okay. So now I'd like to move to another
8 reference.

9 Can you describe what we're looking at here on
10 Slide 28?

11 A. This was a patent that was -- the inventor is
12 Gitlin, Richard Gitlin. You've heard of Dr. Richard
13 Gitlin. He was part of the Bell Labs or the Alcatel --
14 I should say Lucent. I think it was in the Lucent days.
15 He was an employee of Bell Labs. He's one of the
16 pioneers.

17 And this is a patent that describes how
18 CDMA -- how to combine CDMA with TDM.

19 Q. So let's look forward -- move ahead one slide.

20 And can you describe what Gitlin -- what
21 Gitlin disclosure exists, if any, about CDMA plus TDM
22 techniques?

23 A. All right. If we look -- so the CDMA or the
24 orthogonal codes, the CDMA, is shown here. And it's
25 labeled code space and it's C0 through C7. Those refer

1 to 7 -- 8 different codes. Since we start at 0, there's
2 8 different codes.

3 Then he also has time slots going sideways on
4 the horizontal from S0 to S6. So he's combining codes
5 with slots. CDMA plus TDM.

6 Q. And did you find TDM techniques as construed
7 by the Court?

8 A. Yes.

9 Q. Could you explain that?

10 A. You have TDM techniques. So there's a frame.

11 So we need three pieces, right? We need a --
12 we need this slot, or we need the increment of time.

13 And we see all kinds of different slots. This
14 would be the slots (indicating) that are shown from S0
15 to S6. And then the frame period would be from S0
16 through S6. That's the frame period.

17 And the third thing we need for that
18 construction -- for the Court's construction for TDM
19 techniques is a characteristic of the data. Well, if
20 you look down at the bottom of Gitlin, you'll see that
21 the characteristics of data have to do with whether you
22 have high-speed users, medium-speed users, or low-speed
23 users, and also the user ID.

24 So there's two different characteristics
25 associated with the data item.

1 Q. And why would the users need different speeds?

2 A. Users have different speeds, want to pay
3 different amounts, or they may only want to send a fax
4 part of the time, and then want lower speed for voice
5 calls or lower speed data connections at other times.

6 Q. Okay. So let's look quickly at the claim --
7 actually, yeah, let's look quickly at the claim
8 language.

9 And did you find a -- the preamble satisfied
10 by -- actually, it says Gitlin plus Tiedemann. Why
11 would you combine Gitlin and Tiedemann?

12 A. Because Gitlin doesn't have the overlay codes.
13 So, essentially, for at least the reason -- there's two
14 different reasons; but the main reason is that Gitlin
15 doesn't describe overlay codes. But as I showed you
16 earlier, Tiedemann does.

17 So in combining Gitlin with Tiedemann, Gitlin
18 gives us the CDMA plus TDM; Tiedemann gives us the
19 overlay codes.

20 Additionally, Tiedemann also gives us the
21 Walsh codes, if we need to show for the orthogonal codes
22 or CDMA. I have it in two places. Both Gitlin and
23 Tiedemann gives it -- gives us the orthogonal codes.

24 Q. Okay. So does the Gitlin plus Tiedemann
25 combination disclose the preamble of Claim 1?

1 A. Yes.

2 Q. And may I check that?

3 A. Yes.

4 Q. And does -- did you find in Gitlin an
5 orthogonal code generator -- let me start over.

6 Did you find in a combination of Gitlin and
7 Tiedemann an orthogonal code generator and a first
8 encoder?

9 A. Yes.

10 Q. And can you explain that?

11 A. That -- well, we can look at it two ways, but
12 it's at least in Tiedemann. As I've already explained,
13 that there is an orthogonal code generator and the first
14 encoder.

15 And if you remember, it's the box with Walsh
16 encoder or Walsh generator, and then the circle with the
17 plus in it.

18 Q. And we saw C -- CDMA in Gitlin, right?

19 A. Yes. And Gitlin is for CDMA as well.

20 Q. Okay. May I check those?

21 A. Yes.

22 Q. And did we find a TDM encoder arranged to
23 apply time division multiplexing techniques in Gitlin?

24 A. Yes, we did.

25 As you can see with the slots that are here,

1 this would be the TDM encoder. We also find a TDM
2 encoder in Tiedemann for the paging channels. So we've
3 doubled up there as well for the TDM encoder.

4 Q. And may I check that?

5 A. Yes.

6 Q. And the elements of Claim 2, the overlay code
7 generator and the second encoder, where do we find
8 those?

9 A. Those are found in Tiedemann and not Gitlin.

10 Q. Okay. And why would it have been obvious in
11 your mind to combine Gitlin and Tiedemann?

12 A. Because both of these patents are in regard to
13 cellular systems, specifically, CDMA wireless systems.

14 And Gitlin was from Bell Labs, AT&T Bell Labs.
15 Tiedemann was from Qualcomm. And as you've heard, in
16 the early 1990s, they were working together on CDMA
17 solutions.

18 So there's multiple reasons why one of
19 ordinary skill in the art would combine Gitlin with
20 Tiedemann.

21 Q. Okay. So may I check the elements of Claim 2?

22 A. Yes.

23 Q. And so what is your conclusion about whether
24 Claim 2 of the '326 patent is obvious over Gitlin plus
25 Tiedemann?

1 A. The combination of Gitlin plus Tiedemann
2 invalidates Claim 2 of the '326 patent.

3 Q. And if we look at Claim 5 of the '326, we
4 found all of these elements in Gitlin and Tiedemann
5 already; is that correct?

6 A. Yes, that's correct.

7 Q. And would your opinion of obviousness,
8 combining Tiedemann and Gitlin, be to render obvious
9 Claim 5 of the '326 patent?

10 A. Yes. The combination of Gitlin plus Tiedemann
11 invalidates Claim 5 of the '326 patent.

12 Q. For all the reasons you've already given?

13 A. Yes, that's correct.

14 Q. And with respect to -- with respect to the
15 '211 patent, Claim 2, we found all these elements in
16 Gitlin plus Tiedemann; is that correct?

17 A. That's correct.

18 Q. And so what's your opinion as to whether
19 Gitlin plus Tiedemann would render obvious Claim 2 of
20 the '211 patent?

21 A. That the combination of Gitlin plus Tiedemann
22 renders obvious or invalidates Claim 2 of the '211
23 patent.

24 Q. And with respect to Claim 5 of the '211
25 patent, we've found all those elements in Gitlin plus

1 Tiedemann already, as well, have we not?

2 A. That's correct.

3 Q. And what would your opinion be as to whether
4 Claim 5 of the '211 patent would be rendered obvious by
5 Gitlin plus Tiedemann?

6 A. That Claim 5 of the '211 patent is rendered
7 obvious or invalid, based on the combination of Gitlin
8 plus Tiedemann.

9 Q. And what's your opinion as to whether Claims 9
10 and -- of the '326 patent and Claim 11 of the '819
11 patent would be rendered obvious by Gitlin plus
12 Tiedemann?

13 A. That both of those claims would be rendered
14 obvious by the combination of Gitlin plus Tiedemann.

15 Q. Okay. So let me talk about one more thing.

16 Now, you heard Dr. Wells point to OVSF codes
17 in the -- as evidence of overlay codes in the accused
18 systems. You've heard that testimony, right?

19 A. Yes.

20 Q. Were OVSF codes known before the Airspan
21 patents?

22 A. Yes, they definitely were.

23 Q. And where were they known before the Airspan
24 patents?

25 A. This is a reference that you've seen at least

1 a couple of times, at least I remember seeing it a
2 couple of times, from Qualcomm, co-founder Klein
3 Gilhousen. And this describes OVSF codes.

4 Q. And could you explain how Gilhousen
5 describes -- how the Gilhousen OVSF codes relate to what
6 we see in the W-CDMA standard?

7 A. Yes. Again, this is another slide that you've
8 seen a couple of times, so I won't spend too much time
9 on it. But you can see that the mapping of the OVSF
10 tree, what's on the left is Figure 2 from the Gilhousen
11 patent. And Dr. Gilhousen had defined these codes in
12 1993.

13 You'll see a very similar tree from the W-CDMA
14 standard. We've rotated it 90 degrees. But if you'll
15 look, you can see the same number of bits on each
16 respective layer as you go down, just like the standard.

17 And so it was Dr. Gilhousen that came up with
18 this OVSF concept, at least as early as 1993.

19 Q. Now, does Gilhousen also describe storing OVSF
20 codes in a base station?

21 A. Yes. For storage, looking at this second
22 highlighted portion, Dr. Gilhousen is describing in his
23 patent that the control processor will include a table
24 of orthogonal Walsh code sequences. That's the table
25 that -- a type of table of these Walsh code sequences.

1 Now, these are various length sequences, so
2 this table actually has the different variable rate of
3 sequences ranging from 2 to 1,024. It's just no longer
4 a fixed table. It's 64 like you saw in the IS-95-A
5 specification.

6 Q. And -- and the Qualcomm patent was -- was
7 filed in 1993; is that right?

8 A. That's correct. As you can see by this slide,
9 he's way to the left. Gilhousen is way to the left in
10 1993 for these OVFSF codes.

11 Q. And the Gitlin patent -- I don't know if I
12 asked you this -- but that was filed in 1994; is that
13 right?

14 A. That's correct.

15 Q. Now, you understand that Dr. Wells is
16 asserting that these OVFSF codes contain an orthogonal
17 code and an overlay code. You understand that?

18 A. Yes.

19 Q. Now -- and the jury will have to decide
20 whether an OVFSF code, a single OVFSF code, is an
21 orthogonal code and an overlay code. You understand
22 that?

23 A. Yes.

24 Q. If the jury were to conclude that a single
25 OVFSF code was both an orthogonal code and an overlay

1 code, do you have an opinion as to whether Gitlin, in
2 combination with Gilhousen, would disclose all of the
3 elements of the asserted claims?

4 A. Yes. So let me go through it just briefly.

5 If you agree with Dr. Wells that the OVSF tree
6 meets the limitations of the claims, then you also have
7 to reconcile in your own mind who really defined it
8 first. And this was three years, at least three years
9 before the Airspan patents.

10 And then when you look at Dr. Gitlin from AT&T
11 Bell Labs, he has the CDMA plus the TDM here. And,
12 again, he's years before the Airspan patents.

13 And, again, you have the combination of AT&T
14 Bell Laboratories and of Qualcomm, when they were
15 working together. And both of these are wireless
16 cellular systems.

17 Q. Okay. So, Mr. Lanning, can you just quickly
18 summarize your opinions?

19 A. All right. As you can see, the first four
20 claims, as on this table, which are specifically the
21 '326, Claim 2; the '211, Claim 2; the '211, Claim 5;
22 '326, Claim 5 are all anticipated by at least Tiedemann.

23 And they're also obvious based on other
24 references, as I described.

25 However, if you look at '326, Claim 9 and the

1 '819, Claim 11, you'll see that I have not put
2 anticipated there. Instead, I've said they're obvious
3 as I've described. And they're obvious by at least
4 Tiedemann and other combinations that I've described.

5 MR. APPLEBY: No further questions.

6 THE COURT: Thank you.

7 Cross-exam?

8 MR. BORGMAN: Yes, Your Honor.

9 CROSS-EXAMINATION

10 BY MR. BORGMAN:

11 Q. Good morning, Dr. Lanning.

12 A. Good morning.

13 Q. Happy Friday.

14 A. I think someone else probably likes that idea
15 a lot more than me.

16 Q. I'm sure someone else enjoys that idea a lot
17 more than you and me. Absolutely.

18 A. Oh, and I do remember you as well.

19 Q. Thank you. I think.

20 I'm sorry. It's taking me a little bit to get
21 settled here.

22 All right. Dr. Lanning, let's first see if we
23 can focus what we ought to talk about.

24 A. For the doctors in the room, you probably
25 ought to call me Mr. Lanning. I guess I'm not -- I

1 don't have a Ph.D.

2 Q. I apologize.

3 A. To them more than me.

4 Q. Well, my father had a Ph.D.; and I was taught
5 from a very early age to call everyone Doctor, because I
6 realize, just like you, some people stand on it; many do
7 not.

8 A. Thank you.

9 Q. So I do apologize. And you're right. We've
10 had a lot of doctors in and out.

11 Now, you have not offered us any opinions on
12 infringement of any of the accused products in this
13 case, correct?

14 A. That's correct.

15 Q. And you've -- as you've said, you're not
16 offering any opinions today on the validity or
17 invalidity of the '327 patent?

18 A. That's correct.

19 Q. And you haven't offered us any other opinions
20 about any of the accused products, like how they work,
21 correct?

22 A. That's correct.

23 Q. And -- and Mr. Appleby took you through the
24 claims of the patent in doing your analysis today,
25 right?