

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD

4
5 VOLKSWAGEN GROUP OF AMERICA, INC.

6 Petitioner

7 V.

8 CARUCEL INVESTMENTS, L.P.

9 Patent Owner

10
11 Case No. IPR2019-01102

12 U.S. Patent No. 7,848,701

13 and

14 Case No. IPR2019-01103

15 U.S. Patent No. 7,979,023

16
17 VIRTUAL DEPOSITION OF MARK R. LANNING VOLUME 2

18 Wednesday, June 3, 2020

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20 Job No.: 300799

21 Pages: 278 - 452

22 Reported by: Judith E. Bellinger, RPR, CRR

1 Deposition of MARK R. LANNING, conducted
2 virtually.

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11 Pursuant to notice, before Judith E.
12 Bellinger, Registered Professional Reporter,
13 Certified Realtime Reporter, and Notary Public in
14 and for the State of Maryland.

A P P E A R A N C E S

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C O N T E N T S

EXAMINATION OF MARK R. LANNING	PAGE
	283

E X H I B I T S

(Attached to the transcript)

Lanning Deposition Exhibits:	PAGE
Exhibit 8 United States Patent 5,504,786	297
Exhibit 9 United States Patent 5,559,865	331
Exhibit 10 The Oxford Desk Dictionary	394
Exhibit 11 Declaration	441
Previously Marked Exhibits:	
Lanning Exhibit:	
Exhibit 1 Declaration	290
Exhibit 3 United States Patent 7,979,023 B2	336
Exhibit 4 Patent Owner's Response	284

1 P R O C E E D I N G S

2 MARK R. LANNING,

3 having been duly sworn, testified as follows:

4 EXAMINATION BY COUNSEL FOR THE PETITIONER

5 BY MR. RICHARDSON:

6 Q Welcome back, Mr. Lanning. How are
7 you?

8 A Fine.

9 Q Good. You understand that we're here
10 today as a continuation of the deposition that we
11 began yesterday, correct?

12 A Yes.

13 Q At any point during the evening
14 yesterday did you speak with any of your counsel
15 regarding the substance of your testimony
16 yesterday?

17 A No.

18 Q At any point during any of the breaks
19 yesterday did you speak with your counsel about
20 the substance of your testimony?

21 A No.

22 Q Okay. So to begin, I want to, if we

1 can pull up on the screen Deposition Exhibit 4
2 from yesterday. This is the Patent Owner's
3 Response and Mr. Lanning, I apologize, I do not
4 believe you have a physical copy of that one.

5 (Lanning Exhibit 4 previously marked
6 for identification and attached to the
7 transcript.)

8 MR. SMITH: Hey, Ryan?

9 MR. RICHARDSON: Yes.

10 MR. SMITH: Do we know from the court
11 reporter where, you know, kind of how we finished
12 up yesterday? Was she comfortable that she got
13 all of Mr. Lanning's answers to questions that you
14 actually asked?

15 I know you were trying to ask one at
16 the end that we kind of got hung up on and there
17 wasn't an answer, but we just wanted to make sure
18 the record was clear on where we were with those
19 questions and answers.

20 MR. RICHARDSON: Based on our quick
21 review of the record yesterday it seemed complete.
22 I'm pretty sure that Mr. Lanning's position on

1 that document was pretty well vetted and reflected
2 in the transcript.

3 MR. SMITH: Right. Well, we reserve
4 the right to review that and make sure that's how
5 we see it, too. We're not doing realtime so I
6 don't see what came out.

7 But I will trust your representation on
8 that and we'll move ahead.

9 MR. RICHARDSON: All right.

10 BY MR. RICHARDSON:

11 Q So if we can move to Page 2 of this
12 document, please.

13 Actual numbered Page 2 instead of Roman
14 numeral. Great, thank you.

15 And if we can enlarge a little bit so
16 that Mr. Lanning can read those paragraphs.
17 Great.

18 And Mr. Lanning, it looks like you may
19 be on mute so I want to make sure that any answer
20 you do give can be heard by the court reporter, so
21 if you want to take yourself off mute.

22 A I'm muting to see if sometimes -- I've

1 done these depositions before last week and we
2 found that one of the ways to help is even for me
3 to mute my mic while you're asking questions. So
4 I'm aware that I was muted and I'll unmute it.
5 Hopefully I won't forget to do that.

6 I'm trying to remember -- or trying to
7 realize what you're looking at here.

8 Is it my declaration? What are we
9 looking at here?

10 Q Sure. So, again, this is the Patent
11 Owner's Response. It was entered into the record
12 yesterday as Exhibit 4. We asked -- or I asked
13 you a couple brief questions about it yesterday
14 and I'm returning to this document for a couple
15 additional questions today.

16 You do not have a physical copy of it.

17 A Okay. I see the page that you have on
18 the screen.

19 Q Okay. So the Page 2 which we're
20 currently showing on the screen, is identifying a
21 section of the Patent Owner's Response that's
22 titled "Overview of the Carucel Patents."

1 You see that, correct?

2 A Yes.

3 Q And in the second paragraph that's
4 shown on this page, the first sentence of that
5 paragraph reads, "The asserted claims of the '023
6 Patent cover a moveable base station or apparatus
7 configured to provide important benefits to mobile
8 devices, such as smartphone, tablet and laptop
9 users."

10 Do you see that?

11 A Yes.

12 Q Okay. And is that a statement that you
13 agree with?

14 A Yes.

15 Q Okay. So just so that I'm clear, not
16 all tablet and laptops have cellular capabilities,
17 correct?

18 A It was my personal experience that in
19 the 1995 time frame many did not have cellular --
20 many of the noncell phones did not have cellular
21 capability.

22 Q Okay. So then should this sentence

1 read that the mobile devices should only include
2 smartphones, tablets, and laptops with cellular
3 capabilities?

4 MR. SMITH: Objection. Scope and
5 foundation.

6 A As we discussed before, I didn't write
7 this document. I don't know exactly what the
8 intent of it was. So I have no opinion on how
9 this document should be changed. You're just
10 showing me this document and asking me questions
11 about it, so --

12 Q Do you have an opinion as to whether
13 the mobile devices of the '023 patent cover
14 smartphones, tablets, and laptops without cellular
15 capabilities?

16 A I think we discussed that the user
17 equipment needs to have cellular capability. So I
18 will agree that the user equipment needs to have
19 cellular capabilities -- or wait a minute.

20 Again, I don't -- I can't respond. I
21 have no opinion for what was the intent of this
22 document is. I haven't read this overall

1 document. You're pulling a page out of the
2 document and asking me a question. So as I think
3 about it, I don't know what the intent of this
4 document, what the intent of this paragraph or
5 section was. I don't have an opinion one way or
6 the other.

7 Q Okay.

8 A This is not my document. I haven't
9 generated it. So there's just no way I'm going to
10 have an opinion without reading the whole
11 documenting understanding specifically what it's
12 for instead of just pulling up a page and showing
13 me a paragraph without the overall context of the
14 document or the intent.

15 Q Okay. So let's --

16 A I really just can't provide an answer
17 to that.

18 Q So let's do this: So your declaration
19 that you submitted said you had read and agreed
20 with the Patent Owner's Response. But if that's
21 not the case, let me make it easier for you.

22 MR. RICHARDSON: Can we please pull

1 down this document from the screen.

2 (Lanning Exhibit 1 previously marked
3 for identification and attached to the
4 transcript.)

5 Q Okay. Document's down. I'm not asking
6 you a question about any Patent Owner's Response
7 anymore. I am asking you now if you have an
8 opinion as to whether the mobile devices of the
9 '023 patent cover smartphones, tablets, and
10 laptops without cellular capabilities?

11 A So now you're asking me some type of
12 infringement question; are you not?

13 Q I don't think it would be an
14 infringement question because it was included in a
15 Patent Owner's Response that's solely directed
16 towards validity in this matter.

17 A Okay. So now you've said --

18 Q If it's not relevant to validity, then
19 I think that we might need to revisit the Patent
20 Owner's Response by a motion practice.

21 A So now you've said, "I'll take down the
22 Patent Owner's Response, we won't talk about it."

1 Then your response to me of why it's relevant is
2 in the Patent Owner's Response.

3 I haven't provided the opinions in the
4 Patent Owner Response. I provided opinions here.
5 I don't recall having any opinions regarding
6 laptops or smartphones. If I've forgotten, I'd be
7 happy for you to point it out and I'll provide you
8 a response.

9 Q Okay.

10 A I haven't provided any opinion
11 regarding smartphones and laptops, that I recall.

12 Q Okay. So let's go back to your
13 declaration. Let's go back to the table that you
14 provided in Paragraph 48 of your declaration.

15 So you would agree that you have opined
16 on the plain and ordinary meaning of the term
17 mobile device, correct?

18 A As we covered at least ten times,
19 probably closer to 20 yesterday, I've opined that
20 a mobile device, the plain and ordinary meaning
21 that would be understood by a person of ordinary
22 skill in the time of the patent, is a device that

1 must register with and be able to directly
2 communicate with the cellular network.

3 Q Great. All right. So now we're at a
4 topic that you have opined on. So my question
5 about this topic that you have opined on is
6 whether your understanding of the plain and
7 ordinary meaning of the term mobile device would
8 cover smartphones, laptops, and tablets without
9 cellular capability?

10 A Again, it's a mobile device. I haven't
11 been specific regarding what type of mobile
12 devices. The mobile device I said is a device
13 that must register and be able to directly
14 communicate with the cellular network.

15 That's for the mobile device. I don't
16 know that I need to be more specific. The mobile
17 device needs to be able to directly communicate
18 with the cellular network to be able to register
19 with it.

20 Q So just so that I'm clear, you have no
21 opinion as to whether the plain and ordinary
22 meaning of mobile device covers smartphones,

1 laptops, and tablets without cellular capability?

2 A No. I've said what a mobile device is.
3 And so if a mobile device does not register and be
4 able to directly communicate with a cellular
5 network, it's not a mobile device.

6 Q So is registering with and being able
7 to directly communicate with the cellular network
8 indicative of a cellular capable device?

9 A Those are different terms in my mind.
10 Now you're introducing another term, cellular
11 capable. That's why I'm resisting. I'm not
12 adding any new terms. I'm simply saying the term,
13 as used in the patent claims, is mobile device.
14 I've given a plain and ordinary meaning. Now
15 you're trying to introduce some new terms which I
16 haven't considered and haven't provided opinion
17 on.

18 To me, the claim is clear what it
19 requires. I've interpreted what I believe a
20 mobile device is. Then it's for one to determine
21 whether that mobile device does at least the two
22 things that I have listed here.

1 Q Okay. So for the purposes of this
2 proceeding, you have no opinions about
3 smartphones, laptops, or tablets, correct?

4 MR. SMITH: Objection. Misstates his
5 testimony.

6 A Again, you're misstating my testimony.
7 That's not what I said. You asked other questions
8 about these other devices being cellular capable.
9 I haven't restricted them specifically, I haven't
10 included them specifically other than interpreting
11 the term that's in the challenged claims, and the
12 term is mobile device. And I've provided an
13 interpretation for what I believe one of ordinary
14 skill in the art would interpret.

15 You can then take those devices
16 specifically and determine whether those other
17 devices that you're listing are capable of
18 registering directly with a -- registering with a
19 cellular network and directly communicating with a
20 cellular network.

21 If they do, then they meet mobile
22 device.

1 Q So it's possible, then, I believe is
2 your testimony, that cellular -- or excuse me,
3 that smartphones, tablets, and laptops could fall
4 under this plain and ordinary meaning of mobile
5 device?

6 A If those devices are capable of
7 registering and directly communicating with the
8 cellular network, then those devices would be
9 considered a mobile device.

10 Q Okay. So then if those devices, those
11 devices being a smartphone, laptop, or tablet, if
12 they were incapable of registering and directly
13 communicating with the cellular network, then you
14 would agree that they would not fall under the
15 plain and ordinary meaning of mobile device?

16 A I would agree that a mobile device that
17 is not capable of registering with and able to
18 directly communicate with a cellular network is
19 not a mobile device.

20 Again, as I've stated over 20 times,
21 this is my interpretation for the challenged
22 claims the term mobile device.

1 So to me, if a mobile device or if a
2 device is not able to register with and be able to
3 directly communicate with a cellular network, it
4 doesn't meet the requirements that I've -- of the
5 interpretation that I've laid out for mobile
6 device.

7 Q Okay. I think we've reached a point of
8 common ground in there somewhere, I believe.

9 So let's switch gears now. We've
10 already put that document away.

11 So if we can please take a look at the
12 Gardner reference. I believe you do have a
13 physical copy of that. And if we could please
14 also pull a copy of the Gardner reference up on
15 the screen?

16 MR. RICHARDSON: If we could please
17 mark this document, I believe we are on Exhibit 8.

18 (Lanning Exhibit 8 marked for
19 identification and attached to the transcript.)

20 Q So Mr. Lanning, you should have a
21 physical copy of the Gardner reference. It is a
22 reference with a patent number of 5,504 786. And

1 a patent to inventor named Gardner.

2 Do you see that?

3 A Yes.

4 Q And the document you have in front of
5 you, at least on its face, appears to be the same
6 document displayed on the screen?

7 A Yes.

8 Q Okay. Great.

9 If you could again, as we did with the
10 other documents yesterday, just leaf through the
11 document real quick and make sure there are no
12 markings, highlights, or notes.

13 A It's clean.

14 Q Okay.

15 MR. RICHARDSON: We can pull down the
16 reference on the screen then.

17 Q Mr. Lanning, is this a document that
18 you have reviewed before?

19 A Yes.

20 Q Okay. And you are aware that this
21 document is being used in combination with the Ito
22 reference that we discussed yesterday in a ground

1 in the petition in this proceeding, correct?

2 A Yes.

3 Q Do you have an understanding of how
4 this document was used by Petitioner and
5 Petitioner's expert?

6 A I've read the -- I've read the
7 declaration for the Petitioner and I've responded
8 to the declaration in my declaration.

9 Q Okay. So one of the responses that you
10 have regarding this particular reference in your
11 declaration is at Paragraph 87. So if you want to
12 take a look at Paragraph 87 of your declaration.

13 A Okay.

14 Q So the first sentence of Paragraph 87
15 reads that "The Gardner Patent is not directed
16 toward a moving base station as disclosed by the
17 '023 Patent nor does the Gardner Patent imply or
18 suggest that a 'mobile base station' exists."

19 You see that, correct?

20 A Yes.

21 Q Okay. To your recollection is there
22 anything in the Gardner Patent that explicitly

1 says that a mobile base station -- excuse me --
2 that explicitly says that its invention cannot be
3 used with a mobile base station?

4 A No, I don't recall that. But it's
5 not -- you're asking me does it say that it does
6 not imply or explicitly say that? It doesn't
7 explicit say it's not part of a million other
8 things, but that doesn't make it part of it. So,
9 to me, that isn't even relevant for the Gardner
10 Patent.

11 If the Gardner Patent doesn't imply or
12 even suggest that a mobile base station exists
13 then it's not covering it.

14 Q But you do not refute that Gardner
15 discloses that its invention can be used in a
16 mobile unit, correct?

17 A And I've addressed that. But that is,
18 again, the mobile unit. That is a mobile unit
19 somewhat like a mobile phone. It is not the
20 characteristics of the required moveable base
21 station.

22 And as I state in 88, Gardner does

1 disclose, and I acknowledge that Gardner does
2 disclose "that the invention 'while the system
3 shown in Figure 1 may be used at the mobile units,
4 it is particularly suitable for base stations used
5 in a mobile communications system.'" And so I go
6 on to explain the reasons why Gardner is saying
7 that.

8 So, again, this is only, as I state
9 before, Gardner only is disclosing a direct
10 connection between a fixed base station and a
11 mobile unit.

12 Q So that was going to be one of my next
13 questions is that unlike your opinions regarding
14 Ito that we discussed yesterday, you do admit that
15 Gardner does disclose a direct connection between
16 a mobile unit and a fixed base station, correct?

17 A Yes. I say that clearly in the second
18 sentence of Paragraph 87.

19 Q Okay. So I'm going to direct your
20 attention to the Gardner Patent and Column 2.

21 A Okay. I'm at Column 2.

22 Q Okay. And around Line 10 or so the

1 patent reads, "Figure 1 is a block diagram of a
2 cellular radio receiver for receiving phase shift
3 keyed or frequency modulated digital information
4 modulated on an RF carrier incorporating the
5 present invention."

6 You see that, correct?

7 A Yes.

8 Q And so you would agree that a mobile
9 base station is a type of cellular radio receiver,
10 correct?

11 A Not the way it's stated here. The
12 claims are clear, the '023 patent is clear that
13 the moveable base station has specific
14 requirements and it is moveable and performs as a
15 base station and communicates between or it's
16 interposed between a base station, a fixed base
17 station, and a mobile terminal.

18 That's not what this cellular radio
19 receiver is here. Again, it is only a receiver
20 that has a direct connection.

21 Q I fully understand your opinion is that
22 Gardner doesn't match the claims, Gardner doesn't

1 disclose the claims, Gardner isn't the same thing
2 in the claims, understood noted in your documents
3 in the record. My question is a little bit more
4 general, is would you agree with the statement
5 that a mobile base station can be characterized as
6 a type of cellular radio receiver?

7 A Again, no. The cellular radio receiver
8 that's being referred to here is more like the
9 mobile terminal cellular radio receiver and not
10 the moveable base station.

11 Q Okay. So then just so it's clear, I'll
12 ask it in the opposite direction.

13 It's then your opinion that a mobile
14 base station is not a type of cellular radio
15 receiver?

16 A A moveable base station is not the type
17 of cellular radio receiver that is disclosed by
18 Gardner and specifically in the passage from
19 Column 2 that you read.

20 Q Okay. So putting Gardner aside.
21 Before you read the Gardner patent, did you have
22 an understanding of what a cellular radio receiver

1 was?

2 A Definitely did, and definitely
3 understand what Gardner is saying is a cellular
4 radio receiver, and that's what I've been
5 answering.

6 Q Okay. So now I'm specifically saying
7 put Gardner aside. So hopefully we don't address
8 Gardner in this next question and answer. And I
9 believe you previously answered that you do and
10 did have an understanding of what a cellular radio
11 receiver was before reading Gardner.

12 So your understanding of what a
13 cellular radio receiver is, based on that
14 understanding, is a mobile base station a type of
15 cellular radio receiver?

16 A Again, not the same as Gardner. And,
17 no, I would not characterize a mobile or a
18 moveable base station as a cellular radio
19 receiver. It's much more than that.

20 So, again, I'm not going to agree that
21 a moveable base station is a cellular radio
22 receiver. I will agree that a mobile base station

1 receives signals and it transmits signals, and it
2 does those in a very specific way as required by
3 the claims.

4 But it is not and cannot just be
5 characterized as a, it, and I need to be careful
6 with the "it", the moveable base station of the
7 challenged claims cannot just be considered as a
8 cellular radio receiver.

9 Q Okay. So yesterday I believe you
10 testified at length that the system in the '023
11 patent was a cellular system, correct?

12 A A cellular system is described and the
13 components of a cellular system are described in
14 the '023 patent.

15 Q Okay. And a component of that cellular
16 system in the '023 patent is the moving base
17 station, correct?

18 A One of the three components that I
19 referred to in the '023 patent, as required by the
20 claims, is a moveable base station.

21 Q Okay. And you would agree that that
22 moveable base station of the '023 patent has a

1 receiver, correct?

2 A And that's what I just stated. It has
3 a receiver, yes.

4 Q Okay.

5 A And it also has a transmitter.

6 Q So is it accurate to say that the
7 moving base station of the '023 patent includes at
8 least a cellular receiver?

9 A I would say that's fair, that it
10 includes -- that the moveable base station
11 includes as one of its components a cellular
12 receiver.

13 Q Okay. So if we move to the next
14 paragraph in your declaration, and that would be
15 Paragraph 89.

16 A Okay.

17 Q So in this particular paragraph it
18 reads, therefore, a POSITA would have known that
19 implementing the Gardner invention on a moving
20 device would subject the invention to a much
21 harsher environment by experiencing significantly
22 more Rayleigh fading and Doppler shift than if the

1 Gardner invention was implemented on a stationary
2 base station.

3 Do you see that?

4 A Yes.

5 Q Can you explain what you mean by "a
6 much harsher environment"?

7 A I believe I've explained all of that,
8 the reasons and rationale, in Paragraph 88. And
9 I've used even Gardner's disclosure. And I start
10 with Gardner's disclosure because I believe
11 Gardner understood this as well. And I start with
12 Paragraph 88 with the Gardner disclosure that it
13 states, "While the system shown in the FIGURE" --
14 and I've put in brackets Figure 1 -- "may be used
15 at the mobile units, is particularly suitable for
16 data base stations used in a mobile communications
17 system."

18 And I've explained why it would have
19 that. And simply, the base station is not subject
20 to many of the inter -- signal interferences that
21 are experienced by the moveable mobile station.
22 That's why he says that his invention is more

1 suitable to a base station.

2 The type of interferences that I was
3 referring to is the Rayleigh fading, which is also
4 referred to as "multipath fading" because of all
5 the different obstacles that a mobile device would
6 encounter, either whether it was standing still or
7 moving, those multipath signals in a multipath
8 fading is constantly changing. And you have
9 another concept of interference or signal changing
10 referred to as "Doppler shift," which is dealing
11 with a vehicle that's moving and the phase of the
12 signal is constantly changing with the movement of
13 the vehicle.

14 Q So isn't it true, though, that the
15 negative effects, or the harsher environment that
16 you just explained there, would exist in any
17 mobile system?

18 A You need to ask the last part of your
19 question.

20 Q Isn't it true that the harsher
21 environment characteristics that you just
22 explained would exist in all mobile systems?

1 A The harsher environment would be
2 harsher for mobile devices than they would be for
3 a fixed device, like a base station, and
4 specifically the type of invention that Gardner
5 is. I'm just simply repeating what Gardner says
6 is that, you know, explaining why Gardner says
7 yeah, it can be used in mobile units but it's much
8 more suitable to be used in a base station
9 environment.

10 I'm simply explaining that even the
11 inventor understood that the invention had issues
12 when it was moving or in a moveable device.

13 Q Well, you would agree that in a mobile
14 system, such as Gardner's, the fixed base station
15 and the mobile unit are communicating over the
16 same channel, correct? If they were on different
17 channels they wouldn't be talking to each other.

18 A I'm sorry; I needed to refresh my
19 recollection of some of the specifics of Gardner
20 to answer your question. And as I was refreshing
21 I realized that I might have forgotten part of
22 your question. If you don't mind, if you'd repeat

1 it. Now that I've refreshed some of the details
2 of Gardner, I think I can answer your question.

3 Q Sure.

4 My previous question was would you
5 agree that in a mobile system, such as Gardner's,
6 the fixed base station and the mobile unit are
7 communicating over the same channel?

8 A I don't think I would phrase it that
9 way. I would phrase it that the base station is
10 transmitting the signal. I've got to look at one
11 more thing to answer the question about channel.

12 I was looking for some specifics on how
13 Gardner defines a channel, what type of modulation
14 whatever is used. I'm not seeing it. So I'll
15 answer the question at a higher level without
16 getting into type of channels that are being used,
17 is that the base station transmits a signal on a
18 channel and the -- looking for the right term
19 here -- and the mobile device receives the signal
20 and receives multiple versions of the signal
21 that's being transmitted by the base station on
22 the same channel.

1 Q Okay. So for that particular --

2 A And, again, I misspoke. Again, your
3 question is very specific. It might not be as
4 specific as you meant it to be. But when you ask
5 a specific question to me about the channel, I
6 think I need to answer differently than I just did
7 because I just read a sentence.

8 In Column 1, beginning at Line 54,
9 which is in the area of the brief summary of the
10 invention, it states, "Open loop phase estimation
11 methods and apparatus for coherent combining of
12 signals on mobile channels using diverse antennas
13 are disclosed."

14 So there it's referring to plural,
15 multiple channels.

16 So while I believe the base station
17 transmits on a channel, the receiver is receiving
18 on multiple channels.

19 Q Okay. So for that particular scenario
20 that you just outlined where the base station is
21 transmitting and the receiver receives a signal
22 over multiple channels, isn't it the case that if

1 you wanted to avoid the fading issues that you
2 outline in Paragraph 89 of your declaration, it
3 would always be better to use multiple antennas to
4 receive those signals rather than just one?

5 A I mean, one of the rules I have, and
6 I've learned as a technical person, is never to
7 say never and never say always. And you've
8 included always in your question. And I was
9 thinking of multiple implementations where a
10 single antenna was actually, to use your word,
11 "better" than using multiple antennas on a mobile
12 device.

13 So the answer is it depends on many
14 different factors, whether using multiple antennas
15 on a mobile device is better or not, than just
16 using one antenna.

17 Q Totally fair. I understand your
18 answer.

19 But then you would agree that at least
20 in some situations, for that situation that you
21 outlined in Ito, it may be better to use multiple
22 antennas than a single antenna?

1 A Sorry. You threw me off where you said
2 something about what I've said about Ito or what
3 Ito says. You'll have to ask the question again.
4 If it concluded Ito, it threw me.

5 Q Right. You're right. I did not intend
6 to include Ito. So let me re-read my earlier
7 question. Let me pull it up.

8 So for the particular scenario that you
9 outlined from Gardner where the base station is
10 transmitting and the receiver receives a signal
11 over multiple channels, isn't it a case that at
12 least in some situations it would be better to
13 receive those signals with multiple antennas as
14 opposed to just a single antenna?

15 A Okay. And I answered the question that
16 may be but it isn't a general rule.

17 There's many cases and there's many
18 phones, there are many mobile cellular phones,
19 that were being operated in the time of the patent
20 that only used one antenna for receiving the
21 cellular signal.

22 Q Okay. So we've focused on this one

1 particular sentence from Gardner earlier, but I
2 want to direct your attention to it again. And it
3 is the sentence in Column 2, Line, I think it's
4 20, it's not lining upper perfectly. But in that
5 particular sentence it says, "While the system
6 shown in the FIGURE may be used at the mobile
7 units, it is particularly suitable for data base
8 stations used in a mobile communications system."

9 You see that, correct?

10 A Yes.

11 Q Does Gardner explain why it believes
12 that the invention may be particularly suited for
13 the data base station?

14 A I believe it does indirectly. And,
15 again, as I've stated, there's multiple factors
16 that occur from a moveable device, like a mobile
17 phone would be, versus a fixed base station.
18 There's also physical limitations to what can be
19 put into a mobile station and also physical
20 limitations for how far apart the antennas can be.
21 The antennas can be a matter of feet apart or many
22 feet apart in a base station, wherein some type of

1 portable cellular phone that wouldn't even be
2 reasonable to be more than, say, four to six
3 inches apart. And he explains that in
4 Paragraph -- starts discussing the spatially
5 antenna -- diverse antennas in Column 2, Line 24,
6 really 23, "As shown in Figure 1, two spatially
7 diversified antennas 0 and 1 are used, the antennas
8 being spaced far enough apart so that the signal
9 fading experienced by each antenna is
10 substantially independent of the fading
11 experienced by the other."

12 And so he's explaining one of ordinary
13 skill in the art understands there needs to be
14 sufficient separation to see fading and for a
15 mobile device is that reasonable to assume.

16 Also, he's discussing how the inphase
17 and quadrature phase components are demodulated,
18 and there's a group of signals that are used, and
19 it uses the middle components of the group, those
20 are known as the INQ components, and the middle of
21 the group is stationary for this stationary device
22 where it would be constantly changing. So the

1 circuitry would need to be able to track every
2 signal of the group to determine which of the
3 signals that are more than the signals that, if
4 are being processed, would be used. And that
5 could change -- that situation could change in one
6 instant in time or from one time to the next in an
7 instant for a mobile device. And so that
8 circuitry would need to be constantly changing.

9 I'll stop there. But there's a lot of
10 technical detail. But the technical details are
11 constant at a base station and the processing.
12 But for a mobile device that's moving, especially
13 if it's a person in a car, they are going through
14 and the multipath is constantly changing either
15 from reflections from buildings, trees, other cars
16 are a big impediment to a cellular signal, and
17 that changes as the car moves, like I said,
18 drastically from one instant to another.

19 And so all of the calculations and all
20 of the processing that are shown for the invention
21 in Gardner would constantly need to change, and
22 the signals that were considered the best signals

1 to use to receive would also need be reevaluated
2 on a constant basis in Gardner in order for the
3 processing to operate like it does.

4 And as I even look through some of the
5 single code that Gardner includes, I didn't see
6 any compensation for how the source signals
7 changed or what they would be like in a mobile.

8 Q Okay. So each of the factors that you
9 identified in your previous answer, those would be
10 factors that may improve the efficiency or improve
11 the performance to a higher level but they would
12 not prevent the inventor or a person of ordinary
13 skill in the art from implementing it at a mobile
14 unit, right? That's what's being explained by
15 Gardner at Line 20, these aren't prohibitive?

16 A If I read, and I believe a person of
17 ordinary skill in the art read this sentence from
18 Gardner, that "The invention may be used at mobile
19 units, it is particularly suitable for base
20 stations" -- and it says "for data base stations
21 used in a mobile communications system," I would
22 be very careful about proceeding forward of

1 whether it would be acceptable to use the
2 invention of Gardner in a mobile device.

3 I don't disagree when he says "it may
4 be used." That's typical language I see in
5 patents. But to me, this is a clear caveat that,
6 hey, it's particularly useful for data stations.

7 So I won't argue with you that Gardner
8 is saying it could be used in mobile units. But
9 as I've spent a page or two on, there's a lot of
10 reasons why a person of ordinary skill in the art
11 would be very cautious and would need to do
12 extensive testing of Gardner in a mobile
13 environment before it would be used in a mobile.

14 Q Okay. So let's move forward in your
15 declaration and let's take a look at
16 Paragraph 125.

17 A Okay. I'm there.

18 Q Okay. In this paragraph it states that
19 "Second, a POSITA would not have been motivated to
20 combine Ito with Gardner because such a
21 combination would have required much new circuitry
22 - not disclosed in either Ito or Gardner - (i) to

1 control the multiple antennas; (ii) to process
2 multiple receive signal input paths; and (iii) to
3 determine how to use the signal received from
4 these multiple paths," correct?

5 A I believe you read that correctly, yes.

6 Q Okay. So if we take a look at Figure 1
7 of Gardner, which again, Gardner explained "is a
8 block diagram of a cellular radio receiver for
9 receiving phase shift keyed or frequency modulated
10 digital information modulated on an RF carrier
11 incorporating the present invention."

12 Is it your opinion that the signal
13 processing components here and processes performed
14 by those components would not work for their
15 intended purpose?

16 A You read the first part about
17 modulation. So I understand your question, were
18 you reading that out of Gardner or were you --
19 were you including that in your question and it's
20 not in Gardner or -- for the frequency keyed? I
21 need to look at that part to understand what you
22 were reading, or if you were reading it. I'm not

1 sure.

2 Q That was from Gardner. It was Column
3 2, Line 10 was where we were discussing a little
4 bit earlier.

5 A Okay. And so to answer your question,
6 Figure 1 is the invention of Gardner. And Figure
7 1, as you include it in your question, has a
8 specific type of modulation, or two different
9 types. It could be phase shift keyed, ESK it's
10 referred to, or frequently modulated digital
11 information, FM. So those are two specific
12 modulations methods that Gardner says his
13 invention is for. And its important because
14 Gardner is using the INQ components that I
15 referred to earlier. So he's dealing with phase
16 and frequency type modulation methods.

17 And so this circuitry is for the
18 Gardner invention. And I don't disagree that this
19 circuitry is sufficient for the Gardner invention.

20 My point is different. My point is
21 these are not Lego blocks that can just
22 interchange and take the Figure 1 from Gardner and

1 put it into Ito, because Ito doesn't have any of
2 the circuitry disclosed in order to deal with
3 multiple antennas and how these multiple antennas
4 would feed into the Gardner device and then how
5 the Gardner device would feed into Ito.

6 Q Is it your --

7 A So that's --

8 Q Go ahead.

9 A Well, Paragraph -- Paragraph 125 from
10 my declaration, I wanted to be clear what the
11 meaning of Paragraph 125 is, is that these two are
12 not interchangeable like Lego blocks is what I'm
13 saying. That's the interpretation of that.

14 Q So is it your understanding that for
15 two references to be combined for the purposes of
16 obviousness, that they need to be able to be fit
17 together like Lego blocks?

18 A No. Just the opposite. I think that's
19 the way that the Petitioner and their experts are
20 using these two references. And I'm saying they
21 are not Lego blocks that are interchangeable as
22 the opinions that I've read. Instead, one of

1 ordinary skill in the art would not be motivated
2 to combine the modulation methods that are
3 disclosed with Ito -- with Ito, with the
4 modulation methods that are disclosed by Gardner.

5 And, also, the circuitry for how the
6 Gardner invention would interface or even interact
7 with the Ito invention is absent.

8 And so it isn't -- it is not a matter
9 of taking a Lego block of Gardner and putting it
10 into Ito, as if they were Lego blocks. There's a
11 lot of circuitry missing and also the circuitry is
12 incompatible with each other for what was
13 disclosed in Ito versus the type of modulation
14 methods used in Gardner.

15 Q So that's helpful. So then it's just
16 that it's your interpretation of the Petitioner
17 and Petitioner's experts argument, your
18 interpretation of their argument is that they
19 think Lego block -- they need to be fit together
20 like Lego blocks, correct?

21 A I didn't use that in my report, but
22 I'll read that.

1 Q I didn't say it was in your report. It
2 was in your previous answer.

3 A For the reasons that -- and you --
4 well, it says in Paragraph 123, I'm saying that's
5 my interpretation of what the Petitioner and
6 Mr. Denning are proposing because they are not
7 providing any of the details that are there. And
8 I'll read what it says in my declaration, it's
9 very clear, I don't say the word Lego blocks, I'm
10 explaining that now, but that's where I read is
11 they act -- in an opinion that Mr. Denning
12 includes without any support is you can simply
13 just take Gardner and combine it with Ito and,
14 voila, you have a device that receives over
15 multiple antennas. And I'm saying not so. And a
16 POSITA would simply not replace.

17 And I described that without reading
18 those in at least Paragraphs 123 and 124.

19 Q So you would agree, though, that in
20 Paragraphs 123 through 127, which represent all
21 paragraphs under the heading "No Motivation to
22 Combine Ito With Gardner," you would agree that

1 nowhere in these paragraphs do you provide any
2 citation to any argument in either the petition or
3 Mr. Denning's declaration, correct?

4 A I would agree that in Paragraphs 123
5 through 127 I have it cited to a specific
6 paragraph or paragraphs in Mr. Denning's
7 declaration. But to me it is clearly followed.
8 If you'd like me to identify those now, I can.
9 But I think it's very reasonably to assume the
10 subject matter is the motivation to combine Ito
11 with Gardner. So I'm referring to Mr. Denning's
12 opinions regarding the motivation to combine.

13 Again, if you want to ask me where
14 those are at, I can identify those for you. But I
15 believe one reading Mr. Denning's declaration or
16 the Petitioner response can also find what I'm
17 talking about in this subject area.

18 Q I want to take a look back at Figure 1
19 of Gardner.

20 A Okay. I have it.

21 Q Looking at Figure 1 here, I think we
22 can both agree that multiple antennas are shown,

1 correct?

2 A Multiple receive antennas are shown,
3 yes.

4 Q Okay. And would you agree that the
5 functional components shown in Figure 1 can
6 process the signals received from those multiple
7 receive antennas?

8 A The antennas and the circuitry that's
9 included to support those antennas, and I'm
10 specifically referring to the words "sign" and
11 "co-sign" down on the bottom left-hand side that
12 are above -- that rectangle that's labeled "local
13 carrier oscillator," that would explain to a
14 person of ordinary skill in the art that this is
15 circuitry to demodulate a specific signal that is
16 modulated in a specific way.

17 And as I discussed earlier, that's
18 disclosed in Column 2. And specifically the type
19 of signal that's being received is either a phase
20 shift keyed signal or a frequency modulated signal
21 because those signals have specific
22 characteristics that you use to sign, co-sign,

1 demodulate. This is specific circuitry to
2 demodulate a specific type of modulated signal.
3 It's also referred to as the INQ components.

4 Q So you would agree, though, that the
5 modulation techniques that you just described is a
6 form of signal processing, correct?

7 A The Gardner invention discloses
8 demodulating either a phase shift keyed signal or
9 a frequency modulated signal, and this circuitry
10 supports that type of signal demodulation.

11 Q And signal demodulation is a form of
12 signal processing, correct?

13 A No. It is one part. But signal
14 processing, if you're going to actually process
15 the whole signal, starts at the left and goes
16 through all the boxes that are in the diagram, at
17 least all of those boxes.

18 Q Okay.

19 A So you haven't processed the signal.
20 And the actual signal that's being received is not
21 actually provided to the device until it comes out
22 of the right-hand side box.

1 Q Perfectly fair. So you would agree,
2 though, that if the signal is received at the
3 antennas and received through each of the boxes
4 that are shown in Figure 1 and reaches the data
5 out portion on the right-hand side, that signal
6 would have undergone some signal processing?

7 A I would agree that the signal that's
8 being received over antenna 0 and 1 received as
9 either a phase shift keyed or frequency modulated
10 signal is processed through the circuitry shown in
11 Figure 1.

12 Q Okay. So if we turn back to
13 Paragraph 125 of your declaration, and that's the
14 one that we were referring to earlier, we read
15 this into the record before so I won't do that
16 again. But here you mention that much new
17 circuitry would be required for Gardner and Ito to
18 be combined.

19 What "much new circuitry" are you
20 specifically referring to?

21 A Well, I've listed the categories in
22 Paragraph 125. The first circuitry in Ito is how

1 Ito controls the multiple antennas. For instance,
2 are both antennas active all the time? Do they
3 select? There's no circuitry at all for how the
4 Ito device or any portion of the Ito device
5 specifically the MSS or even the PSS, would be
6 able to support multiple antennas and how multiple
7 antennas would be controlled. That is just
8 nonexistent in Ito because, frankly, Ito was
9 designed with a single antenna in mind.

10 Q I mean you just -- we just discussed, I
11 think, in our previous question that the
12 components shown in Figure 1 of Gardner could work
13 perfectly well with its multiple antennas, right?

14 A Yes. But you're missing a big piece.
15 When all of a sudden a person -- when the
16 Petitioner and Mr. Denning say it would be obvious
17 to a person of ordinary skill to combine Ito and
18 Gardner, this is where they conflict and where all
19 the problems are created.

20 Ito is a device that was designed for a
21 single antenna and only has circuitry for a single
22 antenna. Gardner shows two antennas and a

1 receiver. But Gardner doesn't show how his
2 circuitry interfaces with all of the cellular
3 device or the MSS or a PSS type device.

4 So there's a large gap or a large void
5 between the two figures that's not explained. And
6 as I explain in my declaration, one of ordinary
7 skill in the art would not be motivated to use
8 these. And also, they use different modulation
9 methods that can't be ignored and would not be
10 ignored by a person of ordinary skill in the art.
11 They're using incompatible modulation methods
12 between the two.

13 So there's major changes and additions
14 to both the -- that are not shown to both the MSS
15 or the PSS of Ito and Figure 1 of Gardner.

16 Q Okay. So just so I'm clear. Is it
17 your testimony that the concepts of Ito, it would
18 be impossible to combine those with the concepts
19 disclosed in Gardner?

20 A You'll need to re-ask that question.
21 You broke up badly that time.

22 Q Okay. So is it your testimony that it

1 would be impossible for somebody to combine the
2 concepts disclosed in Ito with the concepts
3 disclosed in Gardner?

4 A Again, you're greatly mischaracterizing
5 my testimony.

6 Q I'm asking a question. I'm not saying
7 that you said that, Mr. Lanning.

8 A I'm saying it's -- and I did not say
9 that it was impossible. The words I've used in my
10 declaration and the words I've used today is a
11 person of ordinary skill would not be motivated.
12 I've how often used an expression with people with
13 enough time and money you can do about anything,
14 including go to the moon.

15 So if there was enough time and money,
16 Ito could be combined with Gardner. But that's
17 not the test here. The test here would one of
18 ordinary skill be motivated to combine. And I
19 believe I've listed multiple reasons that would be
20 significant barriers for one of ordinary skill in
21 the art to even consider combining Ito with
22 Gardner.

1 MR. RICHARDSON: I think we have
2 reached a natural stopping point so why don't we
3 take another quick break.

4 Do you want to say come back at 11:30?

5 THE WITNESS: That's good.

6 MR. SMITH: 11:30 works.

7 THE WITNESS: Okay.

8 MR. RICHARDSON: All right. Thank you.

9 (Recess taken from 12:18 p.m. to
10 12:33 p.m.).

11 BY MR. RICHARDSON:

12 Q Welcome back, Mr. Lanning.

13 So we can move on from our earlier
14 discussion of Gardner and Ito. And I want to now
15 have you take a look at the reference that is
16 identified at Gilhousen '865. I believe you
17 should have a physical copy of that one.

18 MR. RICHARDSON: And if we could also
19 pull that reference up on the screen.

20 And I think we are at Deposition
21 Exhibit 9. So if we could add a label to that.

22

1 (Lanning Exhibit 9 marked for
2 identification and attached to the transcript.)

3 A I have the paper copy.

4 Q Okay. Great.

5 So this should be old news for you, but
6 if you could flip through it real quick and let me
7 know if you see any highlights, notes, or other
8 markings.

9 A It's clean.

10 Q Okay. Great.

11 And the physical copy that you're
12 looking at, again, at least on the first page, it
13 appears to be the same document that's been marked
14 on the screen?

15 A Yes.

16 Q Okay. Great.

17 MR. RICHARDSON: We can pull that
18 document down from the screen.

19 Q And if we look back at your
20 declaration, Mr. Lanning, specifically in
21 Paragraph 107.

22 A I'm there.

1 Q Okay. So the first sentence of 107
2 reads, "Unlike the 'mobile device' required by the
3 relevant claims of the '023 Patent,
4 Gilhousen'865's radiotelephone does not have
5 cellular telephone capability."

6 Do you see that?

7 A Yes.

8 Q Okay. Do you disagree that Gilhousen
9 '865's system registers the radiotelephones with
10 the ground base station?

11 A You broke up a little bit and I think a
12 few words may make a difference.

13 So if you could repeat the question or
14 have it reread, I'd appreciate it.

15 Q Sure. I'll re-read it.

16 Do you disagree that Gilhousen '865's
17 system registers the radiotelephones with the
18 ground base station?

19 A The -- specifically, the Gilhousen '865
20 discloses that the -- and I'm reading from
21 Column 3, Line 15, "The process begins by the
22 airborne repeater registering the radiotelephone

1 with the near cell site."

2 So to me that is the repeater
3 registering the radiotelephone with the nearest
4 cell site but it is not the radiotelephone
5 registering.

6 Q In the next sentence it reads, "This is
7 accomplished in the same manner as the terrestrial
8 radiotelephone registered with the ground base
9 telephone system."

10 Correct?

11 A Meaning -- and you read that correctly.
12 And that means that the airborne repeater
13 registers with the base station using the same
14 process.

15 Q Correct. And so the end result is the
16 radiotelephone becoming registered with the ground
17 base station, correct?

18 A No. The end result is that the
19 airborne repeater registers the radiotelephone on
20 the radiotelephone's behalf with the network and
21 so the airborne repeater is the one registering
22 with the terrestrial radio network.

1 So that's a different process and it
2 has a different result than a telephone
3 registering directly.

4 I guess saying it another way, the
5 airborne repeater is a proxy or acting as a proxy
6 of the radiotelephone.

7 Q I don't think we're in a disagreement
8 on that point. But my question was the end result
9 of the process performed in Gilhousen is that the
10 airborne radiotelephone becomes registered with
11 the ground base station, correct?

12 A I would say as far as the network is
13 concerned, the network is concerned the
14 radiotelephone is registered with the network;
15 however, as I just explained, the Gilhousen
16 reference also explains that the repeater is being
17 a proxy for the radiotelephone. So the
18 radiotelephone itself is not registering with the
19 network. And so -- and why I'm making that
20 distinction is if a radiotelephone number is
21 called, meaning it is the -- it is the -- I'm
22 trying to think of terminology -- it is the

1 terminating end of the phone call, then the call
2 truly goes to the repeater. And so the repeater
3 is the proxy and then the repeater, as the name
4 implies, then repeats the signal to the
5 radiotelephone.

6 Q Sure. Understood.

7 So if you recall yesterday, and I know
8 there was a lot yesterday, but we referred to a
9 portion of the '023 patent which described a
10 registration process where the mobile unit
11 registers by transmitting its address to the
12 moving base station which then transmits it to the
13 fixed port.

14 Do you recall that?

15 A I recall it in general. If you're
16 going to ask me questions specifically about it,
17 I'd like to look at the passage you're referring
18 to. I don't remember whether it was in my
19 declaration quoted or whether we looked at the
20 patent.

21 (Lanning Exhibit 3 marked for
22 identification and attached to the transcript.)

1 Q Okay. So if you have a copy of the
2 '023 in front of you.

3 A Yes, I do.

4 Q Then you can turn to Column 9, Line 62.

5 A Okay. I'm to Line 62 and I've read it.

6 So do you believe there's a question
7 pending? I'm not recalling there was a question.

8 You were comparing something in the
9 '023 registration process, I believe, with the
10 registration process of Gilhousen '865. So I'm
11 with you that far.

12 Q I was hoping that you could -- let me
13 ask it a different way.

14 So we described -- you described how
15 the registration process is carried out in
16 Gilhousen '865. In your opinion, is that
17 registration process different from the
18 registration process disclosed in the '023 at
19 Column 9, Line 62?

20 A Yes. They're significantly different.
21 As I described yesterday, in the passage of '023
22 in Column 9, beginning on Line 62, it's important,

1 I think, to read this and to make sure we get the
2 context here, "When a mobile unit set is first
3 powered up or first enters a service area, the
4 mobile unit must register in the manner described
5 earlier," there's a comma there, and "by
6 transmitting its unique address in the new service
7 area," and then a period.

8 And so this first sentence is
9 describing how the traditional way, or in my mind
10 I can say it's the way of not using a moving base
11 station. It would be the conventional way that a
12 mobile phone would turn on and would communicate
13 directly with the cellular network and transmit
14 its unique address to register.

15 But then it -- then it goes on to say
16 in the next sentence, beginning on Line 65, "The
17 address will be received by the closest moving
18 base station 30 and transmitted via a radio" -- "a
19 fixed radio port and the gateway switch 60 to the
20 telephone network."

21 So that is even different than the way
22 that the Gilhousen reference '865 describes it

1 because the Gilhousen '865 reference is describing
2 the repeater doing the registering because the
3 repeater has the cellular logic in it in order to
4 act as a base station.

5 Let's see, I think I remember,
6 actually, those specific words for two different
7 environments. Yes, in Column 3 Gilhousen '865 it
8 states, "In an alternate embodiment, the
9 radiotelephone signal repeater is replaced by an
10 airborne base station that has the ability to
11 register the radiotelephones on the aircraft."

12 So again, even if the repeater is used
13 in Gilhousen, the registration originates at the
14 repeater of Gilhousen and is sent to the cellular
15 network because the repeater is the only device on
16 the aircraft that has the cellular-type
17 capability.

18 That's not the same way, it's very
19 different, for the '023 patent because the
20 '023 patent, the mobile terminal has the cellular
21 capability and initiates the signal to either
22 directly connect to the cellular network or

1 initiates the registration signals that then is
2 received by a moving base station and then it is
3 transmitted from the moving base station to the
4 fixed radio port.

5 Q So if we take a look at Gilhousen '865.
6 And so if we look at Gilhousen '865, Column 3,
7 Line 55.

8 A Did you say 5-5 or 65?

9 Q 5-5.

10 A Okay.

11 Q So in that portion of Gilhousen '865 it
12 states that "The signals from the ground base
13 stations are received by the external antenna of
14 the airborne subsystem and repeated to the
15 radiotelephones. This enables the radiotelephones
16 to search for the strongest pilot signal of the
17 next cell and register with that base station."

18 Do you believe that that is a form of
19 the radiotelephone being involved in your
20 registration process?

21 A I'm just -- sorry the pause. I'm
22 reading and making sure that I'm responding and

1 making sure.

2 In Column 3 at the top, the reason why
3 I was making sure whether it was talking about
4 alternate embodiment or the whole invention
5 because Column 3 on Line 3 starts with the words
6 "In an alternate embodiment," and then it switches
7 over, I think, in Line 41 discussing the present
8 invention. And then you asked me a question.

9 The part that confuses me is this is
10 not a normal handoff process because they required
11 the radiotelephone to register with the next base
12 station. This would be a non-standard cellular
13 way of why the phone would need to register for
14 handoff -- for the handoff that they're
15 describing. If it were a cellular handoff the
16 registration wouldn't be required for the phone in
17 the next base station.

18 So the text is confusing to me
19 specifically if they're referring to whether the
20 repeater is doing the handoff or whether the phone
21 is doing the handoff. And then as it states in
22 both embodiments, the phone doesn't do the

1 registration, it's the repeater that does the
2 registration.

3 So that's in conflict with this
4 description.

5 Q So let me ask it a slightly different
6 way. Whether the radiotelephone actually does the
7 registration as described here, whether or not
8 that actually happens, you don't refute the fact
9 that the radiotelephones have the ability to do
10 it, correct?

11 A No. I think that's my point. In both
12 embodiments the radiotelephones do not have the
13 capability of directly registering with the
14 cellular network. And so that's where this is
15 confusing to me, this sentence, because it's
16 clear, Gilhousen '865 is clear, that the
17 radiotelephones do not do the registration. It is
18 the repeater that's doing the registration. And
19 there's multiple passages there. And so even as I
20 repeat for the alternate embodiment Column 3,
21 Line 15, "The process begins by the airborne
22 repeater registering the radiotelephone with the

1 nearest cell site."

2 And then it describes how it performs
3 the registration.

4 And then it says, even going up a
5 little further in Column 3 in Line 3, "In an
6 alternate embodiment, the radiotelephone signal
7 repeater is replaced by an airborne base station
8 that has the ability to register the
9 radiotelephones on the aircraft."

10 So, again, the Gilhousen '865 reference
11 is being very specific that either the repeater or
12 in the alternate embodiment where the repeater is
13 replaced by an airborne base station, it's that
14 component that does the registering because it's
15 that component that has the capability to
16 communicate with the cellular system.

17 Q So putting aside the fact that the
18 alternate embodiments that you're referencing
19 could potentially be contradictory to one another,
20 I want to return to the particular portion that we
21 started focusing on from Gilhousen that says, "The
22 radiotelephones can search for the strongest pilot

1 signal of the next cell and register with that
2 base station."

3 Are you disagreeing with the text as
4 written in that particular sentence?

5 A I'm not disagreeing with the text but
6 I'm saying I believe this text is for something
7 different, and it's for the radiotelephones to
8 search for the strongest pilot signal and then
9 register it with the next base station.

10 So this is not standard cellular is
11 what I'm saying. It looks to me like it's an
12 unique aspect of the Gilhousen '865 -- of the
13 Gilhousen '865 patent because it's clearly stating
14 that for handoff capability when the
15 radiotelephone searches for the strongest pilot
16 signal, the next cell, and it registers with that
17 base station, that is not standard cellular
18 functionality.

19 So I don't know if it's referring to
20 the radiotelephone functionality, which it could
21 be, as back to the present invention where there's
22 a repeater and the repeater is just providing the

1 radiotelephone with functionality.

2 But I guess if we wanted to get
3 agreement, I would say the radiotelephones are
4 receiving a signal. I don't disagree with that
5 the repeater provides, and it says, and I'm
6 reading Line 55 from Column 3, "The signals from
7 the ground base stations are received by the
8 external antenna of the airborne system --
9 "subsystem and repeated to the radiotelephones."

10 So to me this is saying that it's
11 acting as a radiotelephone repeater not a cellular
12 repeater. And then it makes sense if you read it
13 as not being a cellular phone but as the signals
14 being repeated to a radiotelephone. At the
15 beginning of Gilhousen '865 it differentiates
16 radiotelephones from cellular phones. Then in
17 that case, the radiotelephones can search for the
18 strongest pilot signal of the next cell and it
19 would make sense, if they were a regular telephone
20 and not a cellular phone, that they register with
21 the next base station because that's how Gilhousen
22 describes in the background that the

1 radiotelephone systems worked.

2 So I say all of this seems to be
3 totally in line with the first embodiment of
4 Gilhousen '865 where the repeater is a
5 radiotelephone repeater and not the alternative
6 embodiment where the repeater serves as an
7 airborne base station.

8 I know it's a long answer, but you have
9 to kind of unravel this paragraph that's towards
10 the end of the patent.

11 Q Okay. So somewhere in your answer
12 there you mentioned that Gilhousen distinguishes
13 radiotelephones from cellular radiotelephones.

14 Where does Gilhousen make that
15 distinction?

16 A He makes the distinction between a
17 radiotelephone and a cellular telephone in
18 Column 1, or I should even be more specific. He's
19 making the distinction of a radiotelephone
20 operating with a radiotelephone system and the
21 system includes a series of radiotelephone base
22 sites. And he begins with, in Column 1, Line 18,

1 "A radiotelephone conversation is typically
2 accomplished by first entering the telephone
3 number to be called as well as credit card
4 information to pay for the call. The
5 radiotelephone then connects with one of 70-80
6 radiotelephone base stations, also known as cells
7 on the ground. The cell to which it connects
8 depends on to which base station the aircraft is
9 closest when the call is initiated. The cells,
10 each connected to the public switched telephone
11 network, cover most of the continental United
12 States, thus allowing a telephone call to be
13 initiated from an aircraft almost anywhere."

14 Then it goes on so I'll stop there.

15 Q So the portion of Gilhousen that you
16 pointed to for the disclosure of radiotelephones,
17 that's in the background, correct, the description
18 of the related arts?

19 A And so that's the background describing
20 a radiotelephone operating with a radiotelephone
21 type base station. Specifically setting their 70
22 to 80 radiotelephone base stations.

1 So you're right, it is in the
2 background, but there's the context of how a
3 radiotelephone network works with a
4 radiotelephone. Then it goes on, and I can read.
5 The question was where does he contrast the two.
6 Now that the radiotelephone system -- he then goes
7 into the summary of the invention. And the
8 summary of the invention, then, describes two
9 different embodiments; one where the repeater on
10 the airplane just performs a repeating function to
11 the radiotelephone. And then the alternate --
12 alternative -- an alternate embodiment starts on
13 Column 3, it very specifically says, "The
14 radiotelephone signal repeater is replaced by an
15 airborne base station."

16 So to me it's very clear that the first
17 embodiment is a radiotelephone signal repeater
18 because he's now contrasting with putting that
19 function, or changing that function, to an
20 airborne base station that has the ability to
21 register the radiotelephones on the aircraft.

22 Again, it's very careful to not call

1 the phones on the aircraft cellular phones.
2 They're still the same radiotelephones that
3 Gilhousen '865 describes in the background.

4 Q Okay. So previously you said Gilhousen
5 distinguishes between radiotelephones and cellular
6 radiotelephones. So you pointed me to the
7 background where it talks about the
8 radiotelephone.

9 Where does Gilhousen talk about the
10 cellular radiotelephones?

11 A Sorry; you have to try again. It broke
12 up too badly for me to understand.

13 Q Okay. I'll re-read the question.

14 Previously you said Gilhousen
15 distinguishes between radiotelephones and cellular
16 radiotelephones. So you pointed me to the
17 background where it talks about radiotelephones.

18 Where does Gilhousen '865 talk about
19 cellular radiotelephones?

20 A This is where I just described that in
21 Column 3, then alternate embodiment, this is where
22 the radiotelephones are still the radiotelephones

1 but the repeater is replaced by an airborne base
2 station that has the ability to register the
3 radiotelephones on the aircraft. The airborne
4 base station then registers the radiotelephone
5 with the ground based system.

6 So to me it's then saying that the base
7 station has the capability of communicating with
8 the cellular system and making a registration.
9 That's the contrast I was referring to.

10 Gilhousen clearly is leaving the
11 radiotelephone alone, the radiotelephone in the
12 background, and in general is saying you can use
13 the same radiotelephone but I'm either going to
14 use a radiotelephone repeater or alternatively,
15 instead of using a radiotelephone repeater, I will
16 use an airborne base station that has the ability
17 to register the radiotelephones on the aircraft.

18 Q Okay. So I want to make it clear. So
19 my previous question is "Where does Gilhousen '865
20 talk about cellular radiotelephones?"

21 And you said, "In the alternate
22 embodiment disclosed in Column 3."

1 Is that correct?

2 A So maybe I need to rephrase. It seems
3 like there's a misunderstanding. So let me try it
4 again.

5 As I just explained, to me the
6 radiotelephones in Gilhousen stay the same as the
7 radiotelephones that are described in the
8 background. And Gilhousen invention --
9 Gilhousen's invention has two different
10 embodiments; one is a repeater system for those
11 radiotelephones that are on the aircraft, and
12 another embodiment, that is stated to be an
13 alternate embodiment, is where the radiotelephone
14 signal repeater is replaced by an airborne base
15 station.

16 But again, the radiotelephone stayed
17 the same. He's clearly contrasting the
18 functionality that's provided in the repeater.

19 I hesitate with repeater because he's
20 calling them two different names. In one
21 embodiment the name he calls it is the
22 radiotelephone signal repeater. The other

1 embodiment he's referring to it as an airborne
2 base station.

3 So --

4 Q Now --

5 A Oh.

6 Q Now if I'm understanding your testimony
7 correctly, you are saying that Gilhousen does not
8 distinguish between radiotelephones and cellular
9 radiotelephones and only describes
10 radiotelephones; is that right?

11 A I won't go back and repeat the two
12 different embodiments for the repeater system.

13 Q I know you think that there are
14 different repeaters. I'm asking about the
15 radiotelephones.

16 A And I understand it. I wasn't finished
17 answering. So I'm saying I won't go back into
18 that point, I think I've made that point.

19 The part that I'm saying that Gilhousen
20 is distinguishing between a cellular telephone and
21 a radiotelephone that he's referring to, and I've
22 said multiple times that the radiotelephone in

1 Gilhousen for both embodiments stays the same.
2 It's the same radiotelephone that's described in
3 the background of the invention.

4 Where he's distinguishing the
5 functionality of the radiotelephone when it
6 communicates with a cellular system is that
7 instead of the radiotelephone providing the
8 registration or performing the registration, the
9 base station in the alternate embodiment has to do
10 it for the radiotelephone because the
11 radiotelephone is not a cellular phone.

12 Q So let's take a step back. You don't
13 disagree that Gilhousen '865 discloses a cellular
14 radiotelephone communications system, correct?

15 A Gilhousen, in the alternate embodiment,
16 is describing an airborne base station that
17 facilitates communication between the
18 radiotelephones and cellular base stations on the
19 ground.

20 Q Okay. So when I read the text of
21 Gilhousen '865 at Column 1, Line 6, where he says,
22 "The present invention relates to the field of

1 communication. More particularly, the present
2 invention relates to cellular radiotelephone
3 communications," are you disagreeing that it
4 discloses a cellular radio telecommunications
5 system?

6 A Not at all. It's just that that's the
7 description, the words are correct, in my mind,
8 for the present invention and clearly, as I just
9 explained, you have three different components of
10 the present invention for cellular radiotelephone
11 communications.

12 You have the radiotelephone that is the
13 traditional radiotelephone, then you have a
14 airborne base station that provides communications
15 with a cellular network. Therefore, the present
16 invention relates to cellular radiotelephone
17 communications between an airplane and a ground
18 based station. That's how it does it.

19 Q Okay. When you hear the term, and I
20 want to say in the abstract because Gilhousen uses
21 it in several places, "CDMA radiotelephone," what
22 does that mean to you as a person of ordinary

1 skill in the art?

2 A As it's used in Gilhousen '865?

3 Q Yes.

4 A He's referring to those. And Column 2
5 starts at "The ground base subsystem (105), in the
6 preferred embodiment, is the code division
7 multiple access (CDMA) cellular radiotelephone
8 system."

9 So he's referring to a CDMA telephone
10 system. Specifically for the time frame of this
11 patent it would have been the IS-95 CDMA cellular
12 system.

13 Q Okay. So when you -- the portion that
14 you just read, which is CDMA cellular
15 radiotelephone system, and then you read the rest
16 of Gilhousen, and I'll point you to a specific
17 part further down in Column 2, Line 46, where it
18 says, "The subsystem uses a CDMA-type
19 radiotelephone," read in the context of the CDMA
20 cellular radio system described above, what do you
21 understand that CDMA-type radiotelephone to imply
22 to be?

1 A The way it says the CDMA-type cellular
2 radio phone, it's simply saying here that CDMA is
3 the signal used between the radiotelephone, and as
4 it states in Gilhousen in that same passage, with
5 a radiotelephone signal repeater 210.

6 Q So when read in the context of
7 Gilhousen as a whole, because I know you make a
8 point in several of your answers to read specific
9 lines in context of the entire patent, so reading
10 the term, "CDMA-type radiotelephone 205," in the
11 context of the CDMA cellular radiotelephone
12 system, it is your opinion that that is a
13 noncellular CDMA radiotelephone?

14 A That's correct. And it's clear enough
15 by the patent in my mind because the passages that
16 we looked at, at the top of Column 2, clearly
17 state a "CDMA cellular radiotelephone system."

18 Then the passage that you read me for
19 the phone that starts at Line 45 of Column 2, it
20 refers to that as a "CDMA-type radiotelephone."

21 It's not saying that it's a
22 radiotelephone system or it's the system, they're

1 just using as for the air interface, meaning the
2 radio waves that are communicating between the
3 radiotelephone speaker -- or sorry -- the
4 radiotelephone signal repeater and the
5 radiotelephones, he's saying we could use a
6 CDMA-type radiotelephone, meaning that the air
7 interface follows the code division multiple
8 access air interface methods not the CDMA
9 radiotelephone system protocols. Two very
10 different things.

11 Q So what's the difference between a
12 cellular radio base station and a noncellular
13 radio base station?

14 A Everything froze so you'll need to ask
15 that one again.

16 Q What is the difference between a
17 cellular radio base station and a noncellular
18 radio base station?

19 A Well, Gilhousen tells us there's at
20 least two different types. If I have a non-CDMA
21 radiotelephone base station, that's what he's
22 referring to in the background. That's the

1 existing radiotelephone network of radiotelephone
2 base stations with radiotelephones, where a person
3 has to call and provide a credit card number.

4 A CDMA system base station is a CDMA
5 base station that, yes, does have a CDMA air
6 interface, but as I stated earlier, I believe this
7 is referring to the specific cellular system
8 standard referred to as IS-95.

9 And so when Gilhousen, definitely
10 Gilhousen '865, refers to a code division multiple
11 access cellular radiotelephone system, it's
12 referring to the overall system.

13 And as I said, understanding, and one
14 of ordinary skill in the art would understand, and
15 Mr. Gilhousen was heavily involved, and so
16 Qualcomm, in writing the IS-95 standard, which is
17 a CDMA cellular radiotelephone system standard.

18 Q What makes the CDMA cellular
19 radiotelephone system disclosed here, what makes
20 it cellular if it's not the radiotelephones?

21 A What -- the first thing that makes the
22 cellular -- the CDMA cellular radiotelephone

1 system a system is the fact that as the name
2 implies, the cellular word implies, you have to
3 have multiple cells. That's the first component.
4 That's the very basic component is that you have
5 multiple cells and each cells has at least one
6 transmitter and receiver for the cells.

7 Then you have to have a series of
8 protocols for communicating with those base
9 stations. And so those are protocols.

10 Then in the standard of the system you
11 have uplink channels that are defined for specific
12 purposes and protocol specifications for each of
13 those channels, and then you have downlink
14 channels that are specified, multiple ones, and
15 each channel has a specific purpose, and it also
16 has specific protocol, communication protocols
17 that are applied to that channel. All of that is
18 included in the words "cellular radiotelephone
19 system."

20 Q So you mentioned a couple times in your
21 previous answers this IS-95 cellular standard,
22 correct?

1 A The IS-95 at the time frame of the
2 patent was the second generation -- let me
3 rephrase that -- was one of the second generation
4 cellular standards.

5 Q Okay.

6 A That approximately had, best of my
7 recollection, over a thousand pages defining the
8 system.

9 Q Okay. So if we look at, still in
10 Column 2, if we go down to Line 65, Gilhousen
11 explains that "The radiotelephones (205) determine
12 which signal is to be decoded by the process
13 described in Gilhousen and in the
14 Telecommunications Industries
15 Association/Electronic Industries Association
16 Interim Standard 95 (IS-95)."

17 So my question is the fact that
18 Gilhousen explains radiotelephones 205 and operate
19 in accordance with the IS-95 cellular standard,
20 does that change your opinion as to whether they
21 have cellular abilities?

22 A No. Because, again, you're confusing

1 the idea of the overall system in the IS-95
2 standard to just a part of the standard. Again,
3 Gilhousen is not saying these phones comply with
4 the standard. He's saying they're complying with
5 just part of the standard, which is decoding the
6 RF signal. Specifically, he says, and you just
7 read it, but I'll read it again and explain it,
8 "The radiotelephones (205) determine which signal
9 is to be decoded by the process described in
10 Gilhousen et al. and in the IS-95 reference."

11 So that's only the air interface. This
12 is, again, only for the RF interface, the phone
13 decides which signal is to be decoded. If I could
14 even explain more, it says "based on which code
15 the signal has been encoded."

16 But the phone is not capable of
17 performing the CDMA system protocols.

18 Q The phone is not capable of performing
19 CDMA even though it's called a CDMA-type
20 radiotelephone?

21 A I think you'd like to just restrict it
22 to the CDMA, but it's real important that the

1 words the patent uses and I'm explaining. Up at
2 the top of Column 2 the patent's very careful to
3 say "CDMA cellular radiotelephone system," then it
4 describes the phone, it says it's a "CDMA-type
5 radiotelephone." And then at the bottom of
6 Column 2, it's clearly stating that it just
7 decides on "which signal is to be decoded," which
8 is maybe two to four pages out of the
9 thousand-page IS-95 standard that it's responding
10 to.

11 He's simply saying in a short way here,
12 very clearly to one of ordinary skill in the art,
13 we're going to use code division multiplexing to
14 send the signals to the phones and the phones can
15 decide what spreading signal to use to decode it.

16 Q But you would agree, then, that the
17 radiotelephones 205, then, at least have one
18 standardized cellular capability, the ability to
19 decode in accordance with IS-95?

20 A It has -- the radiotelephone has a air
21 interface that is based CDMA specifically based on
22 encoding a signal with various spreading codes

1 which is only a small fraction of the overall CDMA
2 system functionality and is not -- does not
3 include any of the functionality that's required
4 for a cell phone to directly communicate with a
5 cellular network or a CDMA network or register
6 with a CDMA network.

7 Q Okay. Let's shift gears a little bit.

8 The title of the Gilhousen patent that
9 we're been referring to is an "Airborne
10 Radiotelephone Communications System," correct?

11 A That's what the title says.

12 Q And in the particular embodiment
13 illustrated in Figure 1 it's depicted as -- or a
14 portion of the system is depicted as being within
15 an airplane, correct?

16 A Well, jeez, the regular telephones and
17 the repeater are in the airplane.

18 Q Okay. And is there any portion of
19 Gilhousen '865 that says that a system can only be
20 used when the plane is in the air?

21 A Yeah, I heard that on the redirect and
22 I had the same -- the title of the patent says

1 "Airborne," the base stations are designed to be
2 with an airborne plane. It describes airborne.
3 There's no consideration or even a hint in
4 Gilhousen regarding the invention on the ground.

5 Q So is it your professional opinion that
6 the invention would not work if the airplane was
7 on the ground?

8 A I think there's a lot of things that
9 would prohibit the invention from working with the
10 airplane on the ground. For instance, the base
11 stations are designed to be able to provide cells
12 for airborne aircraft, not for ground based
13 aircraft.

14 And there's no -- not even a suggestion
15 that from even the inventor that this would work
16 on the ground. Everything is about the aircraft
17 being in the air and being airborne.

18 Q Okay. But, I mean, we went through
19 your CV yesterday, you have ratings in various
20 different airplane and airline-related
21 disciplines. You would agree that an airplane
22 does not exclusively exist in the air, right? You

1 would agree that at least sometimes it's on the
2 ground, correct?

3 A An airplane can be on the ground. But
4 as the title says for the patent, I think it's
5 important to look at the patent and the intent of
6 the patent. I also noted in my declaration that
7 Mr. Gilhousen was also a pilot, a well-known
8 pilot. I think he understood the difference. He
9 is not claiming anything about this aircraft when
10 it's on the ground. Even the title "Airborne
11 Radiotelephone Communications System." And then
12 the abstract starts out with "The airborne
13 communications system."

14 Frankly, I don't think there's any
15 consideration, even from a reasonable person, or a
16 reasonable person of ordinary skill in the art, to
17 say that this invention was designed for an
18 aircraft on the ground. As a matter of fact,
19 there's some special type handling about how the
20 base stations would need to provide cells in the
21 air. And if base stations are providing cells in
22 the air that would not be the same as cells on a

1 terrestrial type network.

2 Q That was a long answer for whether a
3 plane ever is on the ground, but understood.

4 So given your professional airline
5 experience, airplane experience, for any
6 particular airplane, you can choose your model, I
7 do not care, do you have an estimate of the
8 proportion of time that the plane is in the air
9 versus on the ground?

10 A You'll have to re-ask it, it all broke
11 up.

12 Q Given your extensive experience with
13 airplanes, and you can pick whatever model you
14 would like, do you have an opinion or an
15 estimation as to what proportion of time the
16 airplane spends in the air versus the proportion
17 of time the airplane spends on the ground?

18 A Well, the obvious answer, that is to me
19 the obvious answer is it depends on the airplane
20 and the airplanes could actually be on the ground
21 and turned off where none of the electronics are
22 operational.

1 But, again, Gilhousen doesn't even hint
2 to its system operating while the aircraft is on
3 the ground.

4 Q Well, given the fact that, I mean, I
5 think we can both agree that planes are on the
6 ground for at least a decent amount of time. I
7 mean anybody who's been stuck on a tarmac for an
8 hour while you're waiting for traffic to clear up
9 can admit that. Do you think that it would be
10 prudent of an inventor to completely disregard how
11 its system would operate in a scenario that is
12 present for a significant portion of time?

13 A Well, I think it could definitely be
14 prudent, especially for a person that's also a
15 pilot, as the inventor is. For instance, I'm sure
16 you've flown and any of the capabilities for the
17 aircraft WiFi systems are turned off as a
18 regulation below 10,000 feet. There's a real
19 reason for that. And the specific reason is, is
20 the capability for interference with the other
21 plane electronics and communications on the
22 airplane.

1 And so anyone that has flown in an
2 aircraft that's using the aircraft WiFi system
3 that has a wireless link to ground based systems
4 knows that that system will be disabled below
5 10,000 feet.

6 So, again, there's multiple reasons why
7 this patent, in my mind, does not address ground
8 base communications. I frankly think the whole
9 focus is, as the title says "Airborne
10 Radiotelephone Communications System," not the
11 fact that airplanes sit on the ground sometimes.
12 That's not even a relevant fact for this
13 invention.

14 Q So one of the reasons that you stated
15 that supported your position that this is not
16 related to the plane being on the ground was that
17 the ground base stations are directed upward and
18 they form cells elevated above the ground; is that
19 correct?

20 A I said that's one of many reasons that
21 I've listed. And I'm referring to where Gilhousen
22 is referring to Column 2, Line 37, "An alternate

1 embodiment uses an antenna that radiates upward.
2 This upward radiation forms a cell that is
3 elevated above the ground allowing the airborne
4 radiotelephone to travel through the elevated
5 cells in the same manner that a mobile
6 radiotelephone on the ground travels through
7 terrestrial cells."

8 Q Right. So same manner as it would on
9 the ground.

10 A What he's doing is contrasting a
11 terrestrial system with this alternate embodiment
12 for the base stations that's an airborne system.

13 Again, it is addressing cells that are
14 for airborne aircraft.

15 Q Right. And it indicates that in the
16 portion that you just read allowing them to travel
17 through the cells in the same manner that a mobile
18 radiotelephone on the ground travels through
19 terrestrial cells.

20 And now you are telling me that when
21 the plane is on the ground it will be incapable of
22 operating in the same manner as it does in the

1 air?

2 A Yeah. You're twisting it around.
3 That's not how I would interpret that sentence nor
4 do I believe that's the way a person of ordinary
5 skill in the art. Mr. Gilhousen is clearly saying
6 you radiate the cells upward so they're elevated
7 above the ground allowing the airborne
8 radiotelephone to travel through the elevated
9 cells in the same manner that a mobile
10 radiotelephone on the ground travels through
11 terrestrial cells.

12 Gilhousen here is making a contrast of
13 the two types of cells. And so he says these
14 elevated cells then, and frankly that's the way
15 they have to be to get even any kind of altitude
16 because terrestrial cells won't provide the
17 altitude that's required for a majority of that
18 aircraft.

19 Q So the sentence that you read is
20 preceded by a different sentence that says, "In an
21 alternative embodiment, the alternative embodiment
22 uses an antenna that radiates upwards."

1 So that is only one particular
2 embodiment, correct?

3 A That's what it says. That is another
4 embodiment, yeah.

5 Q So there are, then, if that sentence
6 stands to reason, other embodiments where the
7 antennas are not restricted to radiating just
8 directly upwards?

9 A And again, a person of ordinary skill
10 in the art would understand the antennas for the
11 referenced IS-95 system are only good for about
12 2,000 feet above the ground if they're not
13 radiated upward.

14 And so for Gilhousen's invention to
15 cover higher altitudes, then the alternate
16 embodiment for the antennas would be used.

17 Q Okay. So if we want to move forward,
18 or back to your declaration.

19 MR. SMITH: Ryan, when you get to --
20 our lunch is here. Not saying stop now, but just
21 letting you know when you get to a good spot to
22 stop, it would probably be a good time for us.

1 MR. RICHARDSON: Well, I'm about to
2 transition into a new section so if you want to
3 stop now, we can do that.

4 Do you guys want a half hour again for
5 lunch?

6 MR. SMITH: Yeah, I think that --

7 THE WITNESS: How about 1:15 our time?
8 It's 12:36, right?

9 MR. SMITH: How about 1:15?

10 MR. RICHARDSON: All right. That'll
11 work.

12 MR. SMITH: All right. See you at
13 1:15. Thanks.

14 (Recess taken from 1:36 p.m. to
15 2:20 p.m.)

16 BY MR. RICHARDSON:

17 Q Welcome back, Mr. Lanning.

18 A Thank you.

19 Q How was lunch? I hope it was all
20 right.

21 A It's okay.

22 Q All right.

1 MR. RICHARDSON: If we're ready to
2 start going?

3 MR. SMITH: We're ready.

4 MR. RICHARDSON: Okay. Great.

5 Q Mr. Lanning, let's take a look back at
6 your declaration and specifically Paragraph 119,
7 1-1-9.

8 A Okay.

9 Q All right. So in Paragraph 119 here
10 you state that, "As also discussed in detail in at
11 least Section IX.D below, moving the transmitter
12 power controls from a ground based system with
13 maximum vehicle speed of 50 MPH to a commercial
14 jet at 500 MPH requires the power control
15 signaling and circuitry to operate 10 times
16 faster, which it does not. Therefore, calls will
17 be disconnected and handovers would not be able to
18 occur."

19 Do you see that portion?

20 A Yes.

21 Q Okay. Is there anything in Gilhousen
22 '865 that says that its system is only designed

1 for commercial jets?

2 A No. And I believe that I've actually
3 covered different types of aircraft and their
4 speeds. I didn't just take the one extreme with
5 the 500 miles an hour. I also took even a
6 single-engine aircraft, if I remember correctly.

7 Let me find it.

8 Q I think you may be referring to
9 Paragraph 138.

10 A Yeah. So I've taken both the
11 single-engine airplane of 150-miles an hour and
12 then a commercial jet with a 500 miles an hour to
13 show that both are at least three times faster
14 than the ground based system that's been defined.

15 Q Do you know what the minimum possible
16 air speed is for a single-engine airplane?

17 A That could be a real low number. But I
18 would qualify it by saying a single-engine
19 airplane that was capable of carrying the
20 Gilhousen invention gives us a lower air speed.
21 But a typical air speed for the type of
22 single-engine aircraft that would be capable of

1 using and carrying the Gilhousen invention, the
2 lowest speed of -- the lowest type cruise speed
3 would be around 100 miles an hour.

4 Q Why is it your opinion that the
5 Gilhousen '865 components would have an impact on
6 the speed of the aircraft?

7 A I don't understand your question. I
8 was trying to under -- you'll have to re-ask. I
9 heard it, but I don't understand it.

10 Q Okay. So I'm going to read your
11 previous answer back to you.

12 I asked a question "What is the minimum
13 possible air speed for a single-engine plane?"

14 You answered by saying, "That could be
15 a real low number. But I would qualify it by
16 saying a single-engine airplane that was capable
17 of carrying the Gilhousen invention giving us a
18 lower air speed."

19 So what in Gilhousen's invention would
20 make it incapable of being installed in certain
21 single-engine airplanes?

22 A Well, I maybe should have been more

1 specific. Again, there are a lot of very small
2 single-engine airplanes that don't have any
3 avionics in them; all they have is an air speed
4 indicator and an altimeter. So I was excluding a
5 lot of those -- or that category of single-engine
6 airplane. And that's why I said that they would
7 have -- and I could have said that would have the
8 Gilhousen '865 invention or any other type of
9 avionics that would be comparable to the Gilhousen
10 '865 invention.

11 Q Okay. But even assuming if we were
12 considering only a small single-engine airplane
13 that lacked --

14 There you go. All right. I'll restart
15 the question because it looks like you may have
16 froze.

17 So I was beginning to ask if we were
18 considering only a single-engine airplane that
19 lacked the avionics equipment that you were just
20 discussing, would something prevent a person of
21 ordinary skill in the art from then installing the
22 avionics equipment from Gilhousen into that

1 particular plane?

2 A Yes. Because, again, maybe I need to
3 even be further specific, but the type of air --
4 small single-engine aircraft I'm talking about
5 don't even have a battery, they don't have
6 electrical systems. They're types of airplanes
7 that aren't designed for any kind of avionics. So
8 I would think one of ordinary skill in the art
9 would understand that those type of airplanes
10 wouldn't make sense to have the Gilhousen
11 invention. They don't even have a radio. They
12 don't have navigation at all.

13 So -- nor do they have the support
14 system, like a battery and an electrical system,
15 to support a Gilhousen '865, so it wouldn't be
16 reasonable to put an invention of Gilhousen '865
17 in those small single- or dual-placed type
18 aircraft.

19 Q Do you have any examples that you can
20 think of, sitting here today, for aircrafts that
21 would lack that necessary equipment?

22 A A Piper Cub, Cubs are real -- C-U-B --

1 is a model airplane that are flown by a lot of
2 people that don't have anything but an altimeter
3 and air speed indicator.

4 Q Are there any examples of single-engine
5 airplanes that have the avionics equipment that
6 you were referring to?

7 A Well, then you get into the
8 single-engine airplane category that I was
9 referring to that have avionics, meaning they have
10 communication capability and they have navigation
11 capability, and those are the type of airplanes
12 that I'm addressing here, the single-engine
13 airplanes that have those capabilities.

14 Q Can you think of, sitting here today,
15 any examples of such aircraft?

16 A Are you asking me examples of the
17 aircraft that I'm referring to as the
18 single-engine airplane that is 150-mile an hour
19 average speed?

20 Q Yeah, let's start with that.

21 Did you have a particular single-engine
22 airplane in mind when you came up with that

1 150-mile an hour number?

2 A Not a specific model, but they would be
3 airplanes provided by the Piper company, by the
4 Cessna company, by the Mooney company, to just
5 name the three off the top of my head.

6 Q And was there a particular document,
7 I'm looking at your Paragraph 38 here and I was
8 trying to look in the preceding and following
9 paragraphs as well. But is there any
10 documentation that you were pointing to as
11 evidence to support this 150-mile an hour number?

12 A I'd put a footnote in it that that's
13 based on my own personal experience as a
14 commercial pilot and flight instructor, and I've
15 flown many different models of airplanes. And so
16 this is what I use for an example of those
17 airplanes.

18 There could be many other models, but
19 this was -- and this is an example I'm using. I'm
20 saying, for example, the average speed is 150-mile
21 an hour.

22 You could even take a slower example of

1 a 100 miles an hour. That's still two times
2 faster than the Gilhousen '390 patent says that a
3 CDMA system will support.

4 So go down to 100-mile an hour, the
5 point's still made, and I'm giving different
6 ranges here as an example to show all of these
7 range are outside. They're certainly much higher
8 than 50 miles an hour that Gilhousen '390
9 discloses.

10 Q So those were averages that you were
11 mentioning, 100 and 150. Again, I understand that
12 it's based on your own personal experience. But
13 based on your personal experience do you have an
14 understanding of what the minimum allowable air
15 speed or the minimum safe traveling air speed
16 would be for these single-engine airplanes?

17 A For the same kind of category of
18 airplanes, the typical lowest takeoff and landing
19 speeds would be around 75-mile an hour, but that's
20 during takeoff and landing, and then they cruise.
21 Once they get to altitude then they cruise at a
22 higher rate of speed.

1 But the slowest type landing, safe
2 landing speed I can think of for these type
3 airplanes would be 75-mile an hour.

4 Q Okay. If there were single-engine
5 airplanes in the categories that you were
6 discussing, again, with the avionics equipment
7 that were capable of traveling below this 50-mile
8 an hour maximum number that you refer to in
9 Paragraph 119, would that change your opinion as
10 to whether the ground based systems disclosed in
11 the Gilhousen '390 reference could be combined
12 with that of the Gilhousen '865 reference?

13 A No. No. I think it's important to put
14 this whole thing in context. And Gilhousen is
15 referring to the repeater and it's referring to
16 radiotelephones, typically more than one
17 radiotelephone in an environment, so there's a
18 repeater with a transmitter that's a fairly
19 powerful transmitter to be able to communicate
20 from altitude.

21 I don't think it's even reasonable to
22 think that this type of invention would be in even

1 a single-engine aircraft. You know, like I said,
2 the slowest speeds would be 75-mile an hour, and
3 that's only during the transition of takeoff and
4 landing. After that, it's a much higher speed.

5 I guess I kind of feel like I've given
6 examples, but the range could be, at the lowest
7 extreme, 75 miles an hour all the way up to 500
8 miles an hour.

9 The fact of it is still it's clear that
10 Gilhousen '390 says that the power control only
11 supports 50-mile an hour.

12 It's been my personal experience in
13 working with the IS-95 network and the
14 implementation of the IS-95 network, it was
15 difficult for the networks to actually perform
16 handoffs in power control even at 50 miles an
17 hour; there were still many dropped calls where
18 the handoffs didn't occur.

19 So I can add to that idea I used the
20 Gilhousen '390 patent as support. But it's been
21 my own personal experience 50 miles an hour was at
22 the top of the capability for these handoffs and

1 power control in IS-95 cellular systems.

2 Q Fair enough.

3 So let's turn back, or focus, I guess,
4 more specifically on Gilhousen '865.

5 We were talking about two different
6 types of aircrafts -- or airplanes in
7 Paragraph 138, the single-engine airplane and the
8 commercial jet plane, correct?

9 A That's correct. And, frankly, the
10 example shown by Gilhousen looks like either a
11 corporate jet or a commercial jet in Figure 1.

12 Q Okay. Is there anything in Gilhousen
13 '865 that says that its invention is limited to
14 being implemented within a plane?

15 A Again, it doesn't say it's not limited
16 to not being in a coal mine, either. But it
17 doesn't -- again, you're asking me does the patent
18 describe a bunch of negative -- or proving a
19 negative. It's listing what the invention's for,
20 as the title says, it is an "Airborne
21 Radiotelephone Communications System." And so
22 that's all that's disclosed by Gilhousen is this

1 airborne radiotelephone communications system and
2 there's two different embodiments, one where the
3 device is a repeater and the other is when it acts
4 as an airborne base station.

5 So it's a long answer, but Gilhousen
6 doesn't even hint that this invention is for
7 anything but an airborne radio communications
8 system.

9 Q I think that we are really close to
10 being on the same page, and so let me dissect your
11 answer a little bit.

12 I would disagree with you where you
13 said that there is nothing in Gilhousen '865 that
14 would say it can't be implemented in a coal mine.
15 I believe that several of the portions that you
16 read, including the title, which says "Airborne
17 Radiotelephone Communications System," means that
18 it needs to be airborne, correct? Eliminating
19 coal mines.

20 A Well, that's my point.

21 So and you said -- well, let me come
22 back to what I was responding to.

1 You had asked, if I heard your question
2 correctly, is can it -- does -- can the invention
3 of Gilhousen be outside an aircraft or not in an
4 aircraft, if I paraphrased it correctly; is that
5 right?

6 Q Sure. Let me ask it this way: Does
7 the invention of Gilhousen '865 have to be
8 implemented within an airplane?

9 A Let's start with the basics. In the
10 background of the invention the field of the
11 invention clearly says that "The present invention
12 relates to the field of communications. More
13 particularly, the present invention relates to
14 cellular radiotelephone communications between an
15 airplane and a ground station."

16 Now, I don't know how much more
17 specific the patent can be and then the title is
18 "Airborne Radiotelephone Communications System."
19 So it's very clear from the first paragraph of the
20 specification that this invention is for radio --
21 cellular radiotelephone communications between an
22 airplane and a ground base station.

1 Q All right. So I'm going to direct your
2 attention to two statements within Gilhousen and
3 then I will follow up with my question.

4 So the first statement is, if you want
5 to turn to the abstract on the cover of Gilhousen.

6 A Okay, I'm there.

7 Q The second sentence of the abstract
8 reads, "In the preferred embodiment, the aircraft
9 is equipped with a repeater that relays a signal
10 from the airborne radiotelephone to the ground
11 base station and vice versa."

12 And then the second quote from
13 Gilhousen that I would like to direct your
14 attention to is in Column 2, Line 57 which reads
15 that "This subsystem may have a single
16 radiotelephone, as in a small aircraft, or
17 multiple radiotelephones, as in an airline size
18 aircraft."

19 So my question is, do you have an
20 understanding of the scope of the term "aircraft"?

21 A I see that it says in a small aircraft
22 or mobile -- sorry -- "multiple radiotelephones in

1 an airline size aircraft."

2 I see that the field of an invention
3 clearly says, "The present invention relates to
4 cellular radiotelephone communications between an
5 airplane and a ground based station."

6 So I have interpreted, and this is one
7 of the passages I read, to make sure that I
8 included in my calculations a small aircraft that
9 would only have one radiotelephone, and that's
10 where I've used the single-engine airplane. And
11 then it goes to a multiple radio phones in an
12 airline sized aircraft, and that's where I've used
13 the 500-mile an hour for the commercial jet.

14 So I believe I have interpreted
15 correctly what Gilhousen '865 is disclosing for
16 the airplanes that it says are in the field of its
17 invention.

18 Q Would you agree with the statement that
19 "An airplane is a type of aircraft"?

20 A There could be other aircraft, but the
21 field of invention is for an airplane not for all
22 kinds of aircraft. It says very clearly, I didn't

1 make the words up, it says, "The radiotelephone
2 communications between an airplane and a ground
3 base station."

4 Q Right. But you agree that in other
5 places within Gilhousen it uses the broader term
6 "aircraft," correct?

7 A As a small aircraft or multiple
8 radiotelephones in an airline size aircraft.

9 I believe that still is referring to
10 the field of invention of a small airplane or an
11 airline size airplane.

12 Q So now that seems to directly
13 contradict our discussion earlier where we pointed
14 to a particular sentence that referred to
15 Gilhousen as a CDMA cellular radiotelephone
16 system, and then later when it seemed to use a
17 broader term of just radiotelephone, you said that
18 the cellular radiotelephone system does not
19 restrict that.

20 And now you're saying that we should be
21 restricted to one sentence that calls out an
22 airplane.

1 A That totally mischaracterizes my
2 testimony and now you're comparing testimony even
3 incorrectly with two very different terms.

4 So let me make sure the record is very
5 clear. When the Gilhousen reference refers to the
6 "CDMA cellular system," and it even includes the
7 cellular system in the Gilhousen reference as the
8 IS-95 standard, the IS-95 standard that's been
9 published for the CDMA cellular system is over a
10 thousand pages in length and has all the details
11 required for each of the different elements that
12 are required for the IS-95 CDMA cellular system.

13 And so I've been very clear when
14 Gilhousen uses the words "CDMA cellular system,"
15 it is referring to the IS-95 system standard
16 that's listed at the top of Column 3.

17 However, then you asked me a question
18 regarding the CDMA code interface and asked me if
19 they're the same thing for the CDMA-type radio
20 phone. And they're not because it only uses, as I
21 said before, a few pages out of the over thousand
22 pages of the CDMA system standard to perform

1 selecting a signal that's been coded in a specific
2 way, and it's referred to as using spreading
3 codes.

4 That is a totally different subject
5 than an airplane and an aircraft, and I wouldn't
6 accept for a second to compare those two
7 descriptions with each other. I am reading the
8 patent, very clearly interpreting what the
9 patent's saying, and I realize you have a problem
10 with it, but to me one of ordinary skill in the
11 art there isn't a lot of mystery here. The field
12 of invention is for cellular radiotelephone
13 communications between an airplane and a ground
14 base station. Later on it describes a small
15 aircraft that may have one cell -- one
16 radiotelephone in it or multiple radiotelephones
17 in an airline size aircraft. That is -- and both
18 of these are airplanes, different sizes.

19 Q So a couple things. First, I don't
20 have any problems with anything you're saying.
21 You are the expert. You are going to provide your
22 opinions, which is the purpose of this deposition.

1 I have no problems with you providing whatever
2 answers you think are true, correct, and accurate.

3 The purpose of my questioning and
4 purpose that we're here today is to clarify what
5 those opinions are because in several instances
6 there is some clarification needed.

7 So one of the clarifications that I'm
8 seeking to get from you is whether it is your
9 opinion that the Gilhousen '865 patent cannot be
10 implemented in any other type of aircraft besides
11 an airplane?

12 A Based on the disclosures of Gilhousen
13 '865 that begins with the definition of the field
14 of invention, "The present invention relates to
15 cellular radiotelephone communications between an
16 airplane and a ground based station."

17 Then it describes different types of
18 airplanes in Column -- at the bottom of Column 2
19 when it's referring to a small aircraft or an
20 airline size aircraft.

21 So the invention of Gilhousen only
22 discloses airplanes or communication from an

1 airplane to a ground base station, as it
2 discloses.

3 Q So is it your opinion that an aircraft
4 is a type of airplane or is an airplane a type of
5 aircraft?

6 A An airplane is a type of aircraft. And
7 aircraft is used there, but there's other
8 descriptions for the aircrafts that are there.
9 And so as it says for the commercial aircraft,
10 it's referring to the commercial jet or the
11 airliner.

12 Q Okay. So because in your previous
13 statement you said an airplane is a type of
14 aircraft, that necessarily means that an aircraft,
15 the term, is broader than the term airplane,
16 correct?

17 A No. That's your interpretation.

18 As I've said multiple times, and I'll
19 be clear, Gilhousen only defines and describes
20 different types of airplanes, full stop.

21 Q So you think that's the terms aircraft
22 in the several places that we read it should be

1 replaced with airplane?

2 A I didn't say those words. That totally
3 mischaracterizes what I've said.

4 I've said this is how one of ordinary
5 skill in the art would interpret Gilhousen, and I
6 still believe that. It is -- it can say the words
7 it says. The words are clear that these are
8 different types of airplanes, and that's all that
9 Gilhousen discloses.

10 Q Do you think that the way that the term
11 aircraft is used in the two portions that we have
12 been referring to is consistent with the plain and
13 ordinary meaning of the term aircraft?

14 A It is consistent with the plain and
15 ordinary meaning of airplane as described in the
16 field of invention, and it's consistent because
17 it's now -- it also refers us to an airline size
18 aircraft.

19 So for the plain and ordinary meaning
20 that would be understood by one of ordinary skill
21 in the art, the two aircraft that are being
22 referred to in the bottom of Column 2 are

1 different sizes of airplanes.

2 Q Okay. So maybe we can streamline this
3 a little bit. If you want to open up folder 3,
4 that should be provided to you in physical form.

5 MR. RICHARDSON: If we can also pull up
6 on the screen the document that's labeled 3, I
7 think it's 3-Oxford.

8 Q So Mr. Lanning, the document that you
9 should be looking at is titled "The Oxford Desk
10 Dictionary."

11 Do you see that?

12 A Yes.

13 Q And does it look to be the same
14 document that's displayed on the screen?

15 A It appears to be part of the document.
16 It's not the whole dictionary.

17 MR. RICHARDSON: If we can label the
18 document that's on the screen as Deposition
19 Exhibit -- I've lost track, I think we're at 10?

20 (Lanning Exhibit 10 marked for
21 identification and attached to the transcript.)
22

1 BY MR. RICHARDSON:

2 Q Mr. Lanning, if you can turn to the
3 second page of the document that you have in front
4 of you.

5 A It's double-sided. Can you be more
6 specific? Is it -- what's the page number on the
7 dictionary, I guess, would be a better way?

8 Q It should be before we get to the
9 dictionary. The title of the page is "Oxford
10 University Press."

11 A Oh, okay.

12 Q And about a third of the way down that
13 page, do you see where it says, "Copyright 1995"?

14 A Yes.

15 Q Okay. And that's the same year as the
16 alleged priority date of the '023 patent, correct?

17 A Yes.

18 Q Okay. Now, if you can turn to the page
19 that's labeled 12 at the top of it, it should be
20 the fifth page of the document.

21 A Okay.

22 Q And on this page, on the right-hand

1 column about a quarter of the way down, the term
2 "aircraft" is defined.

3 Do you see that?

4 A I see it.

5 Q Okay. Aircraft is defined as a
6 "machine capable of flight, especially an airplane
7 or helicopter."

8 Do you see that?

9 A Yes.

10 MR. SMITH: Objection. Scope.

11 Q And do you agree with this definition?

12 MR. SMITH: Objection. Scope.

13 A The dictionary's the dictionary. I
14 agree that this is a dictionary definition but
15 it's not in the context of the actual disclosures
16 of the Gilhousen '865 patent. It's totally devoid
17 of any context with the Gilhousen '865 patent.

18 Q So then your previous answer where you
19 indicated that you believed aircraft was used in
20 Gilhousen in accordance with its plain and
21 ordinary meaning, you no longer feel like it's
22 being used in according with its dictionary

1 meaning?

2 A You're doing it again. You're totally
3 mischaracterizing my testimony. I didn't even
4 refer to anything in a dictionary.

5 Q No. You referred to plain and
6 ordinary, though.

7 A Let me finish. Let me finish. I'm
8 saying this dictionary definition is exactly that,
9 a dictionary definition. I look down further in
10 this same page and I see the term "airplane" being
11 defined. And it's "powered heavier-than-air
12 flying vehicle with fixed wings."

13 That's what the field of invention
14 for -- is for an airplane, with fixed wings.

15 I'm just simply saying what one of
16 ordinary skill in the art would understand reading
17 this patent.

18 Q So your testimony is that a person of
19 ordinary skill in the art reading Gilhousen '865
20 would not have interpreted aircraft in accordance
21 with its dictionary definition?

22 A As I've said multiple times, a person

1 reading an ordinary -- let me start over.

2 A person of ordinary skill in the art
3 reading the Gilhousen '865 patent would read the
4 very first paragraph of the '865 patent and see
5 that the -- in field of invention specifically
6 states that "The present invention relates to
7 cellular radiotelephone communication between an
8 airplane and a ground based station. Therefore,
9 the references to the small aircraft or a large
10 aircraft like an airline size aircraft are both
11 referring to airplanes."

12 That's the intrinsic support and
13 evidence that's clearly defined in the Gilhousen
14 '865 patent.

15 Q Mr. Lanning, thank you for that answer.
16 It's a well thought out complete answer to a
17 question I did not ask.

18 So I'm going to read the question that
19 I did ask again and I'm going to ask to, please,
20 focus your answer to my question.

21 My question was, "Is it your testimony
22 that a person of ordinary skill in the art reading

1 Gilhousen '865 would not have interpreted the term
2 "aircraft" in accordance with it's dictionary
3 definition?"

4 MR. SMITH: Objection. Misleading.

5 A Again, it is misleading. The
6 dictionary definition is a dictionary definition
7 of terms that are, in general, the terms. I have
8 told you multiple times that a person of ordinary
9 skill in the art would read the Gilhousen '865
10 patent with the declarations and with what it says
11 and the text, and the clear text that it says is
12 that it is in regard to an airplane and different
13 sizes of airplanes.

14 And that would be independent of any
15 dictionary definition that you give me because the
16 Gilhousen patent is very specific for what its
17 invention is in regard to.

18 Q So independent of any dictionary
19 definition that I could give you for the term
20 "aircraft," that would not change your opinion of
21 how a person of ordinary skill in the art would
22 interpret that term in Gilhousen?

1 A Again, that mischaracterizes. Again, a
2 person of ordinary skill reading the Gilhousen
3 patent, which clearly starts in the beginning
4 paragraph that it's between -- it's for
5 radiotelephone communications between an airplane
6 and a ground base station would understand that it
7 is an airplane that is being used.

8 Q I understand that you -- it's your
9 opinion that Gilhousen '865 is directed to an
10 airplane, and I'm not trying to change your
11 opinion. I understand that's your opinion.

12 I simply read back an answer quoted
13 from the transcript that you gave and asked you if
14 that was your opinion. I will do it again.

15 You answered your opinion would be
16 "independent of any dictionary definition that you
17 could give me."

18 So is that your testimony that aircraft
19 would be interpreted the way that you are
20 testifying, "independent of any dictionary
21 definition" that I could give you?

22 A As I understand that there is also

1 intrinsic evidence that can be considered for
2 understanding what the terms of a patent are. In
3 this case, I don't think there's any need to look
4 at extrinsic evidence, like you've shown me in the
5 dictionary. For instance, I'm surprised you
6 haven't shown me a dictionary that says an
7 aircraft can be a hot air balloon. But that
8 doesn't mean in the context of the Gilhousen '865
9 patent that it could be an air balloon because the
10 Gilhousen '865 patent clearly says it's for an
11 airplane.

12 Q Okay. So I think the answer was yes.
13 We will move on to a different area.

14 A Well, you can think whatever you want
15 to, but the answer is the answer that I gave. And
16 I would not agree with summarizing that as a yes.

17 Q Okay. Well, we will let the transcript
18 speak for itself, which is what I read into the
19 record.

20 So let's turn back to Paragraph 120.

21 MR. RICHARDSON: And we can pull this
22 document down from the screen, please.

1 A Okay. I'm to Paragraph 120.

2 Q About halfway through that paragraph
3 you have a sentence that reads, "I have followed
4 Klein Gilhousen's work for many years. He is a
5 founder of Qualcomm, has over 50 patents and is a
6 pilot and it is my opinion that he understood
7 there were significant differences between his
8 invention for a wireless system for ground based
9 vehicles in Gilhousen '390 and his invention for a
10 wireless system for airborne planes in Gilhousen
11 '865."

12 Do you see that?

13 A Yes.

14 Q Prior to putting together your
15 declaration for this proceeding, did you speak
16 with Klein Gilhousen?

17 A That would be difficult. He's been
18 dead for the last three years.

19 Q Prior to his death, had you spoken to
20 Klein Gilhousen?

21 A I haven't spoken directly with him, no.

22 Q Okay. So is there any documentation

1 that you can point to, since you don't have any
2 citations here, besides Gilhousen '390 and
3 Gilhousen '865 themselves, that would support your
4 understanding of Klein Gilhousen's state of mind?

5 A Again, I'm not stating his state of
6 mind. I understood, and I have evidence from
7 reading and reviewing almost all of the 50
8 patents, if not all of them, his knowledge, and
9 all of the knowledge that he has for CDMA systems
10 and CDMA networks.

11 I mean, he has -- he has patents, like
12 I said, I followed his work since the early 1990s
13 because I believe that he is one of the key
14 founders and the key inventors of CDMA and CDMA
15 systems.

16 So based on that knowledge and my
17 analysis of not only the four to six Gilhousen
18 patents that I've reviewed in relation to this
19 litigation, I've reviewed all of his detailed
20 patents, and I can say with authority that I know
21 that he understands the differences between a
22 ground based station and an airborne system.

1 And I guess I could go back and go
2 through and analyze all those patents, but based
3 on my personal experience there's no doubt in my
4 mind that Mr. Gilhousen knew the difference
5 between the issues for ground based station
6 systems and airborne based stations.

7 Q So despite the, as you mentioned, the
8 numerous patents that support your opinion here,
9 you chose not to provide any citations for the
10 board to consider?

11 A I did not provide any citations, I
12 provided my experience of reading the patents and
13 all of the different -- the declaration says what
14 it says. It's based on my own experience. I
15 haven't provided any citations. The board can
16 either believe what I'm saying here or not. It's
17 up to the board.

18 Q Well, so you read Petitioner's expert's
19 declaration, correct?

20 A I heard the word "declaration." That's
21 all. You'll have to repeat.

22 Q Prior to putting together this

1 declaration, you reviewed Petitioner's expert's
2 declaration in this proceeding, correct?

3 A If you're referring to Mr. Denning's
4 declaration, yes. Matter of fact, I responded
5 it -- to that declaration in many different
6 places.

7 Q Okay. And at various points you took
8 issue with Mr. Denning's declaration for a failure
9 to provide any underlining facts or data to show
10 the basis on which his assertions were made,
11 correct?

12 A Can you give me an example of what
13 you're referring to?

14 Q Sure. Let's look at one example in
15 particular. Paragraph 70 of your declaration.

16 A Okay. I'm there.

17 Q And the last sentence of Paragraph 70
18 reads, "I further note that Mr. Denning does not
19 provide any explanation regarding why a POSITA
20 would equate the '023 patent to a mobile repeater
21 nor does Mr. Denning provide any evidentiary
22 support, including any of the underlining facts or

1 data on which Mr. Denning's assertion is based."

2 You see that, correct?

3 A Yes.

4 Q Okay. And is that your -- still your
5 opinion today that Mr. Denning has failed to
6 provide underlying facts or data on which his
7 assertion is based?

8 A Yes. And I believe I've been specific,
9 especially in regard to combining two references
10 together.

11 Q So despite the fact that you have taken
12 issue with Mr. Denning's alleged failure to
13 provide underlying facts or data to support his
14 assertions, you believe that not providing the
15 underlying facts or data to support your
16 assertions about Mr. Klein Gilhousen is sufficient
17 here?

18 MR. SMITH: Objection. Argumentative.

19 A As I explained, and I clearly state in
20 the paragraph, the basis that I used was his over
21 50 patents that I followed for over almost 30
22 years now. It's definitely over 25 years. And

1 I've said based on my detailed analysis of all
2 those patents and my following and actually
3 understanding key technical points that are very
4 much in the detail for how these different CDMA
5 devices work, and following his work and using it
6 as a guidance for understanding a lot of these
7 systems, I would say based on my over 25 years of
8 experience that is my support, based on my own
9 personal knowledge of his patents.

10 That's something different than when
11 Mr. Denning says you can combine Ito and Gardner
12 by just slapping them together, effectively,
13 without any support and any detailed analysis for
14 the circuitry that would be involved to do so.

15 Q So in your previous answer here you
16 laid out a lot of things that were not included in
17 Paragraph 120 of your declaration.

18 So in your previous answer you
19 identified understandings about key technical
20 points that are in detail for how these different
21 CDMA devices work. None of this, the technical
22 details or the mention of CDMA, is found in

1 Paragraph 120, correct?

2 A I believe it is. You've asked me to
3 describe it. I didn't go into all of the details.
4 But in Paragraph 120 I specifically said, "I have
5 followed Klein Gilhousen's work for many years.
6 And he is the founder of Qualcomm, has over 50
7 patents and is a pilot and it is my opinion he
8 understood there were significant differences
9 between his invention for a wireless system for
10 ground based vehicles in Gilhousen '390 and his
11 invention for wireless systems for airborne planes
12 in Gilhousen '865."

13 You've asked me more details on that.
14 I've provided more details on that. It still is
15 an accurate statement. And then I followed his
16 work for many years, meaning I'm well aware of
17 these patents in his work and many articles that
18 he's published.

19 I didn't list all those many articles,
20 but I've said based on my own personal experience
21 and being intimately aware of many if not all of
22 his patents, I can accurately say it would be my

1 opinion that he knew the difference between a
2 ground based system and an airborne-based system.

3 Q Okay. Just so that I'm clear then,
4 it's your position that the level of facts and
5 data presented in Paragraph 120, as currently
6 written in your declaration, is the sufficient
7 level of facts and data to support the conclusions
8 in that paragraph?

9 A For the conclusions in this paragraph,
10 I've also included many other details in the
11 paragraphs before and after. For the statement
12 I'm making in this paragraph, the facts that I
13 followed Mr. Gilhausen's work for many years, as
14 I've just explained it's been over 25, as I think
15 back, and over 50 patents and the different
16 articles he's had, I think this is sufficient
17 support for this statement in this paragraph.
18 When I've provided support in other paragraphs or
19 statements or opinions in other paragraphs, I've
20 provided support.

21 So this is one example where I'm just
22 comparing what I believe the knowledge of

1 Mr. Gilhousen was based on my following of all of
2 his work. The rest, I have provided detailed
3 support and detailed descriptions of my opinions.

4 Q Okay. Well, let's move forward to
5 Paragraph 164.

6 A Okay.

7 Q In Paragraph 164, in the last sentence
8 of that particular paragraph, it reads,
9 "Petitioner and Mr. Denning did not apply the
10 civil court's construction of the term 'configure
11 to' - constructed to move with the traffic at a
12 rate of speed which is comparable to the speed of
13 traffic."

14 Do you see that?

15 A Yes.

16 MR. SMITH: I'm sorry, Ryan; what
17 paragraph was that again?

18 MR. RICHARDSON: 164.

19 MR. SMITH: Okay. Thank you. I just
20 misheard.

21 Q So Mr. Lanning, is it your opinion that
22 Gilhousen '865 does not satisfy the civil court's

1 construction as you have written it here?

2 A My opinion is my opinion for what's
3 here. I'm stating that I don't believe that this
4 is met and also stating the fact that I don't
5 believe Mr. Denning or the Petitioner used the
6 civil court's construction.

7 I'm not saying any more than that, just
8 that they didn't use that.

9 Q So your previous answer, and I'll read
10 it back says, "My opinion is my opinion for what's
11 here. I'm stating that I don't believe that this
12 is met and also stating the fact that I don't
13 believe Mr. Denning or the Petitioner used the
14 civil court's construction."

15 Can you point me to where in
16 Paragraph 164 you state that Gilhousen '865 does
17 not disclose the civil court's construction of
18 this term?

19 A I did not say anywhere, and maybe you
20 can point me to Mr. Denning's declaration, where
21 he defined that it is. This is a rebuttal report
22 where I respond to what Mr. Denning is saying.

1 I'm not here to provide the support to the
2 Petitioner or Mr. Denning. This is a paragraph
3 that I'm putting in saying I don't recall doing
4 that.

5 So I would be happy, if you would point
6 me to Mr. Denning's declaration where he has shown
7 and it provided an opinion that this paragraph,
8 and specifically the preamble of 11.0, Claim 11,
9 is constructed to move with traffic at the rate of
10 speed which is comparable to the speed of traffic.

11 If you can show me Mr. Denning's, then
12 I'll stand corrected. But I don't remember
13 Mr. Denning having this comparison or any support
14 for that.

15 Q Okay. Again, great answer to a
16 question I didn't ask. I think my question can,
17 hopefully, be a yes-or-no question. I'll read it
18 again.

19 Can you please point me to where in
20 Paragraph 164 you state that Gilhousen '865 does
21 not disclose the civil court's construction for
22 the term "configured to"?

1 And if you can't do it, we're moving
2 on.

3 A Again, you're asking me to do your work
4 that you haven't done or Mr. Denning hasn't done.
5 I am replying to your petition and Mr. Denning's
6 declaration.

7 Mr. Denning has not provided that
8 support and so I have no rebuttal here because
9 I've said Mr. Denning hasn't even provided the
10 support for how that is applied.

11 Now you're asking me to do your work.
12 I haven't provided that analysis.

13 Q Mr. Lanning, if you had the realtime
14 feed, if you had a transcript in front of you, or
15 if you listen to my questions, never once did I
16 ask you to do my work for me and never once did I
17 ask a question about Mr. Denning and what he did
18 or did not include in his report.

19 I am asking you in this one single
20 paragraph, can't be more than 10 or 12 lines long,
21 can you point me to where you would say that
22 Gilhousen '865 does not disclose the civil court's

1 construction of "configured to"?

2 I'm not asking you if you agree with
3 the reference that it does disclose it or doesn't.
4 I'm asking you if it shows up anywhere in this
5 paragraph?

6 A And as I've said again, you're asking
7 me a question that frankly should have covered by
8 your petition or Mr. Denning's declaration. I
9 have not performed that analysis and not provided
10 an opinion one way or the other. I have not been
11 required to provide an opinion because none was to
12 rebut an opinion that was provided by Mr. Denning,
13 just as Mr. Denning didn't provide an opinion.

14 If you'll show me in Mr. Denning's
15 report where he has said that the preamble of
16 Claim 11 is covered by the court's construction,
17 I'd be happy to respond to that. But, first, you
18 have to show me where Mr. Denning has provided
19 that opinion.

20 You're asking me to do the work to
21 provide the opinion that Mr. Denning should have.
22 I'm not going to do that. I haven't done that.

1 Q Okay. I'm not asking you to do that.
2 I think finally at the end of it we got to the
3 answer, that you have not done that. That's
4 totally fine. I'm not saying that you missed
5 anything. I'm not saying that you made a mistake
6 in any way. I was asking clarification for the
7 words on the page. I think we have now so I will
8 move on to my next question.

9 Next question is sitting here today do
10 you have an opinion as to whether Gilhousen '865
11 discloses the civil court's construction for
12 "configured to"?

13 A I have not provided an opinion because
14 this is a rebuttal declaration. Mr. Denning did
15 not supply the opinion to begin with so I have no
16 opinion or no support to rebut.

17 So in this paragraph I've provided no
18 opinion either way because there was no opinion
19 provided to me in the first place for me to rebut.

20 Q Fair enough.

21 So we have been going for about an
22 hour. Would you care for a break at this time?

1 A It would be a good time.

2 MR. RICHARDSON: Okay. We'll come back
3 at 2:30.

4 THE WITNESS: That's great. That
5 works.

6 MR. SMITH: 2:30 works.

7 MR. RICHARDSON: All right. See you
8 guys then.

9 (Recess taken from 3:20 p.m. to
10 3:34 p.m.)

11 BY MR. RICHARDSON:

12 Q Welcome back, Mr. Lanning.

13 So let's move forward in your
14 declaration and let's move to Paragraph 153.

15 A Try again.

16 Q Sure. Let's move to Paragraph 1-5-3 of
17 your declaration.

18 A Okay. I'm there.

19 Q And in this portion of your declaration
20 you're discussing Claim 16, correct?

21 A Yes. Starting at Paragraph 152.

22 Q All right. And in Paragraph 153

1 specifically -- sorry about that.

2 Okay. In Paragraph 153 specifically,
3 in the second -- excuse me -- third sentence, you
4 state that "The '023 patent provides that 'a best
5 signal' is more than just the strongest signal,"
6 and then you provide a quotation from the '023
7 patent.

8 And then the paragraph concludes with
9 your statement that "At a minimum, 'best signal'
10 includes an analysis of the error rate in addition
11 to the signal strength when viewed in the entire
12 context of the '023 patent," correct?

13 A Yes.

14 Q Okay. And so there is not a quote --
15 or excuse me -- there is not a cite for the quote
16 that you include here from the '023 patent, but I
17 believe it's from Column 11, Line 3 of the patent,
18 if you would like to confirm. I might have
19 actually said that in reverse. Column 11, Line 3.

20 A That's where I'm looking at.

21 Q Okay.

22 A That, I would believe, is at least one

1 of those, and it looks like a lot of the language
2 is the same. So it looks like it's the right
3 area.

4 Q Okay. So if we look in the '023 patent
5 at that portion that you quoted, which appears to
6 end at around Line 8, the paragraph continues on
7 and at about two sentences later it states that,
8 "Each mobile unit monitors pilot signals from
9 fixed and moving base stations and synchronizes to
10 the base station providing the best signal."

11 Is that correct?

12 A That's what it says.

13 Q Okay. So is it accurate to state that
14 this portion of the '023 patent is describing the
15 mobile unit selecting between the mobile base
16 station or the fixed base station, correct?

17 A It says, "Each mobile unit monitors
18 pilot signals from fixed and moving base stations
19 and synchronizes to the base station providing the
20 best signal."

21 Q Okay. So this does not describe the
22 scenario where the mobile unit is analyzing a

1 plurality of signals from a fixed base station and
2 selecting the best signal from that particular
3 base station, correct?

4 A The best signal that's being referred
5 to here is the best signal that would be received
6 from either a fixed or moving base station.

7 Q Okay. So, again, it's not picking the
8 best signal out of a plurality of signals from a
9 single base station, correct?

10 A Not specifically that. But as we've
11 read multiple times, it's "Each mobile unit
12 monitors pilot signals from fixed and moving base
13 stations and synchronizes to the base station
14 providing the best signal."

15 While this is a passage that's
16 describing choosing the best signal from one of
17 many different base stations, the best signal
18 description still applies for Claim 16, which
19 would be based on signal strength and the error
20 rate.

21 Q So, again, in this portion of the '023
22 patent, it is explaining that the mobile unit is

1 the device that is responsible for selecting the
2 best signal, correct?

3 A You'll need to try again. You broke up
4 too much.

5 Q This portion of the '023 patent is
6 describing that the mobile unit is the device that
7 is making the selection of the best signal,
8 correct?

9 A Yes. The mobile unit is selecting the
10 best signal and "best" is defined as both signal
11 strength and error rate.

12 Q Okay. So just to be clear, then, this
13 is not describing a scenario where the moving base
14 station selects the best signal, correct?

15 MR. SMITH: You froze up and we didn't
16 hear the question.

17 MR. RICHARDSON: Okay.

18 Q So just to be clear, this portion of
19 the '023 patent is not describing the moving base
20 station making the selection of the best signal,
21 correct?

22 A From the portion in the top of

1 Column 11 it's referring to the mobile unit making
2 the determination on the best signal. But as I've
3 used it in my declaration, the patent clearly
4 defines what it means by "best," and it's not
5 based on strength, it's based on signal strength
6 and error rate. And that's why I've used that
7 part of Column 11 for what the '023 patent
8 discloses to be a best signal.

9 Q You would agree with me if the mobile
10 base station is not making the selection here,
11 that is a different function than what is being
12 carried out in Claim 16, which requires the mobile
13 station to be the device making the selection,
14 correct?

15 A In Claim 16, it's the moveable base
16 station that's determining the best signal. From
17 11, it's the mobile unit that is determining the
18 best signal. But independent of which device is
19 making the determination, the '023 patent is clear
20 that signal strength and error rate is what's used
21 to determine best signal.

22 Q So I may have misheard your previous

1 answer. But did you state that Claim 11 requires
2 the mobile unit to make a determination about the
3 best signal?

4 A I understand the -- and maybe I
5 misstated, but I was saying Column 11, so I was
6 comparing Claim 16 with Column 11, not Claim 11.

7 Q Understood. Thank you for that.

8 And if we move forward to the next
9 paragraph in your declaration, which would be
10 Paragraph 154, there's actually a number of things
11 in this paragraph, so maybe this one makes sense
12 for you to read to yourself and then I will ask a
13 question to you once you've had a chance to review
14 that paragraph.

15 A Okay. I've read it.

16 Q Okay. And I think you included in your
17 answer previously when we were just talking about
18 the '023 patent, you stated that "The mobile
19 device selects the best base station in part by
20 sharing a pilot signal through a control channel."

21 Is that correct?

22 A We read that in Column 11, Line 11, so

1 it's 11, 11, "Each mobile unit monitors pilot
2 signals from fixed and moving base stations and
3 synchronizes to the base station providing the
4 best signal."

5 Q Is it accurate to then say that the
6 mobile unit only selects a base station that
7 transmits the correct pilot signals in return?

8 A You'll need to ask your question again.
9 It broke up. I was trying to piece it together,
10 but I can't.

11 Q Okay. So is it accurate to say that
12 the mobile unit would only select a base station
13 that transmits correct pilot signals?

14 A I don't know what you mean by "correct
15 pilot signals."

16 Q Okay. So the portion of the '023
17 patent that you had just read, which was I believe
18 you said 11, 11, so when "each mobile unit
19 monitors pilot signals from fixed and moving base
20 stations," what is it monitoring those pilot
21 signals for?

22 A The base station is only monitoring

1 pilot signals for a cellular network. It has no
2 idea whether the pilot signals are for the
3 cellular network that it subscribed to or a
4 different cellular network. It doesn't know the
5 base station identity. All it knows is
6 alternating -- typically, pilot signals
7 alternating 1s and 0s so it's easy for a mobile to
8 synchronize with.

9 Once the mobile synchronizes with the
10 base station and has a good pilot signal and any
11 other synchronization signals that are required,
12 it can then obtain other information regarding the
13 base station.

14 Q Okay. So it's possible in the '023
15 patent that the mobile unit may initially
16 synchronize with a base station that it can't
17 ultimately connect to the network through,
18 correct?

19 A That's a possibility. But as described
20 with the different handovers, that functionality
21 is all included with the handoff mode that's
22 described here.

1 So the bottom line is the mobile can't
2 do a handoff until it is synchronized with two
3 cells that are part of the proper cellular
4 network.

5 Q Okay. So in the handoff environment of
6 the '023 patent, it's your testimony that the
7 mobile unit is incapable of synchronizing with a
8 base station that it cannot connect through?

9 A I think that mischaracterizes my
10 testimony because I don't even really understand
11 the question.

12 You'll have to ask me the question
13 again.

14 Q Okay. So your previous answer was,
15 "The bottom line is the mobile can't do a handoff
16 until it is synchronized with two cells that are
17 part of the proper cellular network."

18 So my question is with the mobile units
19 in the '023 patent, is it accurate to say that it
20 will never connect to a base station that is not
21 part of the proper cellular network?

22 A What do you mean by "connect"?

1 Q Okay. Let me change it to synchronize.
2 That's the word you used in your previous answer.

3 Is it true that in the '023 patent the
4 mobile unit will never synchronize with a base
5 station that is part of the incorrect cellular
6 network?

7 A I do not believe that's true.

8 Q So then I will ask an open-ended
9 question and I will just leave it to the words
10 that you included in your answer.

11 Your answer was, "The bottom line is
12 the mobile can't do a handoff until it is
13 synchronized with two cells that are part of the
14 proper cellular network."

15 Is that testimony still correct?

16 A Yes.

17 Q Okay. So, again, the mobile cannot do
18 a handoff to a base station that is not part of
19 the proper cellular network, correct?

20 A I would agree with that. Now,
21 there's -- that's either part of the cellular --
22 the proper cellular network it's either the

1 specific cellular network or a cellular network
2 that is a partner that the mobile can then roam
3 to. But still, that would be under the
4 description of what I used as the proper cellular
5 network.

6 Q Okay. So Mr. Lanning, are you familiar
7 with the term "signal quality indicator"?

8 A You'll need to be more specific. I'm
9 familiar with signal quality indicators or signal
10 quality indications of multiple cellular
11 standards. So you'll need to be more specific
12 when you use those terms for me to answer.

13 Q Are you familiar with the term "signal
14 quality indicator" as used throughout the '023
15 patent?

16 A Do you have -- I can look through. I
17 was just getting ready to look for those three
18 words. Do you have an area that you can point me
19 to, or I'd be happy to turn the pages and just
20 look for those words in the '023.

21 I don't recall just off the top of my
22 head the usage of those three words together so I

1 was going to look in the patent.

2 Q Let's take a look, for example, at
3 Column 4 and Line 30.

4 And at that particular point it says,
5 "As described further later herein, the gateway
6 office will include certain processor hardware and
7 software to detect a best signal quality
8 indication and to selectively transmit information
9 with a best signal quality indicator to the
10 telephone network."

11 Do you have an understanding of what
12 "best signal quality indicator" means in the
13 context of the '023 patent?

14 A Well, first off, this is a different
15 element than we've discussed the past two days.

16 In Column 4, beginning around Line 28,
17 or even a couple lines higher up in Line 26, it
18 says, "The gateway office 60 forms the interface
19 between the mobile telecommunications system and
20 the wire line telephone network."

21 And it says, "The gateway office is
22 well-known equipment."

1 So now we're talking about a different
2 component in a cellular network than what we
3 discussed earlier. This component, if I can give
4 a high-level description, the gateway office sits
5 between a base station and the PSTN, or the fixed
6 telephone network. So we're referring to a
7 different component and how this component
8 determines to detect a best signal quality and
9 then selectively transmitting information with the
10 best signal quality indicator to the telephone
11 network, not to the -- back to the base station
12 but it is transmitting the best signal quality
13 indicator to the telephone network.

14 So this is between two components that
15 are using fixed wire interfaces to communicate
16 with each other.

17 So I would not equate what's being
18 referred here, this is a totally different -- two
19 totally different components, and it's being
20 transmitted over a wired interface, which is
21 different than either the mobile station or the
22 moving base station determining the best signal

1 over a wireless interface.

2 Q Okay. So, given that, it sounds like
3 you have a decent amount of knowledge about signal
4 quality indicators now. What is your
5 understanding of the purpose of the signal quality
6 indicator as used in the '023 patent?

7 A Now, before I answer your question I
8 need to ask a question.

9 You were pointing to the use of "best
10 signal quality indicator." Are there other uses
11 of best signal quality indicator in the '023
12 patent that I need to consider, or is this the
13 only use of best signal quality indicator?

14 Q I'm not sure. The patent's longer than
15 I'd like to read line for line right now.

16 It seems, though, from your previous
17 answer that you have a pretty healthy
18 understanding of the purpose of the signal quality
19 indicator given the length of that previous
20 answer.

21 So I'm asking you if you have an
22 understanding, based on the level of knowledge you

1 have right now, as to the purpose of the signal
2 quality indicator in the '023 patent?

3 A The words "best signal quality
4 indicator," as far as I know, are only used in one
5 place and it's in the middle portion of Column 4
6 where it's referring to what the gateway office is
7 sending to the telephone network, which is outside
8 of all of the radio frequency network. And so
9 there is a best quality indicator that's sent to
10 the telephone network.

11 That's the disclosure for the words
12 "best signal quality indicator" that I've seen in
13 the usage of the '023 patent.

14 This best signal quality indicator is a
15 very different -- it's used very differently than
16 the best signal is for in Column 11 when a mobile
17 unit is determining the best signal that's being
18 received from a moving or fixed base station.
19 It's also different than the best signal that's
20 used in Claim 16 of the '023 patent.

21 Q All right. I understand, and I think
22 we're on the same page, about the purpose of the

1 disclosure in Column 11 that we referred to
2 before.

3 We talked about that particular
4 disclosure and how the mobile unit is selecting a
5 best signal to determine whether to connect to a
6 moving base station or a fixed base station.

7 My question is what is the purpose of
8 the signal quality indicator? We know what the
9 purpose of this best signal in Column 11 is. What
10 is the purpose of the signal quality indicator?

11 A As I discussed, the signal quality
12 indicator, as disclosed by -- in the middle
13 portion of Column 4 of the '023 patent, is for the
14 gateway office No. 60 to provide an indicator of
15 the quality of the signal on the fixed wire
16 network to the telephone network.

17 Maybe I can go to one of the figures.
18 If I look at Figure 1, the middle portion of
19 Column 4 is referring to the rectangle in the top
20 left corner of Figure 1 that's labeled "gateway."
21 And then if you see a line that's going vertically
22 out of the top of the rectangle that's labeled

1 "gateway," it's labeled "61" and it says "to
2 telephone network."

3 So what I'm reading in Column 4 is for
4 a quality indicator that's between the gateway
5 office and the telephone network, and these are
6 all fixed wire, meaning they're not wireless
7 interfaces. And so the gateway office is
8 providing what it refers, what the '023 patent
9 refers to as the, I want to read the cite, "best
10 signal quality indicator."

11 And so, it's referring to the signal
12 quality of that link between the gateway and the
13 telephone network.

14 Q If I understand it correctly, the
15 gateway in the '023 is using the signal quality
16 indicator to select a particular signal to send
17 through to the telephone network; is that correct?

18 A Oh, I got the answer now.

19 What's happening is described at Column
20 10, at least Column 10, Line, starting at Line 16.
21 And this is the signal quality -- this is in
22 regard to the signal quality and the gateway

1 selecting the best signal.

2 So in Line 16, Column 10 states, "The
3 gateway 60 preferably receives the same data from
4 several ones of the fixed radio ports 50 and
5 stores the data in an internal memory in the
6 gateway 60 in association with the moving base
7 station identification number and Walsh function
8 spreading code. The address of the fixed port
9 from which the data has been received is stored in
10 the memory at processor 64 as well. Accordingly,
11 multiple copies of the same data transmitted by a
12 single moving base station are stored in the
13 memory of processor of 64 in the gateway. The
14 signal quality indications computed by the
15 processors 150 in each of the several fixed radio
16 ports are compared to a predefined signal quality
17 indication threshold, and the data corresponding
18 to a signal quality indication below the threshold
19 value is discarded. Otherwise, the data is
20 retained. A cyclic redundancy code transmitted
21 with the data is used to detect TDM frame errors."
22 So that would be the different types of errors.

1 "The best data, i.e., associated with the best
2 signal quality indication is transferred from the
3 gateway to the telephone network."

4 So this describes in more detail what's
5 being described at a high level in Column 4.

6 So as this states, the gateway receives
7 multiple signals from -- or multiple data
8 information from multiple fixed base stations and
9 it determines, based on the signal quality, which
10 signal of those multiple signals should be
11 transferred to the telephone network, which would
12 mean then it goes on to the standard telephone
13 network.

14 Q Okay. Great. That's helpful.

15 So now is it your opinion or your
16 testimony that the signal quality indicator and
17 the -- let me rephrase that.

18 So the portions of Column 10 that you
19 just read relating to the signal quality indicator
20 and the portion of Column 11, which we read
21 earlier relating to the mobile unit using pilot
22 signals to select a best signal, I think we can

1 agree that those two processes have different
2 purposes, correct? One is to select a best base
3 station to communicate with and the other one is
4 to figure out what data to send to the network,
5 correct?

6 A I would say this differently. The
7 signal quality indication that's sent between the
8 gateway and the telephone network, as it
9 describes, is based on fixed wire communications
10 and errors that exist between the fixed ports or
11 the base stations and the gateway.

12 The best signal requirement, as in
13 Claim 16, is in regard to determining the best
14 signal in a wireless radio frequency interface.

15 So the two processes are very
16 different. One is a wired interface and it's
17 determining errors in one way, it's measuring
18 different types of errors, and it's providing the
19 signal quality indication to the telephone
20 network. It also uses those errors to determine
21 which source of the data to forward on to the
22 telephone network. And what I mean by "which

1 source," if it's -- if the gateway is receiving
2 the same data from multiple fixed base stations,
3 it determines -- it doesn't forward the data from
4 both fixed base stations because it's the same
5 data; instead, it sends the data that it receives,
6 that the gateway receives from the -- that has the
7 least amount of errors from multiple base
8 stations.

9 And so they both use quality and both
10 methods are using the quality of the
11 communications. But as I said earlier, the signal
12 quality indication that's transferred between the
13 gateway and the telephone network is based on a
14 different type of interface and based on different
15 types of criteria.

16 Q Okay. So with that understanding that
17 the two things serve different purposes, is it
18 also your understanding that the signal quality
19 indicator is calculated differently from how the
20 best signal is calculated in Claim 11 -- or Column
21 11?

22 A Well, it's calculated in the specifics

1 here. There could be -- let me make sure I build
2 a foundation here.

3 In Column 10, Line 30 it says, "A
4 cyclic redundancy code transmitted with the data
5 is used to detect any TDM frame errors."

6 Well, that's one type of method. The
7 time division multiplexing errors are in the fixed
8 connection between the gateway and the telephone
9 network. So there won't be TDM frame errors on an
10 RF interface because those are for the wired
11 interface; however, there's different types of
12 cyclic redundancy code meaning -- and we
13 abbreviate that as CRCs, it can be used on a
14 wireless link.

15 So while the gateway uses a cyclic
16 redundancy code based on data that it -- has time
17 division multiplexing frame errors, the best
18 signal on an RF interface can determine the best
19 signal based on CRC errors, cyclic redundancy
20 check errors, but it will be based on different
21 types of data not based on TDMA -- TDM frame
22 errors as described in Column 10.

1 Q So --

2 A I know that's a lot of detail but the
3 facts are there's different types of error
4 checking and you have to look at the data and you
5 have to look at the type of interface that's being
6 monitored in order to understand what types of
7 errors can occur.

8 Q Okay. So let's turn back to your
9 declaration.

10 And in Paragraph 1-5-5, the first
11 sentence of that paragraph reads, "I further note
12 that Mr. Denning" -- excuse me -- "that
13 Mr. Denning's Gardner and Acampora references also
14 directly contradict Mr. Denning's description of
15 spatial diversity."

16 Do you see that?

17 A Yes.

18 Q How do, in your opinion, Gardner and
19 Acampora directly contradict Mr. Denning's
20 description of spatial diversity?

21 A I think I describe that in the
22 following sentences after the sentence you read,

1 and I've said that "Gardner discloses that
2 selection diversity involves choosing the antenna
3 that provides the strongest signal." Okay?

4 And "Acampora discloses that with
5 selection diversity, the receiver selects for
6 reception the signal from the antenna with the
7 highest signal power."

8 Q So how are those two quotes from the --
9 from those two references directly contradictory
10 to Mr. Denning's description of spatial diversity?

11 A Because Mr. Denning -- what I'm trying
12 to explain here, or I'm explaining here in
13 Paragraph 155, is Mr. Denning is using Gardner as
14 the reference for determining the best signal.
15 But as I've included here from the cites that both
16 Gardner and Acampora both don't describe the best
17 signal, they both describe, as Gardner states,
18 "the strongest signal" and Acampora describes "the
19 highest signal power."

20 So both of those are only based on the
21 strongest signal or highest signal power. Both of
22 those things are the same thing, but as I

1 described those are not the best signal as
2 required by Claim 16.

3 Q Okay. So your testimony here in 155 is
4 just going back to your earlier opinion that best
5 signal doesn't necessarily mean strongest signal,
6 right?

7 A It's a stronger opinion than that. The
8 best signal includes much more than this, the
9 highest signal power. It is also, as the '023
10 patent states, it is based on the quality of the
11 signal of the airway.

12 Q Well, I think you can put that
13 declaration aside. And if you want to pull out, I
14 believe you have a physical copy of your
15 declaration from the '701 proceeding, or the
16 proceeding involving the '701 patent.

17 MR. RICHARDSON: And if we can also
18 pull up Mr. Lanning's declaration from the
19 proceeding involving the '701, that would be
20 great.

21 A Give me just a minute to do a little
22 bit of housekeeping here and get all my paperwork

1 organized.

2 (Discussion held off the record.)

3 BY MR. RICHARDSON:

4 Q Mr. Lanning --

5 MR. RICHARDSON: Actually, first, if we
6 could mark the document that's on the screen as
7 Deposition Exhibit, are we on 11.

8 (Lanning Exhibit 11 marked for
9 identification and attached to the transcript.)

10 BY MR. RICHARDSON:

11 Q And Mr. Lanning, I'll ask if you can
12 just, again, from at least the cover page of the
13 document you have in front of you versus the one
14 on the screen, do they both appear to be your
15 declaration from the 01102 proceeding?

16 A Yes.

17 Q Okay. Great.

18 And if you could flip to the end of the
19 physical copy that you have and confirm that that
20 is your signature and date?

21 A Yes, it is.

22 Q Okay. Great.

1 MR. RICHARDSON: We can pull down the
2 version that's on the screen.

3 Q Okay. Great.

4 Like we did yesterday, if you could
5 just flip through, it doesn't look long, just
6 maybe skim through quickly and see if you notice,
7 after a quick passing, any highlights, notes,
8 comments or anything else?

9 A It's a clean document.

10 Q Okay. Great.

11 And this declaration for the 01102
12 proceeding involves the patent that was
13 discussed -- or introduced before known as the
14 '701 patent, correct?

15 A I'll trust you that we introduced '701
16 before. I don't recall introducing the '701. But
17 if you say it has and it's been marked, I'm fine
18 with that.

19 Q Let me rephrase because I probably
20 misspoke with "introduced."

21 But this particular declaration
22 involved U.S. Patent No. 7,848,701, correct?

1 A Yes.

2 Q Okay. Great.

3 And you're aware that the -- and it's
4 all right if I refer to that particular patent as
5 the '701 patent?

6 A Sorry. You broke up a whole bunch
7 then. You'll need to restate your question.

8 Q Sure.

9 And are you okay if I refer to this
10 patent as the '701 patent?

11 A Yes.

12 Q And are you aware that the '701 patent
13 shares the same specification as the '023 patent
14 that we've previously been discussing?

15 A I think you said, you broke up a little
16 bit, but I would say the specifications are
17 similar. I wouldn't say they're identical, but
18 they're similar specifications between the '701
19 and the '023 patent.

20 Q And you were aware that Petitioner has
21 applied the same prior art references against both
22 the '023 patent and the '701 patent, correct?

1 A Specifically, both patents the
2 Petitioner has used prior art references that
3 we've referred to as Ito, Gardner, Gilhousen '390,
4 Gilhousen '865. There's a different number of
5 grounds, but I see the same prior art references
6 used for both patents.

7 Q Okay. And so is it fair to state that
8 the testimony that you have provided up until this
9 point relating to your declaration for the '023
10 patent also applies to the opinions that you have
11 in your declaration for the '701 patent?

12 A I would say yes, in general. But I'm
13 being careful to say that there is going to be
14 some differences due to the differences in claims
15 between the '023 and the '701 patent.

16 With that exception, I would say my
17 opinions would be the same.

18 Q Okay. And so with that, there's
19 actually, I believe, only one clarifying question
20 I would like to raise for this declaration.

21 If you could turn to Paragraph 45 of
22 the declaration, please.

1 A Okay. Did you hear me? I'm there at
2 Paragraph 45.

3 Q Yep, I can hear you. Great.

4 A Okay.

5 Q So in Paragraph 45, and this is a
6 similar question to what I had asked you
7 yesterday, you had state -- excuse me -- you state
8 here, "Petitioner also identified an additional
9 term to be construed in this action" -- sorry
10 guys.

11 (Discussion held off the record.)

12 BY MR. RICHARDSON:

13 Q Anyway, so returning back to
14 Paragraph 45, you indicate that, "Petitioner also
15 identified an additional term to be construed in
16 this action, those terms, as well as two
17 additional terms identified by Patent Owner to be
18 construed are set forth in the table below."

19 Do you see that?

20 A Yes.

21 Q And so similar to yesterday, I can
22 represent to you that Petitioner has not

1 identified any terms that need to be construed in
2 this action.

3 Do you have any independent basis to
4 refute that?

5 A No. And I would say I would give the
6 same response that I did yesterday for the similar
7 table and similar paragraph for my '023
8 declaration.

9 Q Okay. Great.

10 MR. RICHARDSON: So with that, I think
11 this is probably a good time for a break. I'm
12 going to consult with my team, but we may be
13 coming close to the end here, which I'm sure
14 everybody would be happy about.

15 So make sense for a five-minute break
16 or so or would you like longer?

17 THE WITNESS: I'd like longer because
18 if you have questions I want to be prepared to
19 answer those. So let's do it at 3:45 our time if
20 we could.

21 MR. RICHARDSON: We'll be back at 3:45.

22 (Recess taken from 4:33 p.m. to

1 4:49 p.m.)

2 MR. RICHARDSON: Welcome back,
3 Mr. Lanning.

4 We do not have any further questions
5 for your '023 or '701 declarations.

6 With that, we'll turn it over to Patent
7 Owner.

8 MR. SMITH: We reserve all our
9 questions and we're done on our end.

10 MR. RICHARDSON: All right. Great.

11 Before we conclude and close the record
12 in this one, just to put on the record a couple
13 things.

14 Parties have agreed, Patent Owner and
15 Petitioner have agreed that the -- excuse me --
16 that the transcript for today's and yesterday's
17 declarations can be used in the other proceedings
18 for the similar issues that may present in those
19 proceedings.

20 And that also, Elvin, I know that we
21 sent a couple exhibits that were in sealed
22 envelopes that were not used during yesterday or

1 today's deposition, so we'd ask that you guys just
2 destroy those exhibits without taking a look at
3 those, if you don't mind.

4 MR. SMITH: Yeah, I will be happy to
5 see that those are destroyed.

6 Just for clarity, and not by way of
7 disagreement, our agreement on the petitions was
8 for the ones that were utilized between Volkswagen
9 and ourselves, correct?

10 MR. RICHARDSON: That's correct.

11 MR. SMITH: Yeah. I was just making
12 sure we weren't making a more general statement to
13 the other IPR proceedings. We were talking about
14 the four that are the subject of notices this
15 week.

16 MR. RICHARDSON: Agreed.

17 MR. SMITH: Okay.

18 THE WITNESS: Okay. And we're on for
19 10:00 start tomorrow morning; is that correct?

20 MR. RICHARDSON: If 10:00 works best
21 for you. We can start then. We're also available
22 to start earlier but, ultimately, it's up to you,

1 Mr. Lanning.

2 THE WITNESS: 10:00 a.m. Central time
3 start works for me, I travel. I'm not staying at
4 a local hotel.

5 MR. RICHARDSON: All right. 10:00 a.m.
6 Central, 11 Eastern tomorrow it is.

7 (Off the record at 4:52 p.m. EST)

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ACKNOWLEDGMENT OF DEPONENT

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

(DATE)

(SIGNATURE)

1 CERTIFICATE OF SHORTHAND REPORTER - NOTARY PUBLIC

2
3 I, Judith E. Bellinger, Certified
4 Reporter and
5 Notary Public within and for the State of Maryland
6 do hereby certify:

7 That MARK R. LANNING, the witness whose
8 deposition is hereinbefore set forth, was duly
9 sworn by me before the commencement of such
10 deposition and that such deposition was taken
11 before me and is a true record of the testimony
12 given by such
13 witness.

14 I further certify that the adverse
15 party, CARUCEL INVESTMENTS, L.P., was represented
16 by counsel at the deposition.

17 I further certify that the deposition of
18 MARK R. LANNING occurred with the witness being
19 present at the office of Warren | Rhoades LLP,
20 1212 Corporate Drive, Suite 250, Irving, Texas
21 75038, on Wednesday, June 3, 2020, commencing at
22 11:06 a.m. EST to 4:52 p.m. EST.

1 IN WITNESS WHEREOF, I have hereunto set
2 my hand this 14th day of June, 2020.

3 My Commission Expires: November 3, 2020

4 *Judith E. Bellinger*
5 _____

6 NOTARY PUBLIC IN AND FOR
7 THE STATE OF MARYLAND

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A			
abbreviate	369:7, 370:12	actual	318:7, 323:13,
437:13	absent	285:13, 325:20,	326:16, 329:4,
abilities	321:7	395:15	331:12, 338:12,
359:21	abstract	actually	342:10, 347:22,
ability	353:20, 364:12,	284:14, 311:10,	348:11, 350:4,
338:10, 341:9,	385:5, 385:7	325:14, 325:21,	350:16, 356:15,
342:8, 347:20,	acampora	338:6, 341:6,	359:22, 360:2,
349:2, 349:16,	438:13, 438:19,	341:8, 365:20,	360:7, 360:12,
361:18	439:4, 439:16,	373:2, 381:15,	366:1, 367:6,
able	439:18	406:2, 416:19,	368:13, 370:9,
292:1, 292:13,	accept	421:10, 441:5,	371:4, 375:1,
292:17, 292:18,	389:6	444:19	376:2, 379:11,
293:4, 293:6,	acceptable	add	380:6, 382:15,
295:17, 296:2,	317:1	330:21, 381:19	382:17, 396:2,
315:1, 320:16,	access	adding	397:19, 398:5,
327:6, 363:11,	354:7, 356:8,	293:12	399:1, 399:14,
372:17, 380:19	357:11	addition	402:5, 409:17,
about	accomplished	416:10	411:15, 411:18,
283:19, 286:13,	333:7, 346:2	additional	412:3, 413:6,
288:11, 289:3,	accordance	286:15, 445:8,	415:15, 418:7,
290:6, 290:22,	359:19, 361:19,	445:15, 445:17	418:21, 419:3,
292:5, 294:2,	395:20, 396:20,	additions	422:8, 424:13,
294:8, 309:11,	398:2	328:13	425:17, 441:12
310:5, 312:2,	according	address	against
316:22, 318:16,	395:22	303:7, 335:11,	443:21
323:17, 329:13,	accordingly	337:6, 337:14,	agree
335:16, 340:3,	433:10	337:17, 367:7,	287:13, 288:18,
348:7, 348:9,	accurate	433:8	291:15, 295:14,
348:17, 348:18,	305:6, 390:2,	addressed	295:16, 301:8,
349:20, 351:14,	407:15, 417:13,	299:17	302:4, 303:20,
363:16, 364:9,	422:5, 422:11,	addressing	303:22, 304:21,
364:19, 370:11,	424:19	368:13, 377:12	308:13, 309:5,
371:1, 371:7,	accurately	admit	311:19, 322:19,
371:9, 376:4,	407:22	300:14, 366:9	322:22, 323:4,
382:5, 394:12,	acknowledge	adverse	323:22, 324:4,
395:1, 401:2,	300:1, 450:3	451:14	325:4, 326:1,
405:16, 406:19,	acknowledgment	after	326:7, 361:16,
412:17, 414:21,	450:1	381:4, 408:11,	363:21, 364:1,
416:1, 417:7,	act	438:22, 442:7	366:5, 386:18,
421:2, 421:17,	322:11, 338:4	again	387:4, 395:11,
428:1, 429:3,	acting	286:10, 288:20,	395:14, 400:16,
430:22, 431:3,	334:5, 344:11	292:10, 294:6,	413:2, 420:9,
446:14, 448:13	action	295:20, 297:9,	425:20, 435:1
above	445:9, 445:16,	299:18, 300:8,	agreed
324:12, 354:20,	446:2	301:19, 302:7,	289:19, 447:14,
367:18, 368:3,	active	303:16, 303:20,	447:15, 448:16
	327:2	310:2, 312:3,	agreement
	acts	313:2, 313:15,	344:3, 448:7
	383:3		

<p>ahead 285:8, 320:8</p> <p>air 356:1, 356:6, 356:8, 357:5, 360:11, 361:20, 362:20, 363:17, 363:22, 364:21, 364:22, 365:8, 365:16, 369:1, 373:16, 373:20, 373:21, 374:13, 374:18, 375:3, 376:3, 377:3, 379:14, 379:15, 400:7, 400:9</p> <p>airborne 332:22, 333:12, 333:19, 333:21, 334:5, 334:10, 338:10, 339:14, 341:21, 342:7, 342:13, 344:8, 345:7, 347:15, 347:20, 349:1, 349:3, 349:16, 350:14, 351:1, 352:16, 353:14, 362:9, 363:1, 363:2, 363:12, 363:17, 364:10, 364:12, 367:9, 368:3, 368:12, 368:14, 369:7, 382:20, 383:1, 383:4, 383:7, 383:16, 383:18, 384:18, 385:10, 401:10, 402:22, 403:6, 407:11</p> <p>airborne-based 408:2</p> <p>aircraft 338:11, 338:16, 342:9, 346:8, 346:13, 347:21, 348:1, 349:3, 349:17, 350:11,</p>	<p>363:12, 363:13, 363:16, 364:9, 364:18, 366:2, 366:17, 367:2, 368:14, 369:18, 373:3, 373:6, 373:22, 374:6, 376:4, 376:18, 377:15, 377:17, 381:1, 384:3, 384:4, 385:8, 385:16, 385:18, 385:20, 385:21, 386:1, 386:8, 386:12, 386:19, 386:20, 386:22, 387:6, 387:7, 387:8, 389:5, 389:15, 389:17, 390:10, 390:19, 390:20, 391:3, 391:5, 391:6, 391:7, 391:9, 391:14, 391:21, 392:11, 392:13, 392:18, 392:21, 395:2, 395:5, 395:19, 396:20, 397:9, 397:10, 398:2, 398:20, 399:18, 400:7</p> <p>aircrafts 376:20, 382:6, 391:8</p> <p>airline 365:4, 385:17, 386:1, 386:12, 387:8, 387:11, 389:17, 390:20, 392:17, 397:10</p> <p>airline-related 363:20</p> <p>airliner 391:11</p> <p>airplane 347:10, 353:17, 362:15, 362:17, 363:6, 363:10,</p>	<p>363:20, 363:21, 364:3, 365:5, 365:6, 365:16, 365:17, 365:19, 366:22, 373:11, 373:16, 373:19, 374:16, 375:6, 375:12, 375:18, 377:1, 377:8, 377:18, 377:22, 382:7, 384:8, 384:15, 384:22, 386:5, 386:10, 386:19, 386:21, 387:2, 387:10, 387:11, 387:22, 389:5, 389:13, 390:11, 390:16, 391:1, 391:4, 391:6, 391:13, 391:15, 392:1, 392:15, 395:6, 396:10, 396:14, 397:8, 398:12, 399:5, 399:7, 399:10, 400:11</p> <p>airplanes 365:13, 365:20, 367:11, 374:21, 375:2, 376:6, 376:9, 377:5, 377:11, 377:13, 378:3, 378:15, 378:17, 379:16, 379:18, 380:3, 380:5, 382:6, 386:16, 389:18, 390:18, 390:22, 391:20, 392:8, 393:1, 397:11, 398:13</p> <p>airway 440:11</p> <p>al 360:10</p> <p>all 284:13, 285:9, 287:16, 292:3,</p>	<p>306:7, 307:4, 307:22, 315:19, 322:20, 325:16, 325:17, 327:2, 327:3, 327:15, 327:18, 328:2, 330:8, 345:2, 353:6, 358:17, 365:10, 371:10, 371:12, 371:19, 371:22, 372:9, 375:3, 375:14, 376:12, 379:6, 381:7, 382:22, 385:1, 386:21, 388:10, 392:8, 402:7, 402:8, 402:9, 402:19, 403:2, 403:13, 403:21, 406:1, 407:3, 407:19, 407:21, 409:1, 415:7, 415:22, 423:5, 423:21, 430:8, 430:21, 432:6, 440:22, 443:4, 447:8, 447:10, 449:5</p> <p>alleged 394:16, 405:12</p> <p>allowable 379:14</p> <p>allowing 346:12, 368:3, 368:16, 369:7</p> <p>almost 346:13, 402:7, 405:21</p> <p>alone 349:11</p> <p>already 296:10</p> <p>also 281:3, 296:14, 305:5, 307:3, 313:18, 313:19, 314:16, 316:1, 321:5, 321:11,</p>
---	--	---	--

323:16, 325:3, 328:8, 330:18, 334:16, 346:6, 358:15, 364:6, 364:7, 366:14, 372:10, 373:5, 392:17, 393:5, 399:22, 408:10, 410:4, 410:12, 430:19, 435:20, 436:18, 438:13, 440:9, 440:17, 444:10, 445:8, 445:14, 447:20, 448:21 alternate 338:8, 340:4, 340:6, 341:20, 342:6, 342:12, 342:18, 347:11, 347:12, 348:21, 349:21, 350:13, 352:9, 352:15, 367:22, 368:11, 370:15 alternating 423:6, 423:7 alternative 345:5, 347:12, 369:21 alternatively 349:14 altimeter 375:4, 377:2 altitude 369:15, 369:17, 379:21, 380:20 altitudes 370:15 always 311:3, 311:7, 311:8 america 278:5 amount 366:6, 429:3, 436:7 analysis 402:17, 406:1,	406:13, 412:12, 413:9, 416:10 analyze 403:2 analyzing 417:22 another 293:10, 307:9, 315:18, 330:3, 334:4, 342:19, 350:12, 370:3 answer 284:17, 285:19, 289:16, 303:8, 308:20, 309:2, 309:11, 309:15, 310:6, 311:13, 311:18, 316:9, 319:5, 322:2, 345:8, 345:11, 365:2, 365:18, 365:19, 374:11, 383:5, 383:11, 395:18, 397:15, 397:16, 397:20, 399:12, 400:12, 400:15, 406:15, 406:18, 410:9, 411:15, 414:3, 421:1, 421:17, 424:14, 425:2, 425:10, 425:11, 426:12, 429:7, 429:17, 429:20, 432:18, 446:19 answered 303:9, 312:15, 374:14, 399:15 answering 303:5, 351:17 answers 284:13, 284:19, 355:8, 358:21, 390:2 antenna 311:10, 311:16, 311:22, 312:14, 312:20, 314:5,	314:9, 326:8, 327:9, 327:21, 327:22, 339:13, 344:8, 368:1, 369:22, 439:2, 439:6 antennas 310:12, 311:3, 311:11, 311:14, 311:22, 312:13, 313:20, 313:21, 314:5, 314:7, 318:1, 320:3, 322:15, 323:22, 324:2, 324:7, 324:8, 324:9, 326:3, 327:1, 327:2, 327:6, 327:7, 327:13, 327:22, 370:7, 370:10, 370:16 any 283:13, 283:14, 283:18, 285:19, 290:6, 291:5, 291:10, 293:12, 307:16, 316:6, 320:1, 322:7, 322:12, 323:1, 323:2, 327:4, 331:7, 362:3, 362:18, 364:14, 365:5, 366:16, 369:15, 375:2, 375:8, 376:7, 376:19, 377:4, 377:15, 378:9, 389:20, 390:10, 395:17, 398:14, 398:18, 399:16, 399:20, 400:3, 401:22, 402:1, 403:9, 403:11, 403:15, 404:9, 404:19, 404:21, 404:22, 406:13, 410:7, 411:13, 414:6, 423:10,	437:5, 442:7, 446:1, 446:3, 447:4, 450:6 anybody 366:7 anymore 290:7 anyone 367:1 anything 298:22, 329:13, 364:9, 372:21, 377:2, 382:12, 383:7, 389:20, 396:4, 414:5, 442:8 anyway 445:13 anywhere 346:13, 410:19, 413:4 apart 313:20, 313:21, 313:22, 314:3, 314:8 apologize 284:3 apparatus 287:6, 310:11 appeal 278:3 appear 441:14, 450:6 appears 297:5, 331:13, 393:15, 417:5 applied 358:17, 412:10, 443:21 applies 418:18, 444:10 apply 409:9 appreciate 332:14 approximately 359:6 area 310:9, 323:17,
---	---	---	--

337:3, 337:7, 400:13, 417:3, 426:18 aren't 316:15, 376:7 argue 317:7 argument 321:17, 321:18, 323:2 argumentative 405:18 around 300:22, 369:2, 374:3, 379:19, 417:6, 427:16 art 294:14, 314:13, 316:13, 316:17, 317:10, 321:1, 324:14, 328:7, 328:10, 329:21, 354:1, 357:14, 361:12, 364:16, 369:5, 370:10, 375:21, 376:8, 389:11, 392:5, 392:21, 396:16, 396:19, 397:2, 397:22, 398:9, 398:21, 443:21, 444:2, 444:5 articles 407:17, 407:19, 408:16 arts 346:18 aside 302:20, 303:7, 342:17, 440:13 ask 284:15, 302:12, 307:18, 310:4, 312:3, 323:13, 335:16, 336:13, 341:5, 356:14, 375:17, 384:6, 397:17, 397:19,	411:16, 412:16, 412:17, 421:12, 422:8, 424:12, 425:8, 429:8, 441:11, 448:1 asked 284:14, 286:12, 294:7, 340:8, 374:12, 384:1, 388:17, 388:18, 399:13, 407:2, 407:13, 445:6 asking 286:3, 288:10, 289:2, 290:5, 290:7, 290:11, 299:5, 329:6, 351:14, 377:16, 382:17, 412:3, 412:11, 412:19, 413:2, 413:4, 413:6, 413:20, 414:1, 414:6, 429:21 aspect 343:12 asserted 287:5 assertion 405:1, 405:7 assertions 404:10, 405:14, 405:16 associated 434:1 association 359:15, 433:6 assume 314:15, 323:9 assuming 375:11 attached 282:5, 284:6, 290:3, 296:19, 331:2, 335:22, 393:21, 441:9, 450:7 attention 300:20, 313:2,	385:2, 385:14 authority 402:20 av 281:4 available 448:21 avenue 280:6 average 377:19, 378:20 averages 379:10 avionics 375:3, 375:9, 375:19, 375:22, 376:7, 377:5, 377:9, 380:6 avoid 311:1 aware 286:4, 297:20, 407:16, 407:21, 443:3, 443:12, 443:20 away 296:10 <hr/> <p style="text-align: center;">B</p> <hr/> b2 282:16 back 283:6, 291:12, 291:13, 323:18, 326:12, 330:4, 330:12, 331:19, 343:21, 351:11, 351:17, 352:12, 370:18, 371:17, 372:5, 374:11, 382:3, 383:22, 399:12, 400:20, 403:1, 408:15, 410:10, 415:2, 415:12, 428:11, 438:8, 440:4, 445:13, 446:21, 447:2	background 344:22, 346:17, 346:19, 347:2, 348:3, 348:7, 348:17, 349:12, 350:8, 352:3, 356:22, 384:10 badly 328:21, 348:12 balloon 400:7, 400:9 barriers 329:20 based 284:20, 303:13, 349:5, 353:18, 360:14, 361:21, 363:12, 367:3, 372:12, 373:14, 378:13, 379:12, 379:13, 380:10, 386:5, 390:12, 390:16, 397:8, 401:8, 402:16, 402:22, 403:2, 403:5, 403:6, 403:14, 405:1, 405:7, 406:1, 406:7, 406:8, 407:10, 407:20, 408:2, 409:1, 418:19, 420:5, 429:22, 434:9, 435:9, 436:13, 436:14, 437:16, 437:19, 437:20, 437:21, 439:20, 440:10 basic 358:4 basics 384:9 basis 316:2, 404:10, 405:20, 446:3 battery 376:5, 376:14 because 290:14, 306:10,
---	---	---	---

307:4, 310:7, 317:20, 319:13, 320:1, 322:6, 324:21, 327:8, 338:1, 338:2, 338:15, 338:19, 340:5, 340:10, 341:15, 342:14, 343:13, 344:21, 347:18, 350:19, 352:10, 353:20, 355:7, 355:15, 359:22, 369:16, 375:15, 376:2, 388:20, 390:5, 391:12, 392:16, 398:15, 400:9, 402:13, 412:8, 413:11, 414:13, 414:18, 424:10, 436:4, 437:10, 439:11, 442:19, 446:17 becomes 334:10 becoming 333:16 been 283:3, 292:11, 303:4, 317:19, 331:13, 354:11, 360:15, 362:9, 366:7, 373:14, 374:22, 381:12, 381:20, 388:8, 388:13, 389:1, 392:12, 401:17, 405:8, 408:14, 413:10, 414:21, 433:9, 442:17, 443:14 before 278:3, 279:11, 286:1, 288:6, 297:18, 300:9, 302:21, 303:11, 317:13, 326:15, 388:21, 394:8,	408:11, 429:7, 431:2, 442:13, 442:16, 447:11, 451:9, 451:11 began 283:11 begin 283:22, 414:15 beginning 310:8, 336:22, 337:16, 344:15, 375:17, 399:3, 427:16 begins 332:21, 341:21, 345:22, 390:13 behalf 280:2, 280:10, 333:20 being 293:6, 294:8, 295:11, 297:21, 302:8, 309:16, 309:21, 312:19, 314:8, 315:4, 316:14, 324:19, 325:20, 326:8, 334:16, 339:19, 342:11, 344:13, 344:14, 362:14, 363:17, 367:16, 374:20, 382:14, 382:16, 383:10, 392:21, 395:22, 396:10, 399:7, 407:21, 418:4, 420:11, 428:17, 428:19, 430:17, 434:5, 438:5, 444:13, 451:18 believe 284:4, 293:19, 294:13, 295:1, 296:8, 296:12, 296:17, 303:9, 304:9, 306:7, 306:10, 310:16, 313:14, 316:16,	318:5, 323:15, 329:19, 330:16, 336:6, 336:9, 339:18, 343:6, 357:6, 369:4, 373:2, 383:15, 386:14, 387:9, 392:6, 402:13, 403:16, 405:8, 405:14, 407:2, 408:22, 410:3, 410:5, 410:11, 410:13, 416:17, 416:22, 422:17, 425:7, 440:14, 444:19 believed 395:19 believes 313:11 bellinger 278:22, 279:12, 451:3 below 366:18, 367:4, 372:11, 380:7, 433:18, 445:18 benefits 287:7 besides 390:10, 402:2 best 315:22, 359:6, 416:4, 416:9, 417:10, 417:20, 418:2, 418:4, 418:5, 418:8, 418:14, 418:16, 418:17, 419:2, 419:7, 419:10, 419:14, 419:20, 420:2, 420:4, 420:8, 420:16, 420:18, 420:21, 421:3, 421:19, 422:4, 427:7, 427:9, 427:12, 428:8, 428:10,	428:12, 428:22, 429:9, 429:11, 429:13, 430:3, 430:9, 430:12, 430:14, 430:16, 430:17, 430:19, 431:5, 431:9, 432:9, 433:1, 434:1, 434:22, 435:2, 435:12, 435:13, 436:20, 437:17, 437:18, 439:14, 439:16, 440:1, 440:4, 440:8, 448:20 better 311:3, 311:11, 311:15, 311:21, 312:12, 394:7 between 300:10, 300:15, 301:15, 301:16, 328:5, 328:12, 345:16, 348:5, 348:15, 351:8, 351:20, 352:17, 353:17, 355:3, 356:2, 356:11, 356:16, 384:14, 384:21, 386:4, 387:2, 389:13, 390:15, 397:7, 399:4, 399:5, 401:7, 402:21, 403:5, 407:9, 408:1, 417:15, 427:19, 428:5, 428:14, 432:4, 432:12, 435:7, 435:10, 436:12, 437:8, 443:18, 444:15, 448:8 big 315:16, 327:14 bit 285:15, 302:3, 319:4, 332:11, 362:7, 383:11,
--	--	--	---

393:3, 440:22, 443:16 block 301:1, 318:8, 321:9, 321:19 blocks 319:21, 320:12, 320:17, 320:21, 321:10, 321:20, 322:9 board 278:3, 403:10, 403:15, 403:17 both 323:22, 327:2, 328:14, 340:22, 341:11, 352:1, 366:5, 373:10, 373:13, 389:17, 397:10, 419:10, 436:4, 436:9, 439:15, 439:16, 439:17, 439:20, 439:21, 441:14, 443:21, 444:1, 444:6 bottom 324:11, 361:5, 390:18, 392:22, 424:1, 424:15, 425:11 box 325:22 boxes 325:16, 325:17, 326:3 brackets 306:14 break 330:3, 414:22, 446:11, 446:15 breaks 283:18 brief 286:13, 310:9 broader 387:5, 387:17, 391:15	broke 328:21, 332:11, 348:11, 365:10, 419:3, 422:9, 443:6, 443:15 build 437:1 buildings 315:15 bunch 382:18, 443:6 <hr/> C <hr/> c-u-b 376:22 calculated 436:19, 436:20, 436:22 calculations 315:19, 386:8 call 335:1, 346:4, 346:9, 346:12, 347:22, 357:3 called 334:21, 346:3, 360:19 calling 350:20 calls 350:21, 372:16, 381:17, 387:21 came 285:6, 377:22 can 284:1, 285:11, 285:15, 285:16, 285:20, 289:22, 294:15, 296:11, 297:15, 299:15, 302:5, 306:5, 308:7, 309:2, 313:18, 313:20, 313:21, 319:21, 322:12, 323:8, 323:14, 323:16, 323:22, 324:5, 329:13, 330:13,	331:17, 336:4, 337:10, 342:22, 344:17, 347:4, 349:12, 361:14, 362:19, 364:3, 365:6, 365:13, 366:5, 366:9, 371:3, 376:19, 377:14, 380:2, 381:19, 384:2, 384:17, 392:6, 393:2, 393:5, 393:17, 394:2, 394:5, 394:18, 400:1, 400:7, 400:14, 400:21, 402:1, 402:20, 403:15, 404:12, 406:11, 407:22, 410:15, 410:20, 411:11, 411:16, 411:19, 412:21, 423:12, 426:2, 426:16, 426:18, 428:3, 431:17, 434:22, 437:13, 437:18, 438:7, 440:12, 440:17, 441:11, 442:1, 445:3, 445:21, 447:17, 448:21 can't 288:20, 289:16, 328:9, 383:14, 412:1, 412:20, 422:10, 423:16, 424:1, 424:15, 425:12 cannot 299:2, 304:4, 304:7, 390:9, 424:8, 425:17 capabilities 287:16, 288:3, 288:15, 288:19, 290:10, 366:16, 377:13 capability 287:21, 288:17,	292:9, 293:1, 332:5, 338:17, 338:21, 341:13, 342:15, 343:14, 349:7, 361:18, 366:20, 377:10, 377:11, 381:22 capable 293:8, 293:11, 294:8, 294:17, 295:6, 295:17, 360:16, 360:18, 373:19, 373:22, 374:16, 380:7, 395:6 car 315:13, 315:17 card 346:3, 357:3 care 365:7, 414:22 careful 304:5, 316:22, 347:22, 361:2, 444:13 carried 336:15, 420:12 carrier 301:4, 318:10, 324:13 carrying 373:19, 374:1, 374:17 cars 315:15 carucel 278:8, 286:22, 451:15 case 278:11, 278:14, 289:21, 310:22, 312:11, 344:17, 400:3 cases 312:17 categories 326:21, 380:5 category 375:5, 377:8,
---	--	---	---

379:17 cautious 317:11 caveat 317:5 cdma 353:21, 354:7, 354:9, 354:11, 354:14, 354:19, 355:2, 355:11, 355:13, 355:17, 356:8, 357:4, 357:5, 357:17, 357:18, 357:22, 360:17, 360:19, 360:22, 361:3, 361:21, 362:1, 362:5, 362:6, 379:3, 387:15, 388:6, 388:9, 388:12, 388:14, 388:18, 388:22, 402:9, 402:10, 402:14, 406:4, 406:21, 406:22 cdma-type 354:18, 354:21, 355:1, 355:10, 355:20, 356:6, 360:19, 361:4, 388:19 cell 333:1, 333:4, 339:17, 342:1, 343:1, 343:16, 344:18, 346:7, 362:4, 368:2, 389:15 cells 346:6, 346:9, 358:3, 358:5, 358:6, 363:11, 364:20, 364:21, 364:22, 367:18, 368:5, 368:7, 368:13, 368:17, 368:19, 369:6, 369:9, 369:11,	369:13, 369:14, 369:16, 424:3, 424:16, 425:13 cellular-type 338:16 central 449:2, 449:6 certain 374:20, 427:6 certainly 379:7 certificate 451:1 certified 279:13, 451:3 certify 451:6, 451:14, 451:17 cessna 378:4 challenged 294:11, 295:21, 304:7 chance 421:13 change 315:5, 315:21, 359:20, 380:9, 398:20, 399:10, 425:1 changed 288:9, 316:7 changes 315:17, 328:13 changing 307:8, 307:9, 307:12, 314:22, 315:8, 315:14, 347:19 channel 308:16, 309:7, 309:11, 309:13, 309:18, 309:22, 310:5, 310:17, 358:15, 358:17, 421:20 channels 308:17, 309:16,	310:12, 310:15, 310:18, 310:22, 312:11, 358:11, 358:13, 358:14 characteristics 299:20, 307:21, 324:22 characterize 303:17 characterized 302:5, 304:5 charles 281:5 check 437:20 checking 438:4 choose 365:6 choosing 418:16, 439:2 chose 403:9 circuitry 315:1, 315:8, 317:21, 319:17, 319:19, 320:2, 321:5, 321:11, 324:8, 324:15, 325:1, 325:9, 326:10, 326:17, 326:19, 326:22, 327:3, 327:21, 328:2, 372:15, 406:14 citation 323:2 citations 402:2, 403:9, 403:11, 403:15 cite 416:15, 432:9 cited 323:5 cites 439:15 civil 409:10, 409:22,	410:6, 410:14, 410:17, 411:21, 412:22, 414:11 claim 293:18, 411:8, 413:16, 415:20, 418:18, 420:12, 420:15, 421:1, 421:6, 430:20, 435:13, 436:20, 440:2 claiming 364:9 claims 287:5, 293:13, 294:11, 295:22, 301:12, 301:22, 302:1, 302:2, 304:3, 304:7, 304:20, 332:3, 444:14 clarification 390:6, 414:6 clarifications 390:7 clarify 390:4 clarifying 444:19 clarity 448:6 clean 297:13, 331:9, 442:9 clear 284:18, 287:15, 292:20, 293:18, 301:12, 302:11, 317:5, 320:10, 322:9, 328:16, 341:16, 347:16, 349:18, 355:14, 366:8, 381:9, 384:19, 388:5, 388:13, 391:19, 392:7, 398:11, 408:3, 419:12, 419:18, 420:19
---	--	---	---

<p>clearly 300:17, 323:7, 343:13, 349:10, 350:17, 353:8, 355:16, 361:6, 361:12, 369:5, 384:11, 386:3, 386:22, 389:8, 397:13, 399:3, 400:10, 405:19, 420:3</p> <p>close 383:9, 446:13, 447:11</p> <p>closer 291:19</p> <p>closest 337:17, 346:9</p> <p>co-sign 324:11, 324:22</p> <p>coal 382:16, 383:14, 383:19</p> <p>code 316:5, 354:6, 356:7, 357:10, 360:14, 361:13, 388:18, 433:8, 433:20, 437:4, 437:12, 437:16</p> <p>coded 389:1</p> <p>codes 361:22, 389:3</p> <p>coherent 310:11</p> <p>column 300:20, 300:21, 302:19, 310:8, 313:3, 314:5, 319:2, 324:18, 332:21, 336:4, 336:19, 336:22, 338:7, 339:6, 340:2, 340:5, 341:20, 342:5, 344:6, 345:18, 345:22, 347:13,</p>	<p>348:21, 349:22, 352:21, 354:4, 354:17, 355:16, 355:19, 359:10, 361:2, 361:6, 367:22, 385:14, 388:16, 390:18, 392:22, 395:1, 416:17, 416:19, 420:1, 420:7, 421:5, 421:6, 421:22, 427:3, 427:16, 430:5, 430:16, 431:1, 431:9, 431:13, 431:19, 432:3, 432:19, 432:20, 433:2, 434:5, 434:18, 434:20, 436:20, 437:3, 437:22</p> <p>combination 297:21, 317:21</p> <p>combine 317:20, 321:2, 322:13, 322:22, 323:10, 323:12, 327:17, 328:18, 329:1, 329:18, 406:11</p> <p>combined 320:15, 326:18, 329:16, 380:11</p> <p>combining 310:11, 329:21, 405:9</p> <p>come 330:4, 383:21, 415:2</p> <p>comes 325:21</p> <p>comfortable 284:12</p> <p>coming 446:13</p> <p>comma 337:5</p> <p>commencement 451:9</p>	<p>commencing 451:21</p> <p>comments 442:8</p> <p>commercial 372:13, 373:1, 373:12, 378:14, 382:8, 382:11, 386:13, 391:9, 391:10</p> <p>commission 452:3</p> <p>common 296:8</p> <p>communicate 292:2, 292:14, 292:17, 293:4, 293:7, 295:18, 296:3, 337:12, 342:16, 362:4, 380:19, 428:15, 435:3</p> <p>communicates 301:15, 352:6</p> <p>communicating 294:19, 295:7, 295:13, 308:15, 309:7, 349:7, 356:2, 358:8</p> <p>communication 352:17, 353:1, 358:16, 377:10, 390:22, 397:7</p> <p>communications 300:5, 306:16, 313:8, 316:21, 352:14, 353:3, 353:11, 353:14, 353:17, 362:10, 364:11, 364:13, 366:21, 367:8, 367:10, 382:21, 383:1, 383:7, 383:17, 384:12, 384:14, 384:18, 384:21, 386:4, 387:2, 389:13, 390:15, 399:5,</p>	<p>435:9, 436:11</p> <p>company 378:3, 378:4</p> <p>comparable 375:9, 409:12, 411:10</p> <p>compare 389:6</p> <p>compared 433:16</p> <p>comparing 336:8, 388:2, 408:22, 421:6</p> <p>comparison 411:13</p> <p>compensation 316:6</p> <p>complete 284:21, 397:16, 450:5</p> <p>completely 366:10</p> <p>comply 360:3</p> <p>complying 360:4</p> <p>component 304:15, 342:14, 342:15, 358:3, 358:4, 428:2, 428:3, 428:7</p> <p>components 304:13, 304:18, 305:11, 314:17, 314:19, 314:20, 318:13, 318:14, 319:14, 324:5, 325:3, 327:12, 353:9, 374:5, 428:14, 428:19</p> <p>computed 433:14</p> <p>concept 307:9</p> <p>concepts 328:17, 328:18, 329:2</p> <p>concerned 334:13</p>
--	--	--	---

conclude 447:11 concluded 312:4 concludes 416:8 conclusions 408:7, 408:9 conducted 279:1 configure 409:10 configured 287:7, 411:22, 413:1, 414:12 confirm 416:18, 441:19 conflict 327:18, 341:3 confuses 340:9 confusing 340:18, 341:15, 359:22 connect 338:22, 423:17, 424:8, 424:20, 424:22, 431:5 connected 346:10 connection 300:10, 300:15, 301:20, 437:8 connects 346:5, 346:7 consider 329:21, 403:10, 429:12 consideration 363:3, 364:15 considered 293:16, 295:9, 304:7, 315:22, 400:1 considering 375:12, 375:18 consistent 392:12, 392:14,	392:16 constant 315:11, 316:2 constantly 307:8, 307:12, 314:22, 315:8, 315:14, 315:21 constructed 409:11, 411:9 construction 409:10, 410:1, 410:6, 410:14, 410:17, 411:21, 413:1, 413:16, 414:11 construed 445:9, 445:15, 445:18, 446:1 consult 446:12 context 289:13, 337:2, 347:2, 354:19, 355:6, 355:9, 355:11, 380:14, 395:15, 395:17, 400:8, 416:12, 427:13 continental 346:11 continuation 283:10 continues 417:6 contradict 387:13, 438:14, 438:19 contradictory 342:19, 439:9 contrast 347:5, 349:9, 369:12 contrasting 347:18, 350:17, 368:10 control 318:1, 372:14, 381:10, 381:16,	382:1, 421:20 controlled 327:7 controls 327:1, 372:12 conventional 337:11 conversation 346:1 copies 433:11 copy 284:4, 286:16, 296:13, 296:14, 296:21, 330:17, 331:3, 331:11, 336:1, 440:14, 441:19 copyright 394:13 corner 431:20 corporate 280:19, 382:11, 451:20 correct 283:11, 287:1, 287:17, 291:17, 294:3, 298:1, 298:19, 299:16, 300:16, 301:6, 301:10, 304:11, 304:17, 305:1, 308:16, 313:9, 318:4, 321:20, 323:3, 324:1, 325:6, 325:12, 333:10, 333:15, 333:17, 334:11, 341:10, 346:17, 350:1, 352:14, 353:7, 355:14, 358:22, 362:10, 362:15, 364:2, 367:19, 370:2, 382:8, 382:9, 383:18, 387:6, 390:2, 391:16,	394:16, 403:19, 404:2, 404:11, 405:2, 407:1, 415:20, 416:12, 417:11, 417:16, 418:3, 418:9, 419:2, 419:8, 419:14, 419:21, 420:14, 421:21, 422:7, 422:13, 422:14, 423:18, 425:15, 425:19, 432:17, 435:2, 435:5, 442:14, 442:22, 443:22, 448:9, 448:10, 448:19, 450:5 corrected 411:12 corrections 450:6 correctly 318:5, 333:11, 351:7, 373:6, 384:2, 384:4, 386:15, 432:14 corresponding 433:17 could 295:3, 296:13, 296:16, 297:9, 315:5, 317:8, 319:9, 327:12, 329:16, 330:18, 330:21, 331:6, 332:13, 336:12, 342:19, 343:20, 356:5, 360:13, 365:20, 366:13, 373:17, 374:14, 375:7, 378:18, 378:22, 380:11, 381:6, 386:20, 398:19, 399:17, 399:21, 400:9, 403:1, 437:1, 441:6, 441:18, 442:4, 444:21,
--	---	--	--

446:20 counsel 283:4, 283:14, 283:19, 451:16 couple 286:13, 286:14, 358:20, 389:19, 427:17, 447:12, 447:21 court 284:10, 285:20 court's 409:10, 409:22, 410:6, 410:14, 410:17, 411:21, 412:22, 413:16, 414:11 cover 287:6, 288:13, 290:9, 292:8, 346:11, 370:15, 385:5, 441:12 covered 291:18, 373:3, 413:7, 413:16 covering 299:13 covers 292:22 crc 437:19 crcls 437:13 created 327:19 credit 346:3, 357:3 criteria 436:15 crr 278:22 cruise 374:2, 379:20, 379:21 cub 376:22 cubs 376:22	currently 286:20, 408:5 cv 363:19 cyclic 433:20, 437:4, 437:12, 437:15, 437:19 <hr/> D <hr/> dartbrook 280:13 data 306:16, 313:7, 313:13, 316:20, 317:6, 326:4, 404:9, 405:1, 405:6, 405:13, 405:15, 408:5, 408:7, 433:3, 433:5, 433:9, 433:11, 433:17, 433:19, 433:21, 434:1, 434:7, 435:4, 435:21, 436:2, 436:3, 436:5, 437:4, 437:16, 437:21, 438:4 date 394:16, 441:20, 450:10 day 452:2 days 427:15 dead 401:18 deal 320:2 dealing 307:10, 319:15 death 401:19 decent 366:6, 429:3 decide 361:15	decides 360:13, 361:7 declaration 282:11, 282:15, 286:8, 289:18, 291:13, 291:14, 298:7, 298:8, 298:11, 298:12, 305:14, 311:2, 317:15, 320:10, 322:8, 323:3, 323:7, 323:15, 326:13, 328:6, 329:10, 331:20, 335:19, 364:6, 370:18, 372:6, 401:15, 403:13, 403:19, 403:20, 404:1, 404:2, 404:4, 404:5, 404:8, 404:15, 406:17, 408:6, 410:20, 411:6, 412:6, 413:8, 414:14, 415:14, 415:17, 415:19, 420:3, 421:9, 438:9, 440:13, 440:15, 440:18, 441:15, 442:11, 442:21, 444:9, 444:11, 444:20, 444:22, 446:8 declarations 398:10, 447:5, 447:17 decode 361:15, 361:19 decoded 359:12, 360:9, 360:13, 361:7 decoding 360:5 defined 358:11, 373:14, 395:2, 395:5, 396:11, 397:13, 410:21, 419:10	defines 309:13, 391:19, 420:4 defining 359:7 definitely 303:2, 357:9, 366:13, 405:22 definition 390:13, 395:11, 395:14, 396:8, 396:9, 396:21, 398:3, 398:6, 398:15, 398:19, 399:16, 399:21 demodulate 324:15, 325:1, 325:2 demodulated 314:17 demodulating 325:8 demodulation 325:10, 325:11 denning 322:6, 322:11, 327:16, 404:18, 404:21, 405:5, 406:11, 409:9, 410:5, 410:13, 410:22, 411:2, 411:13, 412:4, 412:7, 412:9, 412:17, 413:12, 413:13, 413:18, 413:21, 414:14, 438:12, 439:11, 439:13 denning's 323:3, 323:6, 323:11, 323:15, 404:3, 404:8, 405:1, 405:12, 410:20, 411:6, 411:11, 412:5, 413:8, 413:14, 438:13, 438:14, 438:19, 439:10
---	---	--	---

depends 311:13, 346:8, 365:19 depicted 362:13, 362:14 deponent 450:1 deposition 278:17, 279:1, 282:7, 283:10, 284:1, 330:20, 389:22, 393:18, 441:7, 448:1, 451:8, 451:10, 451:16, 451:17 depositions 286:1 describe 382:18, 407:3, 417:21, 438:21, 439:16, 439:17 described 304:12, 304:13, 322:17, 325:5, 335:9, 336:14, 336:21, 337:4, 341:7, 348:20, 350:7, 352:2, 354:20, 359:13, 360:9, 392:15, 423:19, 423:22, 427:5, 432:19, 434:5, 437:22, 440:1 describes 337:22, 342:2, 344:22, 347:8, 348:3, 351:9, 361:4, 363:2, 389:14, 390:17, 391:19, 434:4, 435:9, 439:18 describing 337:9, 338:1, 340:15, 346:19, 352:16, 417:14, 418:16, 419:6, 419:13, 419:19	description 341:4, 346:17, 353:7, 418:18, 426:4, 428:4, 438:14, 438:20, 439:10 descriptions 389:7, 391:8, 409:3 designed 327:9, 327:20, 363:1, 363:11, 364:17, 372:22, 376:7 desk 282:10, 393:9 despite 403:7, 405:11 destroy 448:2 destroyed 448:5 detail 315:10, 372:10, 406:4, 406:20, 434:4, 438:2 detailed 402:19, 406:1, 406:13, 409:2, 409:3 details 309:1, 315:10, 322:7, 388:10, 406:22, 407:3, 407:13, 407:14, 408:10 detect 427:7, 428:8, 433:21, 437:5 determination 420:2, 420:19, 421:2 determine 293:20, 294:16, 315:2, 318:3, 359:11, 360:8, 420:21, 431:5, 435:20, 437:18	determines 428:8, 434:9, 436:3 determining 420:16, 420:17, 428:22, 430:17, 435:13, 435:17, 439:14 device 291:17, 291:20, 291:22, 292:7, 292:10, 292:12, 292:15, 292:17, 292:22, 293:2, 293:3, 293:5, 293:8, 293:13, 293:20, 293:21, 294:12, 294:22, 295:5, 295:9, 295:15, 295:16, 295:19, 295:22, 296:1, 296:2, 296:6, 305:20, 307:5, 308:3, 308:12, 309:19, 311:12, 311:15, 313:16, 314:15, 314:21, 315:7, 315:12, 317:2, 320:4, 320:5, 322:14, 325:21, 327:4, 327:20, 328:3, 332:2, 338:15, 383:3, 419:1, 419:6, 420:13, 420:18, 421:19 devices 287:8, 288:1, 288:13, 290:8, 292:12, 294:8, 294:15, 294:17, 295:6, 295:8, 295:10, 295:11, 308:2, 406:5, 406:21 devoid 395:16	diagram 301:1, 318:8, 325:16 dictionary 282:10, 393:10, 393:16, 394:7, 394:9, 395:13, 395:14, 395:22, 396:4, 396:8, 396:9, 396:21, 398:2, 398:6, 398:15, 398:18, 399:16, 399:20, 400:5, 400:6 dictionary's 395:13 did 283:14, 283:19, 287:19, 287:20, 297:9, 302:21, 303:2, 303:10, 310:6, 312:5, 329:8, 339:8, 377:21, 397:17, 397:19, 401:15, 403:11, 409:9, 410:19, 412:15, 412:16, 412:17, 412:18, 414:14, 421:1, 442:4, 445:1, 446:6 didn't 288:6, 316:5, 321:21, 322:1, 373:4, 381:18, 386:22, 392:2, 396:3, 407:3, 407:19, 410:8, 411:16, 413:13, 419:15 difference 332:12, 356:11, 356:16, 364:8, 403:4, 408:1 differences 401:7, 402:21, 407:8, 444:14 different 293:9, 307:5,
--	--	--	---

308:16, 311:14, 319:8, 319:20, 328:8, 334:1, 334:2, 336:13, 336:17, 336:20, 337:21, 338:6, 338:19, 341:5, 343:7, 347:9, 350:9, 350:20, 351:12, 351:14, 353:9, 356:10, 356:20, 363:20, 369:20, 373:3, 378:15, 379:5, 382:5, 383:2, 388:3, 388:11, 389:4, 389:18, 390:17, 391:20, 392:8, 393:1, 398:12, 400:13, 403:13, 404:5, 406:4, 406:10, 406:20, 408:15, 418:17, 420:11, 423:4, 423:20, 427:14, 428:1, 428:7, 428:18, 428:19, 428:21, 430:15, 430:19, 433:22, 435:1, 435:16, 435:18, 436:14, 436:17, 437:11, 437:20, 438:3, 444:4 differentiates 344:15 differently 310:6, 430:15, 435:6, 436:19 difficult 381:15, 401:17 digital 301:3, 318:10, 319:10 direct 300:9, 300:15, 300:19, 301:20, 313:2, 385:1,	385:13 directed 290:15, 298:15, 367:17, 399:9 direction 302:12 directly 292:1, 292:13, 292:17, 293:4, 293:7, 294:18, 294:19, 295:7, 295:12, 295:18, 296:3, 334:3, 337:13, 338:22, 341:13, 362:4, 370:8, 387:12, 401:21, 438:14, 438:19, 439:9 disabled 367:4 disagree 317:3, 319:18, 332:8, 332:16, 344:4, 352:13, 383:12 disagreeing 343:3, 343:5, 353:3 disagreement 334:7, 448:7 discarded 433:19 disciplines 363:21 disclose 300:1, 300:2, 300:15, 302:1, 410:17, 411:21, 412:22, 413:3 disclosed 298:16, 302:17, 310:13, 317:22, 320:2, 321:3, 321:4, 321:13, 324:18, 328:19, 329:2, 329:3, 336:18, 349:22, 357:19, 380:10,	382:22, 431:12 discloses 299:15, 325:7, 332:20, 352:13, 353:4, 379:9, 390:22, 391:2, 392:9, 414:11, 420:8, 439:1, 439:4 disclosing 300:9, 386:15 disclosure 306:9, 306:10, 306:12, 346:16, 430:11, 431:1, 431:4 disclosures 390:12, 395:15 disconnected 372:17 discussed 288:6, 288:16, 297:22, 300:14, 324:17, 327:10, 372:10, 427:15, 428:3, 431:11, 442:13 discussing 314:4, 314:16, 319:3, 340:7, 375:20, 380:6, 415:20, 443:14 discussion 330:14, 387:13, 441:2, 445:11 displayed 297:6, 393:14 disregard 366:10 dissect 383:10 distinction 334:20, 345:15, 345:16, 345:19 distinguish 351:8 distinguishes 345:12, 348:5,	348:15 distinguishing 351:20, 352:4 diverse 310:12, 314:5 diversed 314:7 diversity 438:15, 438:20, 439:2, 439:5, 439:10 division 354:6, 356:7, 357:10, 361:13, 437:7, 437:17 document 285:1, 285:12, 286:14, 288:7, 288:9, 288:10, 288:22, 289:1, 289:2, 289:4, 289:8, 289:14, 290:1, 296:10, 296:17, 297:4, 297:6, 297:11, 297:17, 297:21, 298:4, 331:13, 331:18, 378:6, 393:6, 393:8, 393:14, 393:15, 393:18, 394:3, 394:20, 400:22, 441:6, 441:13, 442:9 document's 290:5 documentation 378:10, 401:22 documenting 289:11 documents 297:10, 302:2 does 293:3, 293:21, 298:17, 299:5, 299:22, 300:1, 300:15, 304:2, 313:11, 313:14,
--	--	---	---

316:3, 332:4, 341:1, 341:6, 342:14, 345:14, 347:5, 348:9, 348:18, 349:19, 351:7, 353:18, 353:22, 357:5, 359:20, 362:2, 363:22, 367:7, 368:22, 372:16, 382:17, 384:2, 384:6, 387:18, 393:13, 404:18, 404:21, 409:22, 410:16, 411:20, 412:22, 413:3, 417:21 doesn't 296:4, 299:6, 299:8, 299:11, 301:22, 320:1, 328:1, 340:22, 366:1, 382:15, 382:17, 383:6, 400:8, 413:3, 423:4, 436:3, 440:5, 442:5 doing 285:5, 338:2, 340:20, 340:21, 341:18, 368:10, 396:2, 411:3 don't 285:6, 288:7, 288:20, 289:3, 289:5, 290:13, 291:5, 292:15, 299:4, 303:7, 308:22, 309:8, 317:3, 319:18, 322:9, 330:2, 334:7, 335:18, 341:8, 343:19, 344:4, 352:12, 364:14, 374:7, 374:9, 375:2, 376:5, 376:11, 376:12, 377:2,	380:21, 384:16, 389:19, 400:3, 402:1, 410:3, 410:4, 410:11, 410:12, 411:3, 411:12, 422:14, 424:10, 426:21, 439:16, 442:16, 448:3 done 286:1, 412:4, 413:22, 414:3, 447:9 doppler 305:22, 307:10 double-sided 394:5 doubt 403:3 down 290:1, 290:5, 290:21, 297:15, 324:11, 331:18, 354:17, 359:10, 379:4, 394:12, 395:1, 396:9, 400:22, 442:1 downlink 358:13 drastically 315:18 drive 280:19, 451:20 dropped 381:17 dual-placed 376:17 due 444:14 duly 283:3, 451:8 during 283:13, 283:18, 379:20, 381:3, 447:22 <hr/> E <hr/> each 308:17, 314:9,	316:8, 321:12, 326:3, 346:10, 358:5, 358:12, 358:15, 388:11, 389:7, 417:8, 417:17, 418:11, 422:1, 422:18, 428:16, 433:15 earlier 312:6, 313:1, 319:4, 319:15, 324:17, 326:14, 330:13, 337:5, 357:6, 387:13, 428:3, 434:21, 436:11, 440:4, 448:22 early 402:12 easier 289:21 eastern 449:6 easy 423:7 effectively 406:12 effects 307:15 efficiency 316:10 either 307:6, 315:14, 317:22, 323:2, 324:19, 325:8, 326:9, 338:21, 342:11, 349:13, 382:10, 382:16, 403:16, 414:18, 418:6, 425:21, 425:22, 428:21 electrical 376:6, 376:14 electronic 359:15 electronics 365:21, 366:21 element 427:15	elements 388:11 elevated 367:18, 368:3, 368:4, 369:6, 369:8, 369:14 eliminating 383:18 else 442:8 elvin 280:11, 280:12, 447:20 embodiment 338:8, 340:4, 340:6, 341:20, 342:6, 342:12, 345:3, 345:6, 347:12, 347:17, 348:21, 349:22, 350:12, 350:13, 350:21, 351:1, 352:9, 352:15, 354:6, 362:12, 368:1, 368:11, 369:21, 370:2, 370:4, 370:16, 385:8 embodiments 340:22, 341:12, 342:18, 347:9, 350:10, 351:12, 352:1, 370:6, 383:2 enables 339:15 encoded 360:15 encoding 361:22 encounter 307:6 end 284:16, 333:15, 333:18, 334:8, 335:1, 345:10, 414:2, 417:6, 441:18, 446:13,
---	--	---	---

<p>447:9 enlarge 285:15 enough 314:8, 329:13, 329:15, 355:14, 382:2, 414:20 entered 286:11 entering 346:2 enters 337:3 entire 355:9, 416:11 envelopes 447:22 environment 305:21, 306:6, 307:15, 307:21, 308:1, 308:9, 317:13, 380:17, 424:5 environments 338:7 equate 404:20, 428:17 equipment 288:17, 288:18, 375:19, 375:22, 376:21, 377:5, 380:6, 427:22 equipped 385:9 errata 450:7 error 416:10, 418:19, 419:11, 420:6, 420:20, 438:3 errors 433:21, 433:22, 435:10, 435:17, 435:18, 435:20, 436:7, 437:5, 437:7, 437:9, 437:17, 437:19, 437:20, 437:22,</p>	<p>438:7 esk 319:9 especially 315:12, 366:14, 395:6, 405:9 esquire 280:3, 280:11, 280:17 est 449:7, 451:22 estimate 365:7 estimation 310:10, 365:15 et 360:10 even 286:2, 299:9, 299:12, 306:9, 308:10, 314:1, 316:4, 321:6, 327:5, 329:21, 337:21, 338:12, 341:19, 342:4, 345:18, 360:14, 360:19, 363:3, 363:14, 363:15, 364:10, 364:15, 366:1, 367:12, 369:15, 373:5, 375:11, 376:3, 376:5, 376:11, 378:22, 380:21, 380:22, 381:16, 383:6, 388:2, 388:6, 396:3, 412:9, 424:10, 427:17 evening 283:13 ever 365:3 every 315:1 everybody 446:14 everything 356:14, 363:16</p>	<p>evidence 378:11, 397:13, 400:1, 400:4, 402:6 evidentiary 404:21 exactly 288:7, 396:8 examination 282:2, 283:4 examined 450:3 example 378:16, 378:19, 378:20, 378:22, 379:6, 382:10, 404:12, 404:14, 408:21, 427:2 examples 376:19, 377:4, 377:15, 377:16, 381:6 exception 444:16 excluding 375:4 exclusively 363:22 excuse 295:2, 299:1, 416:3, 416:15, 438:12, 445:7, 447:15 exhibit 282:8, 282:9, 282:10, 282:11, 282:14, 282:15, 282:16, 282:17, 284:1, 284:5, 286:12, 290:2, 296:17, 296:18, 330:21, 331:1, 335:21, 393:19, 393:20, 441:7, 441:8 exhibits 282:7, 282:13, 447:21, 448:2</p>	<p>exist 307:16, 307:22, 363:22, 435:10 existing 357:1 exists 298:18, 299:12 experience 287:18, 365:5, 365:12, 378:13, 379:12, 379:13, 381:12, 381:21, 403:3, 403:12, 403:14, 406:8, 407:20 experienced 306:21, 314:9, 314:11 experiencing 305:21 expert 298:5, 389:21 expert's 403:18, 404:1 experts 320:19, 321:17 expires 452:3 explain 300:6, 306:5, 313:11, 324:13, 328:6, 360:7, 360:14, 439:12 explained 306:7, 306:18, 307:16, 307:22, 316:14, 318:7, 328:5, 334:15, 350:5, 353:9, 405:19, 408:14 explaining 308:6, 308:10, 314:12, 322:10, 361:1, 418:22, 439:12 explains 314:3, 334:16, 359:11, 359:18</p>
--	---	--	--

explanation 404:19 explicit 299:7 explicitly 298:22, 299:2, 299:6 expression 329:12 extensive 317:12, 365:12 external 339:13, 344:8 extreme 373:4, 381:7 extrinsic 400:4	fair 305:9, 311:17, 326:1, 382:2, 414:20, 444:7 fairly 380:18 fall 295:3, 295:14 familiar 426:6, 426:9, 426:13 far 313:20, 314:8, 334:12, 336:11, 430:4 faster 372:16, 373:13, 379:2 feed 320:4, 320:5, 412:14 feel 381:5, 395:21 feet 313:21, 313:22, 366:18, 367:5, 370:12 few 332:12, 388:21 field 352:22, 384:10, 384:12, 386:2, 386:16, 386:21, 387:10, 389:11, 390:13, 392:16, 396:13, 397:5 fifth 394:20 figure 300:3, 301:1, 306:13, 306:14, 313:6, 314:6, 318:6, 319:6, 319:22, 323:18, 323:21, 324:5, 326:4, 326:11, 327:12, 328:15, 362:13, 382:11,	431:18, 431:20, 435:4 figures 328:5, 431:17 finally 414:2 find 323:16, 373:7 fine 283:8, 414:4, 442:17 finish 396:7 finished 284:11, 351:16 first 287:4, 298:14, 318:16, 326:22, 331:12, 332:1, 337:2, 337:3, 337:8, 345:3, 346:2, 347:16, 357:21, 358:3, 384:19, 385:4, 389:19, 397:4, 413:17, 414:19, 427:14, 438:10, 441:5 fit 320:16, 321:19 five-minute 446:15 fixed 300:10, 300:16, 301:16, 308:3, 308:14, 309:6, 313:17, 335:13, 337:19, 339:4, 396:12, 396:14, 417:9, 417:16, 417:18, 418:1, 418:6, 418:12, 422:2, 422:19, 428:5, 428:15, 430:18, 431:6, 431:15, 432:6, 433:4, 433:8, 433:15, 434:8,	435:9, 435:10, 436:2, 436:4, 437:7 flight 378:14, 395:6 flip 331:6, 441:18, 442:5 flown 366:16, 367:1, 377:1, 378:15 flying 396:12 fm 319:11 focus 367:9, 382:3, 397:20 focused 312:22 focusing 342:21 folder 393:3 follow 385:3 followed 323:7, 401:3, 402:12, 405:21, 407:5, 407:15, 408:13 following 378:8, 406:2, 406:5, 409:1, 438:22 follows 283:3, 356:7 footnote 378:12 foregoing 450:4 forget 286:5 forgotten 291:6, 308:21 form 325:6, 325:11, 339:18, 367:18,
F			
face 297:5 facilitates 352:17 fact 341:8, 342:17, 358:1, 359:17, 364:18, 366:4, 367:11, 367:12, 381:9, 404:4, 405:11, 410:4, 410:12 factors 311:14, 313:15, 316:8, 316:10 facts 404:9, 404:22, 405:6, 405:13, 405:15, 408:4, 408:7, 408:12, 438:3 fading 305:22, 307:3, 307:4, 307:8, 311:1, 314:9, 314:10, 314:14 failed 405:5 failure 404:8, 405:12			

393:4 forms 368:2, 427:18 forth 445:18, 451:8 forward 316:22, 317:14, 370:17, 409:4, 415:13, 421:8, 435:21, 436:3 found 286:2, 406:22 foundation 288:5, 437:2 founder 401:5, 407:6 founders 402:14 four 314:2, 361:8, 402:17, 448:14 fox 280:4 fraction 362:1 frame 287:19, 354:10, 359:1, 433:21, 437:5, 437:9, 437:17, 437:21 frankly 327:8, 364:14, 367:8, 369:14, 382:9, 413:7 frequency 301:3, 318:9, 318:20, 319:16, 324:20, 325:9, 326:9, 430:8, 435:14 frequently 319:10 from 284:2, 284:10, 290:1, 302:18, 312:9, 313:1, 313:16, 315:6, 315:15, 315:18,	316:13, 316:17, 318:3, 319:2, 319:22, 320:9, 324:6, 330:9, 330:13, 331:18, 332:20, 336:17, 339:3, 339:12, 342:21, 344:6, 344:16, 345:13, 346:13, 363:9, 363:15, 364:15, 371:14, 372:12, 375:21, 375:22, 380:20, 384:19, 385:10, 385:12, 390:8, 390:22, 399:13, 400:22, 402:6, 415:9, 416:6, 416:16, 416:17, 417:8, 417:18, 418:1, 418:2, 418:6, 418:8, 418:12, 418:16, 419:22, 420:16, 422:2, 422:19, 429:16, 430:18, 433:3, 433:9, 434:2, 434:7, 434:8, 436:2, 436:3, 436:6, 436:7, 436:19, 439:6, 439:8, 439:9, 439:15, 440:15, 440:18, 441:12, 441:15, 446:22 front 297:4, 336:2, 394:3, 412:14, 441:13 froze 356:14, 375:16, 419:15 full 391:20 fully 301:21 function 347:10, 347:19,	420:11, 433:7 functional 324:5 functionality 343:18, 343:20, 344:1, 350:18, 352:5, 362:2, 362:3, 423:20 further 342:5, 354:17, 376:3, 396:9, 404:18, 427:5, 438:11, 447:4, 451:14, 451:17 <hr/> G <hr/> gap 328:4 gardner 296:12, 296:14, 296:21, 297:1, 298:15, 298:17, 298:22, 299:9, 299:11, 299:14, 299:22, 300:1, 300:6, 300:9, 300:15, 300:20, 301:22, 302:1, 302:18, 302:20, 302:21, 303:3, 303:7, 303:8, 303:11, 303:16, 305:19, 306:1, 306:11, 306:12, 308:4, 308:5, 308:6, 308:19, 309:2, 309:13, 312:9, 313:1, 313:11, 315:21, 316:2, 316:5, 316:15, 316:18, 317:2, 317:7, 317:12, 317:20, 317:22, 318:7, 318:18, 318:20, 319:2, 319:6, 319:12, 319:14, 319:18, 319:19,	319:22, 320:4, 320:5, 321:4, 321:6, 321:9, 321:14, 322:13, 322:22, 323:11, 323:19, 325:7, 326:17, 327:12, 327:18, 327:22, 328:1, 328:15, 328:19, 329:3, 329:16, 329:22, 330:14, 406:11, 438:13, 438:18, 439:1, 439:13, 439:16, 439:17, 444:3 gardner's 306:9, 306:10, 308:14, 309:5 gateway 337:19, 427:5, 427:18, 427:21, 428:4, 430:6, 431:14, 431:20, 432:1, 432:4, 432:7, 432:12, 432:15, 432:22, 433:3, 433:6, 433:13, 434:3, 434:6, 435:8, 435:11, 436:1, 436:6, 436:13, 437:8, 437:15 gave 399:13, 400:15 gavrilovich 281:5 gears 296:9, 362:7 general 302:4, 312:16, 335:15, 349:12, 398:7, 444:12, 448:12 generated 289:9 generation 359:2, 359:3
--	--	--	---

<p>get 337:1, 344:2, 369:15, 370:19, 370:21, 377:7, 379:21, 390:8, 394:8, 440:22</p> <p>getting 309:16, 426:17</p> <p>gilhausen's 408:13</p> <p>gilhausen''s 332:4</p> <p>gilhausen's 350:9, 370:14, 374:19, 401:4, 402:4, 407:5</p> <p>give 285:20, 398:15, 398:19, 399:17, 399:21, 404:12, 428:3, 440:21, 446:5</p> <p>given 293:14, 365:4, 365:12, 366:4, 381:5, 429:2, 429:19, 450:6, 451:12</p> <p>gives 373:20</p> <p>giving 374:17, 379:5</p> <p>go 291:12, 291:13, 300:5, 320:8, 329:14, 351:11, 351:17, 359:10, 375:14, 379:4, 403:1, 407:3, 431:17</p> <p>goes 325:15, 335:2, 337:15, 346:14, 347:4, 347:6, 386:11, 434:12</p> <p>going 289:9, 300:12, 300:19, 303:20,</p>	<p>315:13, 325:14, 335:16, 342:4, 349:13, 361:13, 372:2, 374:10, 385:1, 389:21, 397:18, 397:19, 413:22, 414:21, 427:1, 431:21, 440:4, 444:13, 446:12</p> <p>goldstein 280:4</p> <p>good 283:9, 330:5, 370:11, 370:21, 370:22, 415:1, 423:10, 446:11</p> <p>got 284:12, 284:16, 309:10, 414:2, 432:18</p> <p>great 285:14, 285:17, 292:3, 297:8, 331:4, 331:10, 331:16, 372:4, 411:15, 415:4, 434:14, 440:20, 441:17, 441:22, 442:3, 442:10, 443:2, 445:3, 446:9, 447:10</p> <p>greatly 329:4</p> <p>ground 296:8, 297:22, 332:10, 332:18, 333:8, 333:16, 334:11, 339:12, 344:7, 346:7, 349:5, 352:19, 353:17, 354:5, 363:4, 363:7, 363:10, 363:12, 363:16, 364:2, 364:3, 364:10, 364:18, 365:3, 365:9, 365:17,</p>	<p>365:20, 366:3, 366:6, 367:3, 367:7, 367:11, 367:16, 367:17, 367:18, 368:3, 368:6, 368:9, 368:18, 368:21, 369:7, 369:10, 370:12, 372:12, 373:14, 380:10, 384:15, 384:22, 385:10, 386:5, 387:2, 389:13, 390:16, 391:1, 397:8, 399:6, 401:8, 402:22, 403:5, 407:10, 408:2</p> <p>grounds 444:5</p> <p>group 278:5, 314:18, 314:19, 314:21, 315:2</p> <p>guess 334:4, 344:2, 381:5, 382:3, 394:7, 403:1</p> <p>guidance 406:6</p> <p>guys 371:4, 415:8, 445:10, 448:1</p> <hr/> <p>H</p> <hr/> <p>had 289:19, 308:11, 359:6, 362:22, 384:1, 401:19, 408:16, 412:13, 412:14, 421:13, 422:17, 445:6, 445:7</p> <p>half 371:4</p> <p>halfway 401:2</p> <p>hand 452:2</p>	<p>handling 364:19</p> <p>handoff 340:10, 340:14, 340:15, 340:20, 340:21, 343:14, 423:21, 424:2, 424:5, 424:15, 425:12, 425:18</p> <p>handoffs 381:16, 381:18, 381:22</p> <p>handovers 372:17, 423:20</p> <p>happening 432:19</p> <p>happens 341:8</p> <p>happy 291:7, 411:5, 413:17, 426:19, 446:14, 448:4</p> <p>hardware 427:6</p> <p>harsher 305:21, 306:6, 307:15, 307:20, 308:1, 308:2</p> <p>has 301:13, 301:20, 304:22, 305:2, 305:5, 319:7, 327:21, 334:2, 338:3, 338:10, 338:16, 338:20, 342:8, 342:15, 347:20, 349:2, 349:7, 349:16, 350:9, 352:9, 357:3, 358:5, 358:15, 358:16, 360:15, 361:20, 367:1, 367:3, 388:10, 401:5, 402:9, 402:11, 405:5, 407:6, 411:6, 412:7, 413:15, 413:18,</p>
--	--	--	---

423:1, 423:10, 433:9, 436:6, 437:16, 442:17, 443:20, 444:2, 445:22 hasn't 412:4, 412:9 haven't 288:22, 289:8, 291:3, 291:10, 292:10, 293:16, 294:9, 325:19, 400:6, 401:21, 403:15, 412:4, 412:12, 413:22 having 283:3, 291:5, 411:13 he's 314:12, 314:16, 319:15, 345:18, 347:18, 350:17, 350:19, 351:1, 351:21, 352:4, 354:4, 354:9, 356:5, 356:21, 360:4, 361:11, 368:10, 401:17, 407:18, 408:16 head 378:5, 426:22 heading 322:21 healthy 429:17 hear 353:19, 419:16, 445:1, 445:3 heard 285:20, 362:21, 374:9, 384:1, 403:20 heavier-than-air 396:11 heavily 357:15 held 441:2, 445:11	helicopter 395:7 help 286:2 helpful 321:15, 434:14 here 283:9, 286:7, 286:9, 291:4, 293:22, 301:11, 301:19, 302:8, 309:19, 318:13, 323:21, 326:16, 329:17, 337:2, 341:7, 355:2, 357:19, 361:11, 369:12, 370:20, 372:9, 376:20, 377:12, 377:14, 378:7, 379:6, 389:11, 390:4, 402:2, 403:8, 403:16, 405:17, 406:15, 410:1, 410:3, 410:11, 411:1, 412:8, 414:9, 416:16, 418:5, 420:10, 423:22, 428:18, 437:1, 437:2, 439:12, 439:15, 440:3, 440:22, 445:8, 446:13 hereby 450:2, 451:6 herein 427:5 hereinbefore 451:8 hereunto 452:1 hesitate 350:19 hey 284:8, 317:6 high 434:5 high-level 428:4	higher 309:15, 316:11, 370:15, 379:7, 379:22, 381:4, 427:17 highest 439:7, 439:19, 439:21, 440:9 highlights 297:12, 331:7, 442:7 him 401:21 hint 363:3, 366:1, 383:6 his 294:4, 306:22, 319:12, 328:1, 401:7, 401:9, 401:19, 402:5, 402:8, 402:12, 402:19, 404:10, 405:6, 405:13, 405:20, 406:5, 406:9, 407:9, 407:10, 407:15, 407:17, 407:22, 409:2, 412:18 hope 371:19 hopefully 286:5, 303:7, 411:17 hoping 336:12 hot 400:7 hotel 449:4 hour 366:8, 371:4, 373:5, 373:11, 373:12, 374:3, 377:18, 378:1, 378:11, 378:21, 379:1, 379:4, 379:8, 379:19,	380:3, 380:8, 381:2, 381:7, 381:8, 381:11, 381:17, 381:21, 386:13, 414:22 housekeeping 440:22 how 283:6, 284:11, 285:4, 288:8, 298:3, 309:12, 313:20, 314:16, 316:6, 318:3, 320:3, 320:4, 321:5, 326:22, 327:3, 327:6, 328:1, 329:12, 336:14, 337:9, 342:2, 344:21, 347:2, 353:18, 364:19, 366:10, 369:3, 371:7, 371:9, 371:19, 384:16, 392:4, 398:21, 406:4, 406:20, 412:10, 428:7, 431:4, 436:19, 438:18, 439:8 however 334:15, 388:17, 437:11 hung 284:16 <hr/> I <hr/> i'll 286:4, 290:21, 291:7, 302:11, 309:14, 315:9, 321:22, 322:8, 332:15, 346:14, 348:13, 354:16, 360:7, 375:14, 391:18, 410:9, 411:12, 411:17, 441:11, 442:15 i've 285:22, 291:6,
---	--	---	---

291:19, 293:2, 293:14, 293:19, 294:12, 295:20, 296:4, 296:5, 298:6, 298:7, 299:17, 303:4, 306:7, 306:9, 306:14, 306:18, 309:1, 309:10, 311:6, 312:2, 313:15, 317:9, 320:22, 326:21, 329:9, 329:10, 329:12, 329:19, 336:5, 351:18, 351:21, 367:21, 373:2, 373:10, 378:14, 381:5, 386:10, 386:12, 388:13, 391:18, 392:3, 392:4, 393:19, 396:22, 402:18, 402:19, 405:8, 406:1, 407:14, 407:20, 408:10, 408:14, 408:18, 408:19, 412:9, 413:6, 414:17, 420:2, 420:6, 421:15, 430:12, 439:1, 439:15 idea 360:1, 381:19, 423:2 identical 443:17 identification 284:6, 290:3, 296:19, 331:2, 335:22, 393:21, 433:7, 441:9 identified 316:9, 330:16, 406:19, 445:8, 445:15, 445:17, 446:1 identify 323:8, 323:14	identifying 286:20 identity 423:5 ignored 328:9, 328:10 ii 318:1 iii 318:2 illustrated 362:13 impact 374:5 impediment 315:16 implementation 381:14 implementations 311:9 implemented 306:1, 382:14, 383:14, 384:8, 390:10 implementing 305:19, 316:13 implies 335:4, 358:2 imply 298:17, 299:6, 299:11, 354:21 important 287:7, 319:13, 336:22, 360:22, 364:5, 380:13 impossible 328:18, 329:1, 329:9 improve 316:10 inc 278:5 incapable 295:12, 368:21, 374:20, 424:7 inches 314:3 include 288:1, 312:6,	319:7, 362:3, 412:18, 416:16, 427:6 included 290:14, 294:10, 311:8, 324:9, 358:18, 386:8, 406:16, 408:10, 421:16, 423:21, 425:10, 439:15 includes 305:7, 305:10, 305:11, 316:5, 322:12, 345:21, 388:6, 416:10, 440:8 including 318:19, 329:14, 383:16, 404:22 incompatible 321:12, 328:11 incorporating 301:4, 318:11 incorrect 425:5 incorrectly 388:3 independent 314:10, 398:14, 398:18, 399:16, 399:20, 420:18, 446:3 indicate 445:14 indicated 395:19 indicates 368:15 indication 427:8, 433:17, 433:18, 434:2, 435:7, 435:19, 436:12 indications 426:10, 433:14 indicative 293:8 indicator 375:4, 377:3,	426:7, 426:14, 427:9, 427:12, 428:10, 428:13, 429:6, 429:10, 429:11, 429:13, 429:19, 430:2, 430:4, 430:9, 430:12, 430:14, 431:8, 431:10, 431:12, 431:14, 432:4, 432:10, 432:16, 434:16, 434:19, 436:19 indicators 426:9, 429:4 indirectly 313:14 industries 359:14, 359:15 information 301:3, 318:10, 319:11, 346:4, 423:12, 427:8, 428:9, 434:8 infringement 290:12, 290:14 initially 423:15 initiated 346:9, 346:13 initiates 338:21, 339:1 inphase 314:16 input 318:2 inq 314:20, 319:14, 325:3 installed 374:20 installing 375:21 instance 327:1, 363:10, 366:15, 400:5 instances 390:5
--	--	---	---

instant 315:6, 315:7, 315:18 instead 285:13, 289:12, 320:22, 349:15, 352:7, 436:5 instructor 378:14 intend 312:5 intended 318:15 intent 288:8, 288:21, 289:3, 289:4, 289:14, 364:5 inter 306:20 interact 321:6 interchange 319:22 interchangeable 320:12, 320:21 interface 321:6, 356:1, 356:7, 356:8, 357:6, 360:11, 360:12, 361:21, 388:18, 427:18, 428:20, 429:1, 435:14, 435:16, 436:14, 437:10, 437:11, 437:18, 438:5 interfaces 328:2, 428:15, 432:7 interference 307:9, 366:20 interferences 306:20, 307:2 interim 359:16 internal 433:5 interposed 301:16	interpret 294:14, 369:3, 392:5, 398:22 interpretation 294:13, 295:21, 296:5, 320:13, 321:16, 321:18, 322:5, 391:17 interpreted 293:19, 386:6, 386:14, 396:20, 398:1, 399:19 interpreting 294:10, 389:8 intimately 407:21 into 286:11, 309:16, 313:19, 320:1, 320:4, 320:5, 321:10, 326:15, 347:7, 351:17, 371:2, 375:22, 377:7, 400:18, 407:3 intrinsic 397:12, 400:1 introduce 293:15 introduced 442:13, 442:15, 442:20 introducing 293:10, 442:16 invention 299:2, 299:15, 300:2, 301:5, 305:19, 305:20, 306:1, 306:22, 308:4, 308:11, 310:10, 313:12, 315:20, 316:18, 317:2, 318:11, 319:6, 319:13, 319:18, 319:19, 321:6, 321:7, 325:7, 340:4, 340:8, 343:21,	347:7, 347:8, 350:8, 350:9, 352:3, 352:22, 353:2, 353:8, 353:10, 353:16, 363:4, 363:6, 363:9, 364:17, 367:13, 370:14, 373:20, 374:1, 374:17, 374:19, 375:8, 375:10, 376:11, 376:16, 380:22, 382:13, 383:6, 384:2, 384:7, 384:10, 384:11, 384:13, 384:20, 386:2, 386:3, 386:17, 386:21, 387:10, 389:12, 390:14, 390:21, 392:16, 396:13, 397:5, 397:6, 398:17, 401:8, 401:9, 407:9, 407:11 invention's 382:19 inventor 297:1, 308:11, 316:12, 363:15, 366:10, 366:15 inventors 402:14 investments 278:8, 451:15 involved 339:19, 357:15, 406:14, 442:22 involves 439:2, 442:12 involving 440:16, 440:19 ipr 278:11, 278:14, 448:13 irving 280:21, 451:20 isn't 299:9, 302:1,	307:14, 307:20, 310:22, 312:11, 312:16, 321:8, 389:11 issue 404:8, 405:12 issues 308:11, 311:1, 403:5, 447:18 ito 297:21, 300:14, 311:21, 312:2, 312:3, 312:4, 312:6, 317:20, 317:22, 320:1, 320:5, 321:3, 321:7, 321:10, 321:13, 322:13, 322:22, 323:10, 326:17, 326:22, 327:1, 327:4, 327:8, 327:17, 327:20, 328:15, 328:17, 329:2, 329:16, 329:21, 330:14, 406:11, 444:3 its 297:5, 299:2, 299:15, 305:11, 319:13, 327:13, 335:11, 337:6, 337:14, 366:2, 366:11, 372:22, 382:13, 386:16, 395:20, 395:22, 396:21, 398:16 itself 334:18, 400:18 ix 372:11 <hr/> J <hr/> jeez 362:16 jet 372:14, 373:12, 382:8, 382:11,
--	---	--	--

386:13, 391:10 jets 373:1 job 278:20 judith 278:22, 279:11, 451:3 june 278:18, 451:21, 452:2 just 284:17, 287:15, 288:9, 289:9, 289:12, 289:16, 292:20, 297:10, 302:11, 304:4, 304:7, 305:2, 307:16, 307:21, 308:5, 310:6, 310:7, 310:20, 311:4, 311:15, 312:14, 319:21, 320:18, 321:15, 322:13, 325:5, 327:7, 327:10, 328:16, 334:15, 339:21, 343:22, 347:10, 348:20, 350:5, 353:6, 353:8, 354:14, 356:1, 360:2, 360:5, 360:6, 360:21, 361:6, 368:16, 370:7, 370:20, 373:4, 375:19, 378:4, 387:17, 396:15, 406:12, 408:3, 408:14, 408:21, 409:19, 410:7, 413:13, 416:5, 419:12, 419:18, 421:17, 422:17, 425:9, 426:17, 426:19, 426:21, 434:19, 440:4, 440:21, 441:12,	442:5, 447:12, 448:1, 448:6, 448:11 <hr/> K kessler 280:4 key 402:13, 402:14, 406:3, 406:19 keyed 301:3, 318:9, 318:20, 319:9, 324:20, 325:8, 326:9 kind 284:11, 284:16, 345:9, 369:15, 376:7, 379:17, 381:5 kinds 386:22 klein 401:4, 401:16, 401:20, 402:4, 405:16, 407:5 knew 403:4, 408:1 know 284:10, 284:11, 284:15, 288:7, 289:3, 292:16, 308:6, 331:7, 335:7, 343:19, 345:8, 351:13, 355:7, 370:21, 373:15, 381:1, 384:16, 402:20, 422:14, 423:4, 430:4, 431:8, 438:2, 447:20 knowledge 402:8, 402:9, 402:16, 406:9, 408:22, 429:3, 429:22 known 305:18, 314:20,	346:6, 442:13 knows 367:4, 423:5 <hr/> L label 330:21, 393:17 labeled 324:12, 393:6, 394:19, 431:20, 431:22, 432:1 lack 376:21 lacked 375:13, 375:19 laid 296:5, 406:16 landing 379:18, 379:20, 380:1, 380:2, 381:4 language 317:4, 417:1 lanning 278:17, 279:1, 282:2, 282:7, 282:14, 283:2, 283:6, 284:3, 284:5, 285:16, 285:18, 290:2, 296:18, 296:20, 297:17, 329:7, 330:12, 331:1, 331:20, 335:21, 371:17, 372:5, 393:8, 393:20, 394:2, 397:15, 409:21, 412:13, 415:12, 426:6, 441:4, 441:8, 441:11, 447:3, 449:1, 450:2, 451:7, 451:18 lanning's 284:13, 284:22, 440:18 laptop 287:8, 295:11	laptops 287:16, 288:2, 288:14, 290:10, 291:6, 291:11, 292:8, 293:1, 294:3, 295:3 large 328:4, 397:9 last 286:1, 307:18, 401:18, 404:17, 409:7 later 387:16, 389:14, 417:7, 427:5 law 280:12 leaf 297:10 learned 311:6 least 291:18, 293:21, 297:5, 305:8, 311:19, 312:12, 322:18, 325:17, 331:12, 356:20, 358:5, 361:17, 364:1, 366:6, 372:11, 373:13, 416:22, 432:20, 436:7, 441:12 leave 425:9 leaving 349:10 left 325:15, 431:20 left-hand 324:11 lego 319:21, 320:12, 320:17, 320:21, 321:9, 321:10, 321:19, 321:20, 322:9 length 304:10, 388:10,
--	---	--	--

429:19 let 289:21, 312:6, 312:7, 331:6, 336:12, 341:5, 350:3, 359:2, 373:7, 383:10, 383:21, 384:6, 388:4, 396:7, 397:1, 400:17, 425:1, 434:17, 437:1, 442:19 let's 289:15, 289:18, 291:12, 291:13, 296:9, 317:14, 317:15, 338:5, 352:12, 362:7, 372:5, 377:20, 382:3, 384:9, 400:20, 404:14, 409:4, 415:13, 415:14, 415:16, 427:2, 438:8, 446:19 letting 370:21 level 309:15, 316:11, 408:4, 408:7, 429:22, 434:5 like 285:18, 299:19, 302:8, 308:3, 313:16, 315:17, 316:3, 316:7, 320:12, 320:17, 321:20, 323:8, 335:17, 343:11, 350:3, 360:21, 365:14, 375:15, 376:14, 381:1, 381:5, 382:10, 385:13, 395:21, 397:10, 400:4, 402:11, 416:18, 417:1, 417:2, 429:2, 429:15,	442:4, 444:20, 446:16, 446:17 limitations 313:18, 313:20 limited 382:13, 382:15 line 300:22, 310:8, 313:3, 314:5, 316:15, 319:3, 332:21, 336:4, 336:5, 336:19, 336:22, 337:16, 339:7, 340:5, 340:7, 341:21, 342:5, 344:6, 345:3, 345:22, 352:21, 354:17, 355:19, 359:10, 367:22, 385:14, 416:17, 416:19, 417:6, 421:22, 424:1, 424:15, 425:11, 427:3, 427:16, 427:17, 427:20, 429:15, 431:21, 432:20, 433:2, 437:3 lines 355:9, 412:20, 427:17 lining 313:4 link 367:3, 432:12, 437:14 list 407:19 listed 293:22, 326:21, 329:19, 367:21, 388:16 listen 412:15 listing 294:17, 382:19 litigation 402:19	little 285:15, 302:3, 319:3, 332:11, 342:5, 362:7, 383:11, 393:3, 440:21, 443:15 llp 280:18, 451:19 local 324:12, 449:4 logic 338:3 long 345:8, 365:2, 383:5, 412:20, 442:5 longer 395:21, 429:14, 446:16, 446:17 look 296:11, 298:12, 309:10, 316:4, 317:15, 318:6, 318:21, 323:18, 330:15, 331:19, 335:17, 339:5, 339:6, 359:9, 364:5, 372:5, 378:8, 393:13, 396:9, 400:3, 404:14, 417:4, 426:16, 426:17, 426:20, 427:1, 427:2, 431:18, 438:4, 438:5, 442:5, 448:2 looked 335:19, 355:16 looking 286:7, 286:9, 309:12, 309:18, 323:21, 331:12, 378:7, 393:9, 416:20 looks 285:18, 343:11, 375:15, 382:10, 417:1, 417:2	loop 310:10 lost 393:19 lot 315:9, 317:9, 321:11, 335:8, 363:8, 375:1, 375:5, 377:1, 389:11, 406:6, 406:16, 417:1, 438:2 low 373:17, 374:15 lower 373:20, 374:18 lowest 374:2, 379:18, 381:6 lucien 281:4 lunch 370:20, 371:5, 371:19 <hr/> M <hr/> machine 395:6 made 351:18, 379:5, 404:10, 414:5 major 328:13 majority 369:17 make 284:17, 285:4, 285:19, 289:21, 297:11, 299:8, 332:12, 337:1, 344:19, 345:14, 349:18, 355:7, 374:20, 376:10, 386:7, 387:1, 388:4, 421:2, 437:1, 446:15 makes 344:12, 345:16,
--	---	---	--

357:18, 357:19, 357:21, 421:11 making 334:19, 339:22, 340:1, 340:3, 345:19, 349:8, 369:12, 408:12, 419:7, 419:20, 420:1, 420:10, 420:13, 420:19, 448:11, 448:12 manner 333:7, 337:4, 368:5, 368:8, 368:17, 368:22, 369:9 many 287:19, 287:20, 306:20, 311:13, 312:17, 312:18, 313:21, 367:20, 378:15, 378:18, 381:17, 401:4, 404:5, 407:5, 407:16, 407:17, 407:19, 407:21, 408:10, 408:13, 418:17 mark 278:17, 279:1, 282:2, 283:2, 296:17, 441:6, 450:2, 451:7, 451:18 marked 282:13, 284:5, 290:2, 296:18, 331:1, 331:13, 335:21, 393:20, 441:8, 442:17 markings 297:12, 331:8 maryland 279:14, 451:5, 452:7 match 301:22 matter 290:16, 313:21,	321:8, 323:10, 364:18, 404:4 maximum 372:13, 380:8 may 285:18, 300:3, 306:14, 311:21, 312:16, 313:6, 313:12, 316:10, 316:18, 317:3, 332:12, 373:8, 375:15, 385:15, 389:15, 420:22, 423:15, 446:12, 447:18 maybe 350:2, 361:8, 374:22, 376:2, 393:2, 410:19, 421:4, 421:11, 431:17, 442:6 mean 306:5, 311:5, 327:10, 353:22, 363:18, 366:4, 366:7, 400:8, 402:11, 422:14, 424:22, 434:12, 435:22, 440:5 meaning 291:16, 291:20, 292:7, 292:22, 293:14, 295:4, 295:15, 320:11, 333:11, 334:21, 356:1, 356:6, 377:9, 392:13, 392:15, 392:19, 395:21, 396:1, 407:16, 432:6, 437:12 means 333:12, 383:17, 391:14, 420:4, 427:12 meant 310:4 measuring 435:17	meet 294:21, 296:4 memory 433:5, 433:10, 433:13 mention 326:16, 406:22 mentioned 345:12, 358:20, 403:7 mentioning 379:11 met 410:4, 410:12 method 437:6 methods 310:11, 319:12, 319:16, 321:2, 321:4, 321:14, 328:9, 328:11, 356:8, 436:10 mic 286:3 middle 314:19, 314:20, 430:5, 431:12, 431:18 might 290:19, 308:21, 310:3, 416:18 mile 377:18, 378:1, 378:11, 378:20, 379:4, 379:19, 380:3, 380:7, 381:2, 381:11, 386:13 miles 373:5, 373:11, 373:12, 374:3, 379:1, 379:8, 381:7, 381:8, 381:16, 381:21 million 299:7 mind 293:9, 308:22,	327:9, 337:9, 353:7, 355:15, 367:7, 377:22, 402:4, 402:6, 403:4, 448:3 mine 382:16, 383:14 mines 383:19 minimum 373:15, 374:12, 379:14, 379:15, 416:9 minute 288:19, 440:21 mischaracterizes 388:1, 392:3, 399:1, 424:9 mischaracterizing 329:4, 396:3 misheard 409:20, 420:22 misleading 398:4, 398:5 missed 414:4 missing 321:11, 327:14 misspoke 310:2, 442:20 misstated 421:5 misstates 294:4 misstating 294:6 mistake 414:5 misunderstanding 350:3 mode 423:21 model 365:6, 365:13, 377:1, 378:2 models 378:15, 378:18 modulated 301:3, 301:4,
---	---	---	---

318:9, 318:10, 319:10, 324:16, 324:20, 325:2, 325:9, 326:9 modulation 309:13, 318:17, 319:8, 319:16, 321:2, 321:4, 321:13, 325:5, 328:8, 328:11 modulations 319:12 money 329:13, 329:15 monitored 438:6 monitoring 422:20, 422:22 monitors 417:8, 417:17, 418:12, 422:1, 422:19 moon 329:14 mooney 378:4 more 292:16, 302:3, 302:8, 303:19, 305:22, 306:22, 308:8, 309:11, 314:2, 315:3, 345:18, 353:1, 360:14, 374:22, 380:16, 382:4, 384:12, 384:16, 394:5, 407:13, 407:14, 410:7, 412:20, 416:5, 426:8, 426:11, 434:4, 440:8, 448:12 morning 448:19 most 346:11 motion 290:20	motivated 317:19, 321:1, 328:7, 329:11, 329:18 motivation 322:21, 323:10, 323:12 move 285:8, 285:11, 305:13, 317:14, 330:13, 370:17, 400:13, 409:4, 409:11, 411:9, 414:8, 415:13, 415:14, 415:16, 421:8 moveable 287:6, 299:20, 301:13, 301:14, 302:10, 302:16, 303:18, 303:21, 304:6, 304:20, 304:22, 305:10, 306:21, 308:12, 313:16, 420:15 movement 307:12 moves 315:17 moving 298:16, 304:16, 305:7, 305:19, 307:7, 307:11, 308:12, 315:12, 335:12, 337:10, 337:17, 339:2, 339:3, 372:11, 412:1, 417:9, 417:18, 418:6, 418:12, 419:13, 419:19, 422:2, 422:19, 428:22, 430:18, 431:6, 433:6, 433:12 mph 372:13, 372:14 mss 327:5, 328:3,	328:14 much 303:19, 305:20, 306:6, 308:7, 317:21, 326:16, 326:19, 379:7, 381:4, 384:16, 406:4, 419:4, 440:8 multipath 307:4, 307:7, 315:14 multiple 309:20, 310:15, 310:18, 310:22, 311:3, 311:9, 311:11, 311:14, 311:21, 312:11, 312:13, 313:15, 318:1, 318:2, 318:4, 320:3, 322:15, 323:22, 324:2, 324:6, 327:1, 327:6, 327:13, 329:19, 341:19, 351:22, 354:7, 356:7, 357:10, 358:3, 358:5, 358:14, 367:6, 385:17, 385:22, 386:11, 387:7, 389:16, 391:18, 396:22, 398:8, 418:11, 426:10, 433:11, 434:7, 434:8, 434:10, 436:2, 436:7 multiplexing 361:13, 437:7, 437:17 must 292:1, 292:13, 337:4 mute 285:19, 285:21, 286:3 muted 286:4	muting 285:22 mystery 389:11 <hr/> N <hr/> name 335:3, 350:21, 358:1, 378:5 named 297:1 names 350:20 natural 330:2 navigation 376:12, 377:10 near 333:1 nearest 333:3, 342:1 necessarily 391:14, 440:5 necessary 376:21 need 290:19, 292:16, 304:5, 307:18, 310:6, 315:1, 315:8, 315:21, 316:1, 317:11, 318:21, 320:16, 321:19, 328:20, 340:13, 350:2, 356:14, 364:20, 376:2, 400:3, 419:3, 422:8, 426:8, 426:11, 429:8, 429:12, 443:7, 446:1 needed 308:18, 390:6 needs 288:17, 288:18, 292:17, 314:13, 383:18 negative 307:15, 382:18,
---	---	--	--

382:19 network 292:2, 292:14, 292:18, 293:5, 293:7, 294:19, 294:20, 295:8, 295:13, 295:18, 296:3, 333:20, 333:22, 334:12, 334:13, 334:14, 334:19, 337:13, 337:20, 338:15, 338:22, 341:14, 346:11, 347:3, 353:15, 357:1, 362:5, 362:6, 365:1, 381:13, 381:14, 423:1, 423:3, 423:4, 423:17, 424:4, 424:17, 424:21, 425:6, 425:14, 425:19, 425:22, 426:1, 426:5, 427:10, 427:20, 428:2, 428:6, 428:11, 428:13, 430:7, 430:8, 430:10, 431:16, 432:2, 432:5, 432:13, 432:17, 434:3, 434:11, 434:13, 435:4, 435:8, 435:20, 435:22, 436:13, 437:9 networks 381:15, 402:10 never 311:6, 311:7, 412:15, 412:16, 424:20, 425:4 new 280:6, 293:12, 293:15, 317:21, 326:16, 326:19, 337:6, 371:2 newell 281:4	news 331:5 next 300:12, 303:8, 305:13, 315:6, 333:6, 337:16, 339:17, 340:11, 340:17, 343:1, 343:9, 343:16, 344:18, 344:21, 414:8, 414:9, 421:8 non-cdma 356:20 non-standard 340:12 noncell 287:20 noncellular 355:13, 356:12, 356:17 none 365:21, 406:21, 413:11 nonexistent 327:8 nor 298:17, 369:3, 376:13, 404:21 normal 340:10 notary 279:13, 451:1, 451:5, 452:6 note 404:18, 438:11 noted 302:2, 364:6 notes 297:12, 331:7, 442:7 nothing 383:13 notice 279:11, 442:6 notices 448:14 november 452:3	now 290:7, 290:11, 290:17, 290:21, 292:3, 293:10, 293:14, 296:9, 303:6, 309:1, 322:10, 323:8, 330:14, 347:6, 347:18, 351:4, 351:6, 368:20, 370:20, 371:3, 384:16, 387:12, 387:20, 388:2, 392:17, 394:18, 405:22, 412:11, 414:7, 425:20, 428:1, 429:4, 429:7, 429:15, 430:1, 432:18, 434:15 nowhere 323:1 number 296:22, 334:20, 346:3, 357:3, 373:17, 374:15, 378:1, 378:11, 380:8, 394:6, 421:10, 433:7, 444:4 numbered 285:13 numeral 285:14 numerous 403:8 nw 280:6 <hr/> O <hr/> objection 288:4, 294:4, 395:10, 395:12, 398:4, 405:18 obstacles 307:5 obtain 423:12	obvious 327:16, 365:18, 365:19 obviousness 320:16 occur 313:16, 372:18, 381:18, 438:7 occurred 451:18 off 285:21, 312:1, 365:21, 366:17, 378:5, 426:21, 427:14, 441:2, 445:11, 449:7 office 278:1, 427:6, 427:18, 427:21, 428:4, 430:6, 431:14, 432:5, 432:7, 451:19 offices 280:12 often 329:12 oh 351:5, 394:11, 432:18 old 331:5 once 379:21, 412:15, 412:16, 421:13, 423:9 one 284:4, 284:15, 286:2, 289:5, 293:20, 294:13, 298:9, 300:12, 304:18, 305:11, 309:10, 311:4, 311:5, 311:16, 312:20, 312:22, 314:12, 315:5, 315:6, 315:18, 320:22, 323:15, 325:13, 326:14,
--	---	---	---

<p>328:6, 329:17, 329:20, 330:17, 333:21, 342:19, 346:5, 347:9, 350:10, 350:20, 356:15, 357:13, 358:5, 359:3, 361:12, 361:17, 367:14, 367:20, 370:1, 373:4, 376:8, 380:16, 383:2, 386:6, 386:9, 387:21, 389:10, 389:15, 390:7, 392:4, 392:20, 396:15, 402:13, 404:14, 408:21, 412:19, 413:10, 416:22, 418:16, 421:11, 430:4, 431:17, 435:2, 435:3, 435:16, 435:17, 437:6, 441:13, 444:19, 447:12</p> <p>ones 358:14, 433:4, 448:8</p> <p>only 288:1, 300:8, 300:9, 301:19, 312:20, 327:21, 338:15, 351:9, 360:11, 360:12, 362:1, 362:19, 370:1, 370:11, 372:22, 375:12, 375:18, 381:3, 381:10, 386:9, 388:20, 390:21, 391:19, 402:17, 422:6, 422:12, 422:22, 429:13, 430:4, 439:20, 444:19</p> <p>open 310:10, 393:3</p> <p>open-ended 425:8</p>	<p>operate 316:3, 359:18, 366:11, 372:15</p> <p>operated 312:19</p> <p>operating 345:20, 346:20, 366:2, 368:22</p> <p>operational 365:22</p> <p>opined 291:15, 291:19, 292:4, 292:5</p> <p>opinion 288:8, 288:12, 288:21, 289:5, 289:10, 290:8, 291:10, 292:21, 293:16, 301:21, 302:13, 318:12, 322:11, 336:16, 355:12, 359:20, 363:5, 365:14, 374:4, 380:9, 390:9, 391:3, 398:20, 399:9, 399:11, 399:14, 399:15, 401:6, 403:8, 405:5, 407:7, 408:1, 409:21, 410:2, 410:10, 411:7, 413:10, 413:11, 413:12, 413:13, 413:19, 413:21, 414:10, 414:13, 414:15, 414:16, 414:18, 434:15, 438:18, 440:4, 440:7</p> <p>opinions 291:3, 291:4, 291:5, 294:2, 300:13, 320:22, 323:12, 389:22, 390:5, 408:19, 409:3, 444:10, 444:17</p>	<p>opposed 312:14</p> <p>opposite 302:12, 320:18</p> <p>order 316:2, 320:2, 338:3, 438:6</p> <p>ordinary 291:16, 291:20, 291:21, 292:7, 292:21, 293:14, 294:13, 295:4, 295:15, 314:12, 316:12, 316:17, 317:10, 321:1, 324:14, 327:17, 328:6, 328:10, 329:11, 329:18, 329:20, 353:22, 357:14, 361:12, 364:16, 369:4, 370:9, 375:21, 376:8, 389:10, 392:4, 392:13, 392:15, 392:19, 392:20, 395:21, 396:6, 396:16, 396:19, 397:1, 397:2, 397:22, 398:8, 398:21, 399:2</p> <p>organized 441:1</p> <p>originates 338:13</p> <p>oscillator 324:13</p> <p>other 289:6, 294:7, 294:8, 294:10, 294:16, 297:10, 299:7, 308:17, 314:11, 315:15, 321:12, 331:7, 350:22, 366:20, 370:6, 375:8, 378:18, 383:3, 386:20, 387:4,</p>	<p>389:7, 390:10, 391:7, 408:10, 408:18, 408:19, 413:10, 423:11, 423:12, 428:16, 429:10, 435:3, 447:17, 448:13</p> <p>otherwise 433:19</p> <p>our 284:20, 327:11, 330:13, 370:20, 371:7, 387:13, 446:19, 447:8, 447:9, 448:7</p> <p>ourselves 448:9</p> <p>out 285:6, 289:1, 291:7, 296:5, 318:18, 325:21, 326:5, 336:15, 361:8, 364:12, 387:21, 388:21, 397:16, 406:16, 418:8, 420:12, 431:22, 435:4, 440:13</p> <p>outline 311:2</p> <p>outlined 310:20, 311:21, 312:9</p> <p>outside 379:7, 384:3, 430:7</p> <p>over 295:20, 308:15, 309:7, 310:22, 312:11, 322:14, 326:8, 340:7, 359:7, 388:9, 388:21, 397:1, 401:5, 405:20, 405:21, 405:22, 406:7, 407:6, 408:14, 408:15, 428:20, 429:1,</p>
--	---	---	---

447:6 overall 288:22, 289:13, 357:12, 360:1, 362:1 overview 286:22 own 378:13, 379:12, 381:21, 403:14, 406:8, 407:20 owner 278:9, 280:10, 291:4, 445:17, 447:7, 447:14 owner's 282:17, 284:2, 286:11, 286:21, 289:20, 290:6, 290:15, 290:20, 290:22, 291:2 oxford 282:10, 393:9, 394:9	paragraph 287:3, 287:5, 289:4, 289:13, 291:14, 298:11, 298:12, 298:14, 300:18, 305:14, 305:15, 305:17, 306:8, 306:12, 311:2, 314:4, 317:16, 317:18, 320:9, 320:11, 322:4, 323:6, 326:13, 326:22, 331:21, 345:9, 372:6, 372:9, 373:9, 378:7, 380:9, 382:7, 384:19, 397:4, 399:4, 400:20, 401:1, 401:2, 404:15, 404:17, 405:20, 406:17, 407:1, 407:4, 408:5, 408:8, 408:9, 408:12, 408:17, 409:5, 409:7, 409:8, 409:17, 410:16, 411:2, 411:7, 411:20, 412:20, 413:5, 414:17, 415:14, 415:16, 415:21, 415:22, 416:2, 416:8, 417:6, 421:9, 421:10, 421:11, 421:14, 438:10, 438:11, 439:13, 444:21, 445:2, 445:5, 445:14, 446:7 paragraphs 285:16, 322:18, 322:20, 322:21, 323:1, 323:4, 323:6, 378:9, 408:11, 408:18, 408:19	paraphrased 384:4 part 299:7, 299:8, 307:18, 308:21, 318:16, 318:21, 325:13, 340:9, 351:19, 354:17, 360:2, 360:5, 393:15, 420:7, 421:19, 424:3, 424:17, 424:21, 425:5, 425:13, 425:18, 425:21 particular 298:10, 305:17, 310:1, 310:19, 312:8, 313:1, 313:5, 342:20, 343:4, 362:12, 365:6, 370:1, 376:1, 377:21, 378:6, 387:14, 404:15, 409:8, 418:2, 427:4, 431:3, 432:16, 442:21, 443:4 particularly 300:4, 306:15, 313:7, 313:12, 316:19, 317:6, 353:1, 384:13 parties 447:14 partner 426:2 party 451:15 passage 302:18, 335:17, 336:21, 355:4, 355:18, 418:15 passages 341:19, 355:15, 386:7 passing 442:7 past 427:15	patent's 361:2, 389:9, 429:14 patents 286:22, 317:5, 401:5, 402:8, 402:11, 402:18, 402:20, 403:2, 403:8, 403:12, 405:21, 406:2, 406:9, 407:7, 407:17, 407:22, 408:15, 444:1, 444:6 paths 318:2, 318:4 pause 339:21 pay 346:4 pending 336:7 people 329:12, 377:2 perfectly 313:4, 326:1, 327:13 perform 381:15, 388:22 performance 316:11 performed 318:13, 334:9, 413:9 performing 352:8, 360:17, 360:18 performs 301:14, 342:2, 347:10 period 337:7 person 291:21, 311:6, 315:13, 316:12, 316:16, 317:10, 324:14, 327:15, 327:17, 328:10,
P			
page 282:2, 282:7, 285:11, 285:13, 286:17, 286:19, 287:4, 289:1, 289:12, 317:9, 331:12, 383:10, 394:3, 394:6, 394:9, 394:13, 394:18, 394:20, 394:22, 396:10, 414:7, 430:22, 441:12 pages 278:21, 359:7, 361:8, 388:10, 388:21, 388:22, 426:19 paper 331:3 paperwork 440:22			

329:11, 353:22, 357:2, 364:15, 364:16, 366:14, 369:4, 370:9, 375:20, 396:18, 396:22, 397:2, 397:22, 398:8, 398:21, 399:2 personal 287:18, 378:13, 379:12, 379:13, 381:12, 381:21, 403:3, 406:9, 407:20 petition 298:1, 323:2, 412:5, 413:8 petitioner 278:6, 280:2, 283:4, 298:4, 298:7, 320:19, 321:16, 322:5, 323:16, 327:16, 409:9, 410:5, 410:13, 411:2, 443:20, 444:2, 445:8, 445:14, 445:22, 447:15 petitioner's 298:5, 321:17, 403:18, 404:1 petitions 448:7 phase 301:2, 307:11, 310:10, 314:17, 318:9, 319:9, 319:15, 324:19, 325:8, 326:9 phone 299:19, 313:17, 314:1, 335:1, 337:12, 340:13, 340:16, 340:20, 340:22, 344:13, 344:20, 352:11, 355:2, 355:19, 360:12, 360:16,	360:18, 361:4, 362:4, 388:20 phones 287:20, 312:18, 344:16, 348:1, 360:3, 361:14, 386:11 phrase 309:8, 309:9 physical 284:4, 286:16, 296:13, 296:21, 313:18, 313:19, 330:17, 331:11, 393:4, 440:14, 441:19 pick 365:13 picking 418:7 piece 327:14, 422:9 pilot 339:16, 342:22, 343:8, 343:15, 344:18, 364:7, 364:8, 366:15, 378:14, 401:6, 407:7, 417:8, 417:18, 418:12, 421:20, 422:1, 422:7, 422:13, 422:15, 422:19, 422:20, 423:1, 423:2, 423:6, 423:10, 434:21 piper 376:22, 378:3 place 414:19, 430:5 places 353:21, 387:5, 391:22, 404:6 plain 291:16, 291:20, 292:6, 292:21, 293:14, 295:4, 295:15, 392:12,	392:14, 392:19, 395:20, 396:5 plane 362:20, 363:2, 365:3, 365:8, 366:21, 367:16, 368:21, 374:13, 376:1, 382:8, 382:14 planes 366:5, 401:10, 407:11 please 285:12, 289:22, 296:11, 296:13, 296:16, 397:19, 400:22, 411:19, 444:22 pllc 280:12 plural 310:14 plurality 418:1, 418:8 point 283:13, 283:18, 291:7, 296:7, 319:20, 330:2, 334:8, 341:11, 351:18, 354:16, 355:8, 383:20, 402:1, 410:15, 410:20, 411:5, 411:19, 412:21, 426:18, 427:4, 444:9 point's 379:5 pointed 346:16, 348:6, 348:16, 387:13 pointing 378:10, 429:9 points 404:7, 406:3, 406:20 port 335:13, 337:19,	339:4, 433:8 portable 314:1 portion 326:5, 327:4, 335:9, 339:11, 342:20, 346:15, 354:13, 362:14, 362:18, 366:12, 368:16, 372:19, 415:19, 417:5, 417:14, 418:21, 419:5, 419:18, 419:22, 422:16, 430:5, 431:13, 431:18, 434:20 portions 383:15, 392:11, 434:18 ports 433:4, 433:16, 435:10 posita 305:18, 317:19, 322:16, 404:19 position 284:22, 367:15, 408:4 possibility 423:19 possible 295:1, 373:15, 374:13, 423:14 potentially 342:19 power 372:12, 372:14, 381:10, 381:16, 382:1, 439:7, 439:19, 439:21, 440:9 powered 337:3, 396:11 powerful 380:19 practice 290:20 preamble 411:8, 413:15
--	--	--	---

preceded 369:20	403:22, 443:21, 444:2, 444:5	365:4	provides 344:5, 353:14, 416:4, 439:3
preceding 378:8	priority 394:16	prohibit 363:9	providing 322:7, 343:22, 352:7, 364:21, 390:1, 405:14, 417:10, 417:19, 418:14, 422:3, 432:8, 435:18
predefined 433:16	probably 291:19, 370:22, 442:19, 446:11	prohibitive 316:15	proving 382:18
preferably 433:3	problem 389:9	proper 424:3, 424:17, 424:21, 425:14, 425:19, 425:22, 426:4	proxy 334:5, 334:17, 335:3
preferred 354:6, 385:8	problems 327:19, 389:20, 390:1	proportion 365:8, 365:15, 365:16	prudent 366:10, 366:14
prepared 446:18	proceeding 294:2, 298:1, 316:22, 401:15, 404:2, 440:15, 440:16, 440:19, 441:15, 442:12	proposing 322:6	pss 327:5, 328:3, 328:15
present 281:3, 301:5, 318:11, 340:7, 343:21, 352:22, 353:1, 353:8, 353:10, 353:15, 366:12, 384:11, 384:13, 386:3, 390:14, 397:6, 447:18, 451:19	proceedings 447:17, 447:19, 448:13	protocol 358:12, 358:16	pstm 428:5
presented 408:5	process 318:1, 324:6, 325:14, 332:21, 333:14, 334:1, 334:9, 335:10, 336:9, 336:10, 336:15, 336:17, 336:18, 339:20, 340:10, 341:21, 359:12, 360:9	protocols 356:9, 358:8, 358:9, 358:16, 360:17	public 279:13, 346:10, 451:1, 451:5, 452:6
press 394:10	processed 315:4, 325:19, 326:10	provide 287:7, 289:16, 291:7, 323:1, 357:3, 363:11, 364:20, 369:16, 389:21, 403:9, 403:11, 404:9, 404:19, 404:21, 405:6, 405:13, 411:1, 413:11, 413:13, 413:21, 416:6, 431:14	published 388:9, 407:18
pretty 284:22, 285:1, 429:17	processes 318:13, 435:1, 435:15	provided 291:3, 291:4, 291:10, 291:14, 293:16, 294:12, 325:21, 350:18, 378:3, 393:4, 403:12, 403:15, 407:14, 408:18, 408:20, 409:2, 411:7, 412:7, 412:9, 412:12, 413:9, 413:12, 413:18, 414:13, 414:17, 414:19, 444:8	pull 284:1, 289:22, 296:14, 297:15, 312:7, 330:19, 331:17, 393:5, 400:21, 440:13, 440:18, 442:1
prevent 316:12, 375:20	processing 315:11, 315:20, 316:3, 318:13, 325:6, 325:12, 325:14, 326:6		pulling 289:1, 289:12
previous 309:4, 316:9, 322:2, 327:11, 349:19, 358:21, 374:11, 391:12, 395:18, 406:15, 406:18, 410:9, 420:22, 424:14, 425:2, 429:16, 429:19	processor 427:6, 433:10, 433:13		purpose 318:15, 358:15, 389:22, 390:3, 390:4, 429:5, 429:18, 430:1, 430:22, 431:7, 431:9, 431:10
previously 282:13, 284:5, 290:2, 303:9, 348:4, 348:14, 421:17, 443:14	processors 433:15		purposes 294:1, 320:15, 358:12, 435:2, 436:17
prior 401:14, 401:19,	professional 279:12, 363:5,		

<p>pursuant 279:11</p> <p>put 296:10, 303:7, 306:14, 313:19, 320:1, 376:16, 378:12, 380:13, 440:12, 447:12</p> <p>putting 302:20, 321:9, 342:17, 347:18, 401:14, 403:22, 411:3</p> <hr/> <p>Q</p> <hr/> <p>quadrature 314:17</p> <p>qualcomm 357:16, 401:5, 407:6</p> <p>qualify 373:18, 374:15</p> <p>quality 426:7, 426:9, 426:10, 426:14, 427:7, 427:9, 427:12, 428:8, 428:10, 428:12, 429:4, 429:5, 429:10, 429:11, 429:13, 429:18, 430:2, 430:3, 430:9, 430:12, 430:14, 431:8, 431:10, 431:11, 431:15, 432:4, 432:10, 432:12, 432:15, 432:21, 432:22, 433:14, 433:16, 433:18, 434:2, 434:9, 434:16, 434:19, 435:7, 435:19, 436:9, 436:10, 436:12, 436:18, 440:10</p> <p>quarter 395:1</p>	<p>question 289:2, 290:6, 290:12, 290:14, 292:4, 302:3, 303:8, 307:19, 308:20, 308:22, 309:2, 309:4, 309:11, 309:15, 310:3, 310:5, 311:8, 312:3, 312:7, 312:15, 318:17, 318:19, 319:5, 319:7, 327:11, 328:20, 329:6, 332:13, 334:8, 336:6, 336:7, 340:8, 347:5, 348:13, 349:19, 359:17, 374:7, 374:12, 375:15, 384:1, 385:3, 385:19, 388:17, 397:17, 397:18, 397:20, 397:21, 411:16, 411:17, 412:17, 413:7, 414:8, 414:9, 419:16, 421:13, 422:8, 424:11, 424:12, 424:18, 425:9, 429:7, 429:8, 431:7, 443:7, 444:19, 445:6</p> <p>questioning 390:3</p> <p>questions 284:13, 284:19, 286:3, 286:13, 286:15, 288:10, 294:7, 300:13, 335:16, 412:15, 446:18, 447:4, 447:9</p> <p>quick 284:20, 297:11, 330:3, 331:6, 442:7</p>	<p>quickly 442:6</p> <p>quotation 416:6</p> <p>quote 385:12, 416:14, 416:15</p> <p>quoted 335:19, 399:12, 417:5</p> <p>quotes 439:8</p> <hr/> <p>R</p> <hr/> <p>radiate 369:6</p> <p>radiated 370:13</p> <p>radiates 368:1, 369:22</p> <p>radiating 370:7</p> <p>radiation 368:2</p> <p>radio 301:2, 301:9, 301:18, 302:6, 302:7, 302:9, 302:14, 302:17, 302:22, 303:4, 303:10, 303:13, 303:15, 303:18, 303:21, 304:8, 318:8, 333:22, 337:18, 337:19, 339:4, 353:4, 354:20, 355:2, 356:2, 356:12, 356:13, 356:17, 356:18, 376:11, 383:7, 384:20, 386:11, 388:19, 430:8, 433:4, 433:15, 435:14</p> <p>radiotelephone's 333:20</p> <p>radiotelephones 332:9, 332:17,</p>	<p>338:11, 339:15, 341:9, 341:12, 341:17, 342:9, 342:22, 343:7, 344:3, 344:9, 344:16, 344:17, 345:13, 346:16, 347:21, 348:2, 348:5, 348:6, 348:10, 348:15, 348:16, 348:17, 348:19, 348:22, 349:3, 349:17, 349:20, 350:6, 350:7, 350:11, 351:8, 351:9, 351:10, 351:15, 352:18, 356:5, 357:2, 357:20, 359:11, 359:18, 360:8, 361:17, 380:16, 385:17, 385:22, 387:8, 389:16</p> <p>raise 444:20</p> <p>range 379:7, 381:6</p> <p>ranges 379:6</p> <p>rate 379:22, 409:12, 411:9, 416:10, 418:20, 419:11, 420:6, 420:20</p> <p>rather 311:4</p> <p>ratings 363:19</p> <p>rationale 306:8</p> <p>rayleigh 305:22, 307:3</p> <p>re-ask 328:20, 365:10, 374:8</p> <p>re-read 312:6, 332:15,</p>
---	---	--	--

348:13 reached 296:7, 330:2 reaches 326:4 read 285:16, 288:1, 288:22, 289:19, 298:6, 302:19, 302:21, 310:7, 316:16, 316:17, 318:5, 318:16, 320:22, 321:22, 322:8, 322:10, 326:14, 333:11, 336:5, 337:1, 344:12, 347:4, 352:20, 354:14, 354:15, 354:19, 355:6, 355:8, 355:18, 360:7, 368:16, 369:19, 374:10, 383:16, 386:7, 391:22, 397:3, 397:18, 398:9, 399:12, 400:18, 403:18, 410:9, 411:17, 418:11, 421:12, 421:15, 421:22, 422:17, 429:15, 432:9, 434:19, 434:20, 438:22, 450:3 reading 289:10, 303:11, 318:18, 318:22, 322:17, 323:15, 332:20, 339:22, 344:6, 355:9, 389:7, 396:16, 396:19, 397:1, 397:3, 397:22, 399:2, 402:7, 403:12, 432:3 reads 287:5, 298:15, 301:1, 305:18,	332:2, 333:6, 385:8, 385:14, 401:3, 404:18, 409:8, 438:11 ready 372:1, 372:3, 426:17 real 297:11, 331:6, 360:22, 366:18, 373:17, 374:15, 376:22 realize 286:7, 389:9 realized 308:21 really 289:16, 314:6, 383:9, 424:10 realtime 279:13, 285:5, 412:13 reason 340:2, 366:19, 370:6 reasonable 314:2, 314:15, 364:15, 364:16, 376:16, 380:21 reasonably 323:9 reasons 300:6, 306:8, 317:10, 322:3, 329:19, 367:6, 367:14, 367:20 rebut 413:12, 414:16, 414:19 rebuttal 410:21, 412:8, 414:14 recall 291:5, 291:11, 299:4, 335:7, 335:14, 335:15, 411:3, 426:21, 442:16	recalling 336:7 receive 311:4, 312:13, 316:1, 318:2, 324:2, 324:7 received 318:3, 324:6, 324:19, 325:20, 326:2, 326:3, 326:8, 337:17, 339:2, 339:13, 344:7, 418:5, 430:18, 433:9 receiver 301:2, 301:9, 301:19, 302:6, 302:7, 302:9, 302:15, 302:17, 302:22, 303:4, 303:11, 303:13, 303:15, 303:19, 303:22, 304:8, 305:1, 305:3, 305:8, 305:12, 310:17, 310:21, 312:10, 318:8, 328:1, 358:6, 439:5 receives 304:1, 309:19, 309:20, 310:21, 312:10, 322:14, 433:3, 434:6, 436:5, 436:6 receiving 301:2, 310:17, 312:20, 318:9, 344:4, 436:1 reception 439:6 recess 330:9, 371:14, 415:9, 446:22 recollection 298:21, 308:19, 359:7 record 284:18, 284:21,	286:11, 302:3, 326:15, 388:4, 400:19, 441:2, 445:11, 447:11, 447:12, 449:7, 451:11 rectangle 324:12, 431:19, 431:22 redirect 362:21 redundancy 433:20, 437:4, 437:12, 437:16, 437:19 reevaluated 316:1 refer 380:8, 396:4, 443:4, 443:9 reference 296:12, 296:14, 296:21, 296:22, 297:16, 297:22, 298:10, 330:15, 330:19, 334:16, 337:22, 338:1, 342:10, 360:10, 380:11, 380:12, 388:5, 388:7, 413:3, 439:14 referenced 370:11 references 320:15, 320:20, 397:9, 405:9, 438:13, 439:9, 443:21, 444:2, 444:5 referencing 342:18 referred 302:8, 304:19, 307:4, 307:10, 319:10, 319:15, 325:3, 335:8, 357:8, 387:14, 389:2, 392:22,
---	--	--	--

<p>396:5, 418:4, 428:18, 431:1, 444:3</p> <p>referring</p> <p>307:3, 310:14, 323:11, 324:10, 326:14, 326:20, 335:17, 340:19, 343:19, 349:9, 351:1, 351:21, 354:4, 354:9, 356:22, 357:7, 357:12, 362:9, 367:21, 367:22, 373:8, 377:6, 377:9, 377:17, 380:15, 387:9, 388:15, 390:19, 391:10, 392:12, 397:11, 404:3, 404:13, 420:1, 428:6, 430:6, 431:19, 432:11</p> <p>refers</p> <p>355:20, 357:10, 388:5, 392:17, 432:8, 432:9</p> <p>reflected</p> <p>285:1</p> <p>reflections</p> <p>315:15</p> <p>refresh</p> <p>308:18</p> <p>refreshed</p> <p>309:1</p> <p>refreshing</p> <p>308:20</p> <p>refute</p> <p>299:14, 341:8, 446:4</p> <p>regard</p> <p>398:12, 398:17, 405:9, 432:22, 435:13</p> <p>regarding</p> <p>283:15, 291:5, 291:11, 292:11, 298:10, 300:13,</p>	<p>323:12, 363:4, 388:18, 404:19, 423:12</p> <p>register</p> <p>292:1, 292:13, 292:18, 293:3, 296:2, 337:4, 337:14, 338:11, 339:17, 340:11, 340:13, 342:8, 343:1, 343:9, 344:20, 347:21, 349:2, 349:17, 362:5</p> <p>registered</p> <p>279:12, 333:8, 333:16, 334:10, 334:14</p> <p>registering</p> <p>293:6, 294:18, 295:7, 295:12, 295:17, 332:22, 333:3, 333:5, 333:21, 334:3, 334:18, 338:2, 341:13, 341:22, 342:14</p> <p>registers</p> <p>332:9, 332:17, 333:13, 333:19, 335:11, 343:16, 349:4</p> <p>registration</p> <p>335:10, 336:9, 336:10, 336:15, 336:17, 336:18, 338:13, 339:1, 339:20, 340:16, 341:1, 341:2, 341:7, 341:17, 341:18, 342:3, 349:8, 352:8</p> <p>regular</p> <p>344:19, 362:16</p> <p>regulation</p> <p>366:18</p> <p>related</p> <p>346:18, 367:16</p>	<p>relates</p> <p>352:22, 353:2, 353:16, 384:12, 384:13, 386:3, 390:14, 397:6</p> <p>relating</p> <p>434:19, 434:21, 444:9</p> <p>relation</p> <p>402:18</p> <p>relays</p> <p>385:9</p> <p>relevant</p> <p>290:18, 291:1, 299:9, 332:3, 367:12</p> <p>remember</p> <p>286:6, 335:18, 338:5, 373:6, 411:12</p> <p>repeat</p> <p>308:22, 332:13, 341:20, 351:11, 403:21</p> <p>repeated</p> <p>339:14, 344:9, 344:14</p> <p>repeater</p> <p>332:22, 333:2, 333:12, 333:19, 333:21, 334:5, 334:16, 335:2, 335:3, 338:2, 338:3, 338:9, 338:12, 338:14, 338:15, 340:20, 341:1, 341:18, 341:22, 342:7, 342:11, 342:12, 343:22, 344:5, 344:11, 344:12, 345:4, 345:5, 345:6, 347:9, 347:14, 347:17, 349:1, 349:14, 349:15, 350:10, 350:14, 350:18, 350:19, 350:22,</p>	<p>351:12, 355:5, 356:4, 362:17, 380:15, 380:18, 383:3, 385:9, 404:20</p> <p>repeaters</p> <p>351:14</p> <p>repeating</p> <p>308:5, 347:10</p> <p>repeats</p> <p>335:4</p> <p>rephrase</p> <p>350:2, 359:3, 434:17, 442:19</p> <p>replace</p> <p>322:16</p> <p>replaced</p> <p>338:9, 342:7, 342:13, 347:14, 349:1, 350:14, 392:1</p> <p>replying</p> <p>412:5</p> <p>report</p> <p>321:21, 322:1, 410:21, 412:18, 413:15</p> <p>reported</p> <p>278:22</p> <p>reporter</p> <p>279:12, 279:13, 284:11, 285:20, 451:1, 451:4</p> <p>represent</p> <p>322:20, 445:22</p> <p>representation</p> <p>285:7</p> <p>represented</p> <p>451:15</p> <p>required</p> <p>299:20, 304:2, 304:19, 317:21, 326:17, 332:2, 340:10, 340:16, 362:3, 369:17, 388:11, 388:12, 413:11, 423:11, 440:2</p>
--	--	---	--

requirement 435:12	retained 433:20	285:9, 292:3, 309:18, 312:5, 316:14, 327:13, 330:8, 347:1, 351:10, 363:22, 368:8, 368:15, 371:8, 371:10, 371:12, 371:20, 371:22, 372:9, 375:14, 384:5, 385:1, 387:4, 415:7, 415:22, 417:2, 429:15, 430:1, 430:21, 440:6, 443:4, 447:10, 449:5	381:1, 383:13, 383:21, 387:17, 388:21, 391:13, 391:18, 392:3, 392:4, 396:22, 402:12, 406:1, 407:4, 407:20, 412:9, 413:6, 413:15, 416:19, 422:18, 436:11, 439:1, 443:15
requirements 296:4, 301:14	return 342:20, 422:7	right-hand 325:22, 326:5, 394:22	same 297:5, 302:1, 303:16, 308:16, 309:7, 309:22, 331:13, 333:7, 333:13, 338:18, 348:2, 349:13, 350:6, 350:17, 352:1, 352:2, 355:4, 362:22, 364:22, 368:5, 368:8, 368:17, 368:22, 369:9, 379:17, 383:10, 388:19, 393:13, 394:15, 396:10, 417:2, 430:22, 433:3, 433:11, 436:2, 436:4, 439:22, 443:13, 443:21, 444:5, 444:17, 446:6, 450:4
requires 293:19, 372:14, 420:12, 421:1	returning 286:14, 445:13	roam 426:2	sanford 280:17
reread 332:14	reverse 416:19	rockwall 280:14	satisfy 409:22
reserve 285:3, 447:8	review 284:21, 285:4, 421:13	roman 285:13	say 299:5, 299:6, 299:7, 300:17, 305:6, 305:9, 311:7, 314:2, 322:1, 322:9, 327:16, 329:8, 330:4, 334:12, 337:10, 337:15, 339:8, 344:3,
resisting 293:11	reviewed 297:18, 402:18, 402:19, 404:1	rpr 278:22	
respond 288:20, 410:22, 413:17	reviewing 402:7	rule 312:16	
responded 298:7, 404:4	revisit 290:19	rules 311:5	
responding 339:22, 361:9, 383:22	rf 301:4, 318:10, 360:6, 360:12, 437:10, 437:18	ryan 280:3, 284:8, 370:19, 409:16	
response 282:17, 284:3, 286:11, 286:21, 289:20, 290:6, 290:15, 290:20, 290:22, 291:1, 291:2, 291:4, 291:8, 323:16, 446:6	rhoades 280:18, 451:19	S	
responses 298:9	richardson 280:3, 283:5, 284:9, 284:20, 285:9, 285:10, 289:22, 296:16, 297:15, 330:1, 330:8, 330:11, 330:18, 331:17, 371:1, 371:10, 371:16, 372:1, 372:4, 393:5, 393:17, 394:1, 400:21, 409:18, 415:2, 415:7, 415:11, 419:17, 440:17, 441:3, 441:5, 441:10, 442:1, 445:12, 446:10, 446:21, 447:2, 447:10, 448:10, 448:16, 448:20, 449:5	safe 379:15, 380:1	
responsible 419:1		said 289:19, 290:17, 290:21, 292:12, 293:2, 294:7, 312:1, 312:2, 315:17, 329:7, 348:4, 348:14, 349:21, 351:22, 357:13, 367:20, 375:6, 375:7,	
rest 354:15, 409:2			
restart 375:14			
restate 443:7			
restrict 360:21, 387:19			
restricted 294:9, 370:7, 387:21			
result 333:15, 333:18, 334:2, 334:8	right 285:3, 285:4,		

<p>345:2, 353:20, 361:3, 364:17, 382:15, 383:14, 392:2, 392:6, 402:20, 406:7, 407:22, 410:19, 412:21, 422:5, 422:11, 424:19, 435:6, 442:17, 443:16, 443:17, 444:12, 444:13, 444:16, 446:5</p> <p>saying</p> <p>293:12, 300:6, 303:3, 303:6, 317:8, 320:13, 320:20, 322:4, 322:15, 329:6, 329:8, 334:4, 343:6, 343:11, 344:10, 349:6, 349:12, 351:7, 351:17, 351:19, 355:2, 355:21, 356:5, 360:3, 360:4, 361:11, 369:5, 370:20, 373:18, 374:14, 374:16, 378:20, 387:20, 389:9, 389:20, 396:8, 396:15, 403:16, 410:7, 410:22, 411:3, 414:4, 414:5, 421:5</p> <p>says</p> <p>299:1, 299:2, 306:22, 308:5, 308:6, 312:3, 313:5, 316:20, 317:3, 319:12, 322:4, 322:8, 342:4, 342:21, 344:5, 347:13, 352:21, 354:18, 355:1, 360:6, 360:14, 361:4, 362:11, 362:19,</p>	<p>362:22, 364:4, 367:9, 369:13, 369:20, 370:3, 372:22, 379:2, 381:10, 382:13, 382:20, 383:16, 384:11, 385:21, 386:3, 386:16, 386:22, 387:1, 391:9, 392:7, 394:13, 398:10, 398:11, 400:6, 400:10, 403:13, 403:14, 406:11, 410:10, 417:12, 417:17, 427:4, 427:18, 427:21, 432:1, 437:3</p> <p>scenario</p> <p>310:19, 312:8, 366:11, 417:22, 419:13</p> <p>scope</p> <p>288:4, 385:20, 395:10, 395:12</p> <p>screen</p> <p>284:1, 286:18, 286:20, 290:1, 296:15, 297:6, 297:16, 330:19, 331:14, 331:18, 393:6, 393:14, 393:18, 400:22, 441:6, 441:14, 442:2</p> <p>sealed</p> <p>447:21</p> <p>search</p> <p>339:16, 342:22, 343:8, 344:17</p> <p>searches</p> <p>343:15</p> <p>second</p> <p>287:3, 300:17, 317:19, 359:2, 359:3, 385:7, 385:12, 389:6, 394:3, 416:3</p>	<p>section</p> <p>286:21, 289:5, 371:2, 372:11</p> <p>see</p> <p>285:5, 285:6, 285:22, 286:17, 287:1, 287:10, 297:2, 298:19, 301:6, 306:3, 313:9, 314:14, 316:5, 317:4, 331:7, 332:6, 338:5, 371:12, 372:19, 385:21, 386:2, 393:11, 394:13, 395:3, 395:4, 395:8, 396:10, 397:4, 401:12, 405:2, 409:14, 415:7, 431:21, 438:16, 442:6, 444:5, 445:19, 448:5</p> <p>seeing</p> <p>309:14</p> <p>seeking</p> <p>390:8</p> <p>seemed</p> <p>284:21, 387:16</p> <p>seems</p> <p>345:2, 350:2, 387:12, 429:16</p> <p>seen</p> <p>430:12</p> <p>select</p> <p>327:3, 422:12, 432:16, 434:22, 435:2</p> <p>selecting</p> <p>389:1, 417:15, 418:2, 419:1, 419:9, 431:4, 433:1</p> <p>selection</p> <p>419:7, 419:20, 420:10, 420:13, 439:2, 439:5</p> <p>selectively</p> <p>427:8, 428:9</p>	<p>selects</p> <p>419:14, 421:19, 422:6, 439:5</p> <p>send</p> <p>361:14, 432:16, 435:4</p> <p>sending</p> <p>430:7</p> <p>sends</p> <p>436:5</p> <p>sense</p> <p>344:12, 344:19, 376:10, 421:11, 446:15</p> <p>sent</p> <p>338:14, 430:9, 435:7, 447:21</p> <p>sentence</p> <p>287:4, 287:22, 298:14, 300:18, 310:7, 313:1, 313:3, 313:5, 316:17, 332:1, 333:6, 337:8, 337:16, 341:15, 343:4, 369:3, 369:19, 369:20, 370:5, 385:7, 387:14, 387:21, 401:3, 404:17, 409:7, 416:3, 438:11, 438:22</p> <p>sentences</p> <p>417:7, 438:22</p> <p>separation</p> <p>314:14</p> <p>series</p> <p>345:21, 358:7</p> <p>serve</p> <p>436:17</p> <p>serves</p> <p>345:6</p> <p>service</p> <p>337:3, 337:6</p> <p>set</p> <p>337:2, 445:18, 451:8, 452:1</p> <p>setting</p> <p>346:21</p>
---	---	---	---

<p>several 353:21, 355:8, 383:15, 390:5, 391:22, 433:4, 433:15 shares 443:13 sharing 421:20 she 284:12 sheet 450:7 shift 301:2, 305:22, 307:10, 318:9, 319:9, 324:20, 325:8, 326:9, 362:7 short 361:11 shorthand 451:1 should 287:22, 288:1, 288:9, 296:20, 330:17, 331:5, 345:18, 374:22, 387:20, 391:22, 393:4, 393:9, 394:8, 394:19, 413:7, 413:21, 434:10 show 328:1, 373:13, 379:6, 404:9, 411:11, 413:14, 413:18 showing 286:20, 288:10, 289:12 shown 287:4, 300:3, 306:13, 313:6, 314:6, 315:20, 323:22, 324:2, 324:5, 326:4, 326:10, 327:12,</p>	<p>328:14, 382:10, 400:4, 400:6, 411:6 shows 327:22, 413:4 side 324:11, 325:22, 326:5 sign 324:10, 324:22 signaling 372:15 signals 304:1, 307:7, 310:12, 311:4, 312:13, 314:18, 315:3, 315:22, 316:6, 324:6, 324:21, 339:1, 339:12, 344:6, 344:13, 361:14, 417:8, 417:18, 418:1, 418:8, 418:12, 422:2, 422:7, 422:13, 422:15, 422:19, 422:21, 423:1, 423:2, 423:6, 423:11, 434:7, 434:10, 434:22 signature 441:20, 450:10 signature-tlndd 452:4 signed 450:7 significant 329:20, 366:12, 401:7, 407:8 significantly 305:21, 336:20 similar 443:17, 443:18, 445:6, 445:21, 446:6, 446:7, 447:18 simply 293:12, 306:19,</p>	<p>308:5, 308:10, 322:12, 322:16, 355:2, 361:11, 396:15, 399:12 since 402:1, 402:12 single 311:10, 311:22, 312:14, 316:5, 327:9, 327:21, 376:17, 385:15, 412:19, 418:9, 433:12 single-engine 373:6, 373:11, 373:16, 373:18, 373:22, 374:13, 374:16, 374:21, 375:2, 375:5, 375:12, 375:18, 376:4, 377:4, 377:8, 377:12, 377:18, 377:21, 379:16, 380:4, 381:1, 382:7, 386:10 sit 367:11 site 333:1, 333:4, 342:1 sites 345:22 sits 428:4 sitting 376:20, 377:14, 414:9 situation 311:20, 315:5 situations 311:20, 312:12 six 314:2, 402:17 size 385:17, 386:1, 387:8, 387:11, 389:17, 390:20,</p>	<p>392:17, 397:10 sized 386:12 sizes 389:18, 393:1, 398:13 skill 291:22, 294:14, 314:13, 316:13, 316:17, 317:10, 321:1, 324:14, 327:17, 328:7, 328:10, 329:11, 329:18, 329:20, 354:1, 357:14, 361:12, 364:16, 369:5, 370:9, 375:21, 376:8, 389:10, 392:5, 392:20, 396:16, 396:19, 397:2, 397:22, 398:9, 398:21, 399:2 skim 442:6 slapping 406:12 slightly 341:5 slower 378:22 slowest 380:1, 381:2 small 362:1, 375:1, 375:12, 376:4, 376:17, 385:16, 385:21, 386:8, 387:7, 387:10, 389:14, 390:19, 397:9 smartphone 287:8, 295:11 smartphones 288:2, 288:14, 290:9, 291:6, 291:11, 292:8, 292:22, 294:3,</p>
--	---	---	--

295:3 smith 280:11, 280:12, 284:8, 284:10, 285:3, 288:4, 294:4, 330:6, 370:19, 371:6, 371:9, 371:12, 372:3, 395:10, 395:12, 398:4, 405:18, 409:16, 409:19, 415:6, 419:15, 447:8, 448:4, 448:11, 448:17 software 427:7 solely 290:15 some 290:11, 293:15, 308:19, 309:1, 309:12, 311:20, 312:12, 313:22, 316:4, 326:6, 364:19, 390:6, 444:14 somebody 329:1 something 312:2, 336:8, 343:6, 375:20, 406:10 sometimes 285:22, 364:1, 367:11 somewhat 299:19 somewhere 296:8, 345:11 sorry 308:18, 312:1, 339:21, 348:11, 356:3, 385:22, 409:16, 416:1, 443:6, 445:9 sounds 429:2	source 316:6, 435:21, 436:1 spaced 314:8 spatial 438:15, 438:20, 439:10 spatially 314:4, 314:6 speak 283:14, 283:19, 400:18, 401:15 speaker 356:3 special 364:19 specific 292:11, 292:16, 301:13, 304:2, 310:3, 310:4, 310:5, 319:8, 319:11, 323:5, 324:15, 324:16, 324:21, 325:1, 325:2, 338:6, 342:11, 345:18, 354:16, 355:8, 357:7, 358:11, 358:15, 358:16, 366:19, 375:1, 376:3, 378:2, 384:17, 389:1, 394:6, 398:16, 405:8, 426:1, 426:8, 426:11 specifically 289:11, 294:9, 294:10, 294:16, 302:18, 303:6, 308:4, 324:10, 324:18, 326:20, 327:5, 331:20, 332:19, 335:16, 340:19, 346:21, 347:13, 354:10, 360:6, 361:21, 372:6, 382:4,	397:5, 407:4, 411:8, 416:1, 416:2, 418:10, 444:1 specification 384:20, 443:13 specifications 358:12, 443:16, 443:18 specifics 308:19, 309:12, 436:22 specified 358:14 speed 372:13, 373:16, 373:20, 373:21, 374:2, 374:6, 374:13, 374:18, 375:3, 377:3, 377:19, 378:20, 379:15, 379:22, 380:2, 381:4, 409:12, 411:10 speeds 373:4, 379:19, 381:2 spends 365:16, 365:17 spent 317:9 spoken 401:19, 401:21 spot 370:21 spreading 361:15, 361:22, 389:2, 433:8 stand 411:12 standard 343:10, 343:17, 357:8, 357:16, 357:17, 358:10, 358:21, 359:16, 359:19, 360:2, 360:4, 360:5, 361:9, 388:8,	388:15, 388:22, 434:12 standardized 361:18 standards 359:4, 426:11 standing 307:6 stands 370:6 start 306:9, 306:11, 372:2, 377:20, 384:9, 397:1, 448:19, 448:21, 448:22, 449:3 started 342:21 starting 415:21, 432:20 starts 314:4, 325:15, 340:5, 347:12, 354:5, 355:19, 364:12, 399:3 state 279:14, 299:22, 300:8, 355:17, 372:10, 402:4, 402:5, 405:19, 410:16, 411:20, 416:4, 417:13, 421:1, 444:7, 445:7, 451:5, 452:7 stated 295:20, 301:11, 305:2, 313:15, 350:12, 357:6, 367:14, 421:18 statement 287:12, 302:4, 385:4, 386:18, 391:13, 407:15, 408:11, 408:17, 416:9, 448:12 statements 385:2, 408:19
---	---	---	---

states 278:1, 282:8, 282:9, 282:16, 306:13, 310:10, 317:18, 338:8, 339:12, 340:21, 346:12, 355:4, 397:6, 417:7, 433:2, 434:6, 439:17, 440:10 stating 343:13, 361:6, 402:5, 410:3, 410:4, 410:11, 410:12 stationary 306:1, 314:21 stations 300:4, 306:16, 313:8, 316:20, 317:6, 339:13, 344:7, 346:6, 346:22, 352:18, 357:2, 358:9, 363:1, 363:11, 364:20, 364:21, 367:17, 368:12, 403:6, 417:9, 417:18, 418:13, 418:17, 422:2, 422:20, 434:8, 435:11, 436:2, 436:4, 436:8 stay 350:6 stayed 350:16 staying 449:3 stays 352:1 step 352:12 sterne 280:4 still 307:6, 348:2, 348:22, 359:9,	379:1, 379:5, 381:9, 381:17, 387:9, 392:6, 405:4, 407:14, 418:18, 425:15, 426:3 stop 315:9, 346:14, 370:20, 370:22, 371:3, 391:20 stopping 330:2 stored 433:9, 433:12 stores 433:5 streamline 393:2 strength 416:11, 418:19, 419:11, 420:5, 420:20 stronger 440:7 strongest 339:16, 342:22, 343:8, 343:15, 344:18, 416:5, 439:3, 439:18, 439:21, 440:5 stuck 366:7 subject 305:20, 306:19, 323:10, 323:17, 389:4, 448:14 submitted 289:19 subscribed 423:3 substance 283:15, 283:20 substantially 314:10 subsystem 339:14, 344:9, 354:5, 354:18, 385:15	such 287:8, 308:14, 309:5, 317:20, 377:15, 451:9, 451:10, 451:12 sudden 327:15 sufficient 314:14, 319:19, 405:16, 408:6, 408:16 suggest 298:18, 299:12 suggestion 363:14 suitable 300:4, 306:15, 307:1, 308:8, 313:7, 316:19 suite 280:20, 451:20 suited 313:12 summarizing 400:16 summary 310:9, 347:7, 347:8 supply 414:15 support 322:12, 324:9, 327:6, 376:13, 376:15, 378:11, 379:3, 381:20, 397:12, 402:3, 403:8, 404:22, 405:13, 405:15, 406:8, 406:13, 408:7, 408:17, 408:18, 408:20, 409:3, 411:1, 411:13, 412:8, 412:10, 414:16 supported 367:15 supports 325:10, 381:11	sure 284:17, 284:22, 285:4, 285:19, 286:10, 297:11, 309:3, 319:1, 332:15, 335:6, 337:1, 339:22, 340:1, 340:3, 366:15, 384:6, 386:7, 388:4, 404:14, 415:16, 429:14, 437:1, 443:8, 446:13, 448:12 surprised 400:5 switch 296:9, 337:19 switched 346:10 switches 340:6 sworn 283:3, 451:9 synchronization 423:11 synchronize 423:8, 423:16, 425:1, 425:4 synchronized 424:2, 424:16, 425:13 synchronizes 417:9, 417:19, 418:13, 422:3, 423:9 synchronizing 424:7 system 300:2, 300:5, 304:10, 304:11, 304:12, 304:13, 304:16, 306:13, 306:17, 307:17, 308:14, 309:5, 313:5, 313:8, 316:21, 332:9, 332:17, 333:9,
--	---	---	--

342:16, 344:8, 345:20, 345:21, 347:6, 349:5, 349:8, 350:10, 351:12, 352:6, 352:14, 353:5, 354:8, 354:10, 354:12, 354:15, 354:20, 355:12, 355:17, 355:22, 356:9, 357:4, 357:7, 357:11, 357:12, 357:17, 357:19, 358:1, 358:10, 358:19, 359:8, 360:1, 360:17, 361:3, 362:2, 362:10, 362:14, 362:19, 364:11, 364:13, 366:2, 366:11, 367:2, 367:4, 367:10, 368:11, 368:12, 370:11, 372:12, 372:22, 373:14, 376:14, 379:3, 382:21, 383:1, 383:8, 383:17, 384:18, 387:16, 387:18, 388:6, 388:7, 388:9, 388:12, 388:14, 388:15, 388:22, 401:8, 401:10, 402:22, 407:9, 408:2, 427:19 systems 307:22, 345:1, 366:17, 367:3, 376:6, 380:10, 382:1, 402:9, 402:15, 403:6, 406:7, 407:11	446:7 tablet 287:8, 287:16, 295:11 tablets 288:2, 288:14, 290:9, 292:8, 293:1, 294:3, 295:3 take 285:21, 290:21, 294:15, 296:11, 298:12, 317:15, 318:6, 319:22, 322:13, 323:18, 330:3, 330:15, 339:5, 352:12, 372:5, 373:4, 378:22, 427:2 taken 330:9, 371:14, 373:10, 405:11, 415:9, 446:22, 451:10 takeoff 379:18, 379:20, 381:3 taking 321:9, 448:2 talk 290:22, 348:9, 348:18, 349:20 talked 431:3 talking 308:17, 323:17, 340:3, 376:4, 382:5, 421:17, 428:1, 448:13 talks 348:7, 348:17 tarmac 366:7 tdm 433:21, 437:5, 437:9, 437:21 tdma 437:21	team 446:12 technical 311:6, 315:10, 406:3, 406:19, 406:21 technician 281:4 techniques 325:5 telecommunicatio- ns 353:4, 359:14, 427:19 telephone 332:5, 333:9, 334:2, 337:20, 344:19, 345:17, 346:2, 346:10, 346:12, 351:20, 354:9, 427:10, 427:20, 428:6, 428:10, 428:13, 430:7, 430:10, 431:16, 432:2, 432:5, 432:13, 432:17, 434:3, 434:11, 434:12, 435:8, 435:19, 435:22, 436:13, 437:8 telephones 362:16 telling 368:20 tells 356:19 ten 291:18 term 291:16, 292:7, 293:10, 293:12, 294:11, 294:12, 295:22, 309:18, 353:19, 355:10, 385:20, 387:5, 387:17, 391:15, 392:10, 392:13, 395:1, 396:10, 398:1, 398:19, 398:22, 409:10, 410:18, 411:22, 426:7, 426:13, 445:9, 445:15 terminal 301:17, 302:9, 338:20 terminating 335:1 terminology 334:22 terms 293:9, 293:12, 293:15, 388:3, 391:21, 398:7, 400:2, 426:12, 445:16, 445:17, 446:1 terrestrial 333:7, 333:22, 365:1, 368:7, 368:11, 368:19, 369:11, 369:16 test 329:17 testified 283:3, 304:10 testifying 399:20 testimony 283:15, 283:20, 294:5, 294:6, 295:2, 328:17, 328:22, 329:5, 351:6, 388:2, 396:3, 396:18, 397:21, 399:18, 424:6, 424:10, 425:15, 434:16, 440:3, 444:8, 450:4, 450:6, 451:11 testing 317:12 texas 451:20
---	---	--

<p>text 340:18, 343:3, 343:5, 343:6, 352:20, 398:11</p> <p>th 452:2</p> <p>than 294:10, 303:19, 305:22, 308:2, 310:6, 311:4, 311:11, 311:15, 311:22, 314:2, 315:3, 334:2, 337:21, 373:14, 379:2, 379:8, 380:16, 389:5, 391:15, 406:10, 410:7, 412:20, 416:5, 420:11, 427:15, 428:2, 428:21, 429:14, 430:15, 430:19, 440:7, 440:8</p> <p>thank 285:14, 330:8, 371:18, 397:15, 409:19, 421:7</p> <p>thanks 371:13</p> <p>that'll 371:10</p> <p>their 318:14, 320:19, 321:18, 346:21, 373:3</p> <p>them 294:9, 294:10, 350:20, 368:16, 375:3, 402:8, 406:12</p> <p>themselves 402:3</p> <p>then 287:22, 290:18, 291:1, 293:20, 294:15, 294:21, 295:1, 295:8, 295:10, 295:13,</p>	<p>297:16, 299:13, 302:11, 302:13, 311:19, 320:4, 321:15, 335:1, 335:3, 335:4, 335:12, 336:4, 337:7, 337:15, 339:1, 339:2, 340:6, 340:8, 340:21, 342:2, 342:4, 343:8, 344:12, 344:16, 346:5, 346:14, 347:4, 347:6, 347:8, 347:11, 348:21, 349:4, 349:6, 353:13, 354:15, 355:18, 358:7, 358:10, 358:13, 361:3, 361:5, 361:16, 361:17, 364:11, 369:14, 370:5, 370:15, 373:12, 375:21, 377:7, 379:20, 379:21, 384:17, 385:3, 385:12, 386:11, 387:16, 388:17, 390:17, 395:18, 407:15, 408:3, 411:11, 415:8, 416:6, 416:8, 419:12, 421:12, 422:5, 423:12, 425:8, 426:2, 428:9, 431:21, 434:12, 443:7, 448:21</p> <p>there 284:16, 296:8, 297:11, 298:21, 307:16, 310:14, 312:18, 314:13, 315:9, 317:17, 322:7, 329:15, 331:22, 335:8, 336:7, 337:5,</p>	<p>341:19, 345:12, 346:14, 351:13, 362:18, 370:5, 372:21, 375:1, 375:14, 377:4, 378:6, 378:9, 378:18, 380:4, 381:17, 382:12, 383:13, 385:6, 386:20, 389:11, 390:6, 391:7, 391:8, 399:22, 401:7, 401:22, 404:16, 407:8, 414:18, 415:18, 416:14, 416:15, 429:10, 430:9, 437:1, 437:9, 444:13, 445:1</p> <p>there's 289:9, 312:17, 313:15, 313:18, 314:18, 315:9, 317:9, 321:10, 327:3, 328:4, 328:13, 336:6, 337:5, 341:19, 343:21, 347:2, 350:3, 356:19, 363:3, 363:8, 363:14, 364:14, 364:19, 366:18, 367:6, 380:17, 383:2, 391:7, 400:3, 403:3, 421:10, 425:21, 437:11, 438:3, 444:4, 444:18</p> <p>therefore 305:18, 353:15, 372:16, 397:8</p> <p>these 286:1, 294:8, 316:15, 318:4, 319:21, 320:3, 320:11, 320:20, 323:1, 328:8, 360:3, 369:13,</p>	<p>379:6, 379:16, 380:2, 381:22, 389:18, 392:7, 406:4, 406:6, 406:20, 407:17, 432:5</p> <p>they 294:21, 295:12, 295:14, 308:2, 308:16, 308:17, 315:13, 316:7, 316:11, 320:16, 320:20, 321:10, 321:18, 321:19, 322:6, 322:11, 327:2, 327:18, 328:8, 340:10, 344:19, 344:20, 359:20, 367:18, 369:15, 375:3, 375:6, 376:5, 376:11, 376:13, 377:9, 377:10, 378:2, 379:20, 379:21, 410:8, 436:9, 439:17, 441:14</p> <p>they're 328:11, 336:20, 340:14, 340:19, 348:2, 355:22, 360:4, 369:6, 370:12, 376:6, 379:7, 388:19, 388:20, 432:6, 443:17, 443:18</p> <p>thing 302:1, 309:11, 357:21, 380:14, 388:19, 439:22</p> <p>things 293:22, 299:8, 356:10, 363:8, 389:19, 406:16, 421:10, 436:17, 439:22, 447:13</p> <p>think 288:16, 289:2,</p>
---	---	---	---

<p>290:13, 290:19, 296:7, 309:2, 309:8, 310:6, 313:3, 320:18, 321:19, 323:9, 323:21, 327:11, 330:1, 330:20, 332:11, 334:7, 334:22, 337:1, 338:5, 340:7, 341:11, 351:13, 351:18, 360:21, 363:8, 364:4, 364:8, 364:14, 366:5, 366:9, 366:13, 367:8, 371:6, 373:8, 376:8, 376:20, 377:14, 380:2, 380:13, 380:21, 380:22, 383:9, 390:2, 391:21, 392:10, 393:7, 393:19, 400:3, 400:12, 400:14, 408:14, 408:16, 411:16, 414:2, 414:7, 421:16, 424:9, 430:21, 434:22, 438:21, 440:12, 443:15, 446:10 thinking 311:9 third 394:12, 416:3 those 284:18, 285:16, 293:9, 294:15, 294:16, 295:6, 295:8, 295:10, 304:2, 307:7, 311:4, 312:13, 314:19, 316:9, 318:14, 319:11, 322:18, 323:8, 323:14, 324:6, 324:9, 324:21,</p>	<p>325:17, 328:18, 338:6, 350:10, 354:4, 358:8, 358:9, 358:13, 375:5, 376:9, 376:17, 377:11, 377:13, 378:16, 379:10, 389:6, 390:5, 392:2, 403:2, 406:2, 407:19, 417:1, 422:20, 426:12, 426:17, 426:20, 426:22, 434:10, 435:1, 435:20, 437:10, 439:8, 439:9, 439:20, 439:22, 440:1, 445:16, 446:19, 447:18, 448:2, 448:3, 448:5 though 307:14, 322:19, 325:4, 326:2, 360:19, 396:6, 429:16 thought 397:16 thousand 359:7, 388:10, 388:21 thousand-page 361:9 three 304:18, 353:9, 373:13, 378:5, 401:18, 426:17, 426:22 threshold 433:17, 433:18 threw 312:1, 312:4 through 297:10, 315:13, 316:4, 322:20, 323:5, 325:16, 326:3, 326:10, 331:6, 363:18,</p>	<p>368:4, 368:6, 368:17, 368:18, 369:8, 369:10, 401:2, 403:2, 421:20, 423:17, 424:8, 426:16, 432:17, 442:5, 442:6 throughout 426:14 thus 346:12 time 287:19, 291:22, 312:19, 315:6, 327:2, 328:21, 329:13, 329:15, 354:10, 359:1, 365:8, 365:15, 365:17, 366:6, 366:12, 370:22, 371:7, 414:22, 415:1, 437:7, 437:16, 446:11, 446:19, 449:2 times 291:18, 295:20, 351:22, 358:20, 372:15, 373:13, 379:1, 391:18, 396:22, 398:8, 418:11 title 362:8, 362:11, 362:22, 364:4, 364:10, 367:9, 382:20, 383:16, 384:17, 394:9 titled 286:22, 393:9 today 283:10, 286:15, 329:10, 376:20, 377:14, 390:4, 405:5, 414:9 today's 447:16, 448:1 together 320:17, 321:19,</p>	<p>401:14, 403:22, 405:10, 406:12, 422:9, 426:22 told 398:8 tomorrow 448:19, 449:6 too 285:5, 348:12, 419:4 took 373:5, 404:7 top 340:2, 355:16, 361:2, 378:5, 381:22, 388:16, 394:19, 419:22, 426:21, 431:19, 431:22 topic 292:4, 292:5 totally 311:17, 345:3, 388:1, 389:4, 392:2, 395:16, 396:2, 414:4, 428:18, 428:19 toward 298:16 towards 290:16, 345:9 track 315:1, 393:19 trademark 278:1 traditional 337:9, 353:13 traffic 366:8, 409:11, 409:13, 411:9, 411:10 transcript 282:5, 284:7, 285:2, 290:4, 296:19, 331:2, 335:22, 393:21, 399:13, 400:17, 412:14, 441:9,</p>
---	--	---	---

447:16 transcription 450:5 transferred 434:2, 434:11, 436:12 transition 371:2, 381:3 transmit 337:13, 427:8 transmits 304:1, 309:17, 310:17, 335:12, 422:7, 422:13 transmitted 309:21, 337:18, 339:3, 428:20, 433:11, 433:20, 437:4 transmitter 305:5, 358:6, 372:11, 380:18, 380:19 transmitting 309:10, 310:21, 312:10, 335:11, 337:6, 428:9, 428:12 travel 368:4, 368:16, 369:8, 449:3 traveling 379:15, 380:7 travels 368:6, 368:18, 369:10 trees 315:15 trial 278:3 true 307:14, 307:20, 390:2, 425:3, 425:7, 450:4, 451:11 truly 335:2 trust 285:7, 442:15	try 348:11, 350:3, 415:15, 419:3 trying 284:15, 286:6, 293:15, 334:22, 374:8, 378:8, 399:10, 422:9, 439:11 turn 326:12, 336:4, 337:12, 382:3, 385:5, 394:2, 394:18, 400:20, 426:19, 438:8, 444:21, 447:6 turned 365:21, 366:17 twisting 369:2 two 293:21, 314:6, 317:9, 319:8, 319:11, 320:11, 320:15, 320:20, 327:22, 328:5, 328:12, 338:6, 347:5, 347:8, 350:9, 350:20, 351:11, 356:9, 356:20, 361:8, 369:13, 379:1, 382:5, 383:2, 385:2, 388:3, 389:6, 392:11, 392:21, 405:9, 417:7, 424:2, 424:16, 425:13, 427:15, 428:14, 428:18, 435:1, 435:15, 436:17, 439:8, 439:9, 445:16 tx 280:14, 280:21 type 290:11, 292:11, 301:9, 302:6,	302:14, 302:16, 303:14, 307:2, 308:4, 309:13, 309:16, 313:22, 319:8, 319:16, 321:13, 324:18, 325:2, 325:10, 328:3, 346:21, 364:19, 365:1, 373:21, 374:2, 375:8, 376:3, 376:9, 376:17, 377:11, 380:1, 380:2, 380:22, 386:19, 390:10, 391:4, 391:6, 391:13, 436:14, 437:6, 438:5 types 319:9, 356:20, 369:13, 373:3, 376:6, 382:6, 390:17, 391:20, 392:8, 433:22, 435:18, 436:15, 437:11, 437:21, 438:3, 438:6 typical 317:4, 373:21, 379:18 typically 346:1, 380:16, 423:6	understand 283:9, 301:21, 303:3, 311:17, 318:17, 318:21, 348:12, 351:16, 354:21, 357:14, 370:10, 374:7, 374:9, 376:9, 379:11, 396:16, 399:6, 399:8, 399:11, 399:22, 421:4, 424:10, 430:21, 432:14, 438:6 understanding 289:11, 292:6, 298:3, 302:22, 303:10, 303:12, 303:14, 320:14, 351:6, 357:13, 379:14, 385:20, 400:2, 402:4, 406:3, 406:6, 427:11, 429:5, 429:18, 429:22, 436:16, 436:18 understandings 406:19 understands 314:13, 402:21 understood 291:21, 302:2, 306:11, 308:11, 335:6, 364:8, 365:3, 392:20, 401:6, 402:6, 407:8, 421:7 unique 337:6, 337:14, 343:12 unit 299:16, 299:18, 300:11, 300:16, 308:15, 309:6, 316:14, 335:10, 337:2, 337:4, 417:8, 417:15, 417:17, 417:22,
--	--	--	--

418:11, 418:22, 419:6, 419:9, 420:1, 420:17, 421:2, 422:1, 422:6, 422:12, 422:18, 423:15, 424:7, 425:4, 430:17, 431:4, 434:21 united 278:1, 282:8, 282:9, 282:16, 346:11 units 300:3, 306:15, 308:7, 313:7, 316:19, 317:8, 424:18 university 394:10 unlike 300:13, 332:2 unmute 286:4 unravel 345:9 until 325:21, 424:2, 424:16, 425:12, 444:8 uplink 358:11 upper 313:4 upward 367:17, 368:1, 368:2, 369:6, 370:13 upwards 369:22, 370:8 usage 426:22, 430:13 use 311:3, 311:10, 311:21, 316:1, 317:1, 318:3, 321:21, 324:22, 328:7, 328:8,	349:12, 349:14, 349:16, 356:5, 361:13, 361:15, 378:16, 387:16, 410:8, 426:12, 429:9, 429:13, 436:9 used 293:13, 297:21, 298:4, 299:3, 299:15, 300:3, 300:4, 306:9, 306:14, 306:16, 308:7, 308:8, 309:14, 309:16, 312:20, 313:6, 313:8, 314:7, 314:18, 315:4, 316:18, 316:21, 317:4, 317:8, 317:13, 321:14, 329:9, 329:10, 329:12, 338:12, 354:2, 355:3, 362:20, 370:16, 381:19, 386:10, 386:12, 391:7, 392:11, 395:19, 395:22, 399:7, 405:20, 410:5, 410:13, 420:3, 420:6, 420:20, 425:2, 426:4, 426:14, 429:6, 430:4, 430:15, 430:20, 433:21, 437:5, 437:13, 444:2, 444:6, 447:17, 447:22 useful 317:6 user 288:16, 288:18 users 287:9 uses 314:19, 353:20, 354:18, 361:1,	368:1, 369:22, 387:5, 388:14, 388:20, 429:10, 435:20, 437:15 using 310:12, 311:11, 311:14, 311:16, 319:14, 320:20, 328:11, 333:13, 337:10, 349:15, 356:1, 367:2, 374:1, 378:19, 389:2, 406:5, 428:15, 432:15, 434:21, 436:10, 439:13 utilized 448:8 <hr/> v <hr/> validity 290:16, 290:18 value 433:19 various 361:22, 363:19, 404:7 vehicle 307:11, 307:13, 372:13, 396:12 vehicles 401:9, 407:10 versa 385:11 version 442:2 versions 309:20 versus 313:17, 321:13, 365:9, 365:16, 441:13 vertically 431:21 very 304:2, 310:3, 316:22, 317:11, 322:9, 323:9,	338:18, 342:11, 347:13, 347:16, 347:22, 356:9, 358:4, 361:2, 361:12, 375:1, 384:19, 386:22, 388:3, 388:4, 388:13, 389:8, 397:4, 398:16, 406:3, 430:15, 435:15 vetted 285:1 via 337:18 vice 385:11 viewed 416:11 virtual 278:17 virtually 279:2 void 328:4 voila 322:14 volkswagen 278:5, 448:8 volume 278:17 <hr/> w <hr/> wait 288:19 waiting 366:8 walsh 433:7 want 283:22, 285:19, 285:21, 298:11, 313:2, 323:13, 323:18, 330:4, 330:14, 342:20, 349:18, 353:20, 370:17, 371:2, 371:4, 385:4,
--	---	---	---

393:3, 400:14, 432:9, 440:13, 446:18 wanted 284:17, 311:1, 320:10, 344:2 warren 280:17, 280:18, 451:19 was 284:12, 284:18, 285:1, 286:4, 286:11, 287:18, 288:8, 288:21, 289:5, 290:14, 298:4, 300:12, 303:1, 303:11, 304:11, 306:1, 307:2, 307:6, 308:12, 308:20, 309:4, 309:12, 311:8, 311:10, 319:2, 319:3, 321:12, 322:1, 322:2, 327:8, 327:20, 329:9, 329:15, 334:8, 335:8, 335:18, 336:7, 336:12, 340:3, 347:5, 349:9, 357:15, 359:2, 359:3, 363:6, 364:7, 364:17, 365:2, 367:16, 371:19, 373:19, 374:8, 374:16, 375:4, 375:17, 377:8, 378:6, 378:7, 378:19, 381:14, 381:21, 383:22, 395:19, 397:21, 399:14, 400:12, 405:20, 409:1, 409:17, 413:11, 413:12, 414:6, 414:18, 421:5, 422:9, 422:17,	424:14, 425:11, 426:17, 427:1, 442:12, 448:7, 448:11, 451:8, 451:10, 451:15 washington 280:7 wasn't 284:17, 351:16 waves 356:2 way 289:5, 289:9, 301:11, 304:2, 309:9, 320:19, 324:16, 334:4, 336:13, 337:9, 337:10, 337:11, 337:21, 338:18, 340:13, 341:6, 355:1, 361:11, 369:4, 369:14, 381:7, 384:6, 389:2, 392:10, 394:7, 394:12, 395:1, 399:19, 413:10, 414:6, 414:18, 435:17, 448:6 ways 286:2 we'd 448:1 we'll 285:8, 415:2, 446:21, 447:6 we're 283:9, 285:5, 286:19, 292:3, 334:7, 361:13, 362:9, 372:1, 372:3, 390:4, 393:19, 412:1, 428:1, 428:6, 430:22, 447:9, 448:18, 448:21 we've 296:7, 296:9,	312:22, 418:10, 427:15, 443:14, 444:3 wednesday 278:18, 451:21 week 286:1, 448:15 welcome 283:6, 330:12, 371:17, 415:12, 447:2 well 285:1, 285:3, 306:11, 308:13, 320:9, 322:4, 326:21, 327:13, 346:3, 356:19, 362:16, 365:18, 366:4, 366:13, 371:1, 374:22, 377:7, 378:9, 383:20, 383:21, 397:16, 400:14, 400:17, 403:18, 407:16, 409:4, 427:14, 433:10, 436:22, 437:6, 440:12, 445:16 well-known 364:7, 427:22 went 363:18 were 284:15, 284:18, 295:12, 308:16, 312:19, 315:22, 318:17, 318:18, 318:19, 318:22, 319:3, 321:10, 326:14, 336:8, 340:15, 344:19, 375:11, 375:17, 375:19, 377:6, 378:10, 379:10, 380:4, 380:5, 380:7, 381:17, 382:5, 401:7, 404:10, 406:16,	407:8, 421:17, 429:9, 443:20, 447:21, 447:22, 448:8, 448:13 weren't 448:12 what 285:6, 286:7, 286:8, 288:7, 288:21, 289:3, 289:4, 289:11, 292:11, 293:2, 293:18, 293:19, 294:7, 294:13, 301:18, 302:22, 303:3, 303:4, 303:10, 303:12, 305:2, 306:5, 308:5, 309:13, 312:2, 313:18, 316:7, 318:21, 320:10, 320:12, 321:12, 322:5, 322:8, 323:16, 326:19, 343:11, 353:21, 354:20, 356:16, 356:21, 357:18, 357:19, 357:21, 361:15, 362:11, 365:15, 368:10, 370:3, 373:15, 374:12, 374:19, 378:16, 379:14, 382:19, 383:22, 386:15, 389:8, 390:4, 392:3, 396:13, 396:15, 398:10, 398:16, 400:2, 400:18, 403:13, 403:16, 404:12, 408:22, 409:16, 410:22, 412:17, 417:12, 420:4, 420:7, 420:11, 422:14, 422:20, 424:22, 426:4, 427:11, 428:2,
---	--	---	--

<p>429:4, 430:6, 431:7, 431:8, 431:9, 432:3, 432:8, 435:4, 435:22, 438:6, 439:11, 445:6 what's 316:14, 356:11, 394:6, 410:2, 410:10, 420:20, 428:17, 432:19, 434:4 whatever 309:14, 365:13, 390:1, 400:14 when 308:12, 310:4, 317:3, 327:15, 337:2, 343:14, 346:9, 352:5, 352:20, 353:19, 354:13, 355:6, 357:9, 362:20, 364:9, 368:20, 370:19, 370:21, 377:22, 383:3, 387:16, 388:5, 388:13, 390:19, 406:10, 408:18, 416:11, 421:17, 422:18, 426:12, 430:16 where 284:11, 284:18, 310:20, 311:9, 312:1, 312:9, 314:22, 319:3, 322:10, 323:13, 327:18, 335:10, 341:14, 342:12, 343:21, 345:4, 345:6, 345:14, 347:5, 347:9, 348:7, 348:9, 348:17, 348:18, 348:20, 348:21, 349:19, 350:13, 352:4, 352:21,</p>	<p>354:17, 357:2, 365:21, 367:21, 370:6, 381:17, 383:2, 383:12, 386:10, 386:12, 387:13, 394:13, 395:18, 408:21, 410:15, 410:20, 410:22, 411:6, 411:19, 412:21, 413:15, 413:18, 416:20, 417:22, 419:13, 430:6 wherein 313:22 whereof 452:1 whether 288:12, 290:8, 292:6, 292:21, 293:21, 294:16, 307:6, 311:14, 317:1, 335:18, 335:19, 340:3, 340:19, 340:20, 341:6, 341:7, 359:20, 365:2, 380:10, 390:8, 414:10, 423:2, 431:5 which 286:19, 293:15, 307:3, 307:10, 310:9, 315:2, 318:7, 322:20, 335:9, 335:12, 343:20, 346:7, 346:8, 354:14, 357:16, 359:12, 360:5, 360:8, 360:13, 360:14, 361:7, 362:1, 372:16, 383:16, 385:14, 389:22, 399:3, 400:18, 404:10, 405:1, 405:6, 409:12, 411:10, 417:5,</p>	<p>418:18, 420:12, 420:18, 421:9, 422:17, 428:20, 430:7, 433:9, 434:9, 434:11, 434:20, 435:21, 435:22, 446:13 while 286:3, 300:2, 306:13, 310:16, 313:5, 366:2, 366:8, 418:15, 437:15 who's 366:7 whole 289:10, 325:15, 340:4, 355:7, 367:8, 380:14, 393:16, 443:6 whose 451:7 why 291:1, 293:11, 300:6, 306:18, 306:22, 308:6, 313:11, 317:10, 330:2, 334:19, 340:2, 340:13, 367:6, 374:4, 375:6, 404:19, 420:6 wifi 366:17, 367:2 will 285:7, 288:18, 303:22, 337:17, 349:15, 367:4, 368:21, 372:16, 379:3, 385:3, 399:14, 400:13, 400:17, 414:7, 421:12, 424:20, 425:4, 425:8, 425:9, 427:6, 437:20, 448:4 wings 396:12, 396:14</p>	<p>wire 427:20, 428:15, 431:15, 432:6, 435:9 wired 428:20, 435:16, 437:10 wireless 367:3, 401:8, 401:10, 407:9, 407:11, 429:1, 432:6, 435:14, 437:14 within 362:14, 382:14, 384:8, 385:2, 387:5, 451:5 without 288:14, 289:10, 289:13, 290:10, 292:8, 293:1, 309:15, 322:12, 322:17, 406:13, 448:2 witness 330:5, 330:7, 371:7, 415:4, 446:17, 448:18, 449:2, 451:7, 451:13, 451:18, 452:1 won't 286:5, 290:22, 317:7, 326:15, 351:11, 351:17, 369:16, 437:9 word 311:10, 322:9, 358:2, 403:20, 425:2 words 324:10, 329:9, 329:10, 332:12, 338:6, 340:5, 353:7, 358:18, 361:1, 387:1, 388:14, 392:2, 392:6, 392:7,</p>
--	--	--	---

414:7, 425:9, 426:18, 426:20, 426:22, 430:3, 430:11 work 318:14, 327:12, 363:6, 363:15, 371:11, 401:4, 402:12, 406:5, 406:21, 407:5, 407:16, 407:17, 408:13, 409:2, 412:3, 412:11, 412:16, 413:20 worked 345:1 working 363:9, 381:13 works 330:6, 347:3, 415:5, 415:6, 448:20, 449:3 wouldn't 308:17, 314:1, 340:16, 376:10, 376:15, 389:5, 443:17 write 288:6 writing 357:16 written 343:4, 408:6, 410:1	408:13 yep 445:3 yes 283:12, 284:9, 287:2, 287:11, 287:14, 297:3, 297:7, 297:19, 298:2, 298:20, 300:17, 301:7, 305:3, 306:4, 313:10, 318:5, 324:3, 327:14, 331:15, 332:7, 336:3, 336:20, 338:7, 354:3, 357:5, 372:20, 376:2, 393:12, 394:14, 394:17, 395:9, 400:12, 400:16, 401:13, 404:4, 405:3, 405:8, 409:15, 415:21, 416:13, 419:9, 425:16, 438:17, 441:16, 441:21, 443:1, 443:11, 444:12, 445:20 yes-or-no 411:17 yesterday 283:11, 283:14, 283:16, 283:19, 284:2, 284:12, 284:21, 286:12, 286:13, 291:19, 297:10, 297:22, 300:14, 304:9, 335:7, 335:8, 336:21, 363:19, 442:4, 445:7, 445:21, 446:6, 447:22 yesterday's 447:16 york 280:6	you'd 308:22, 323:8, 360:21 you'll 312:3, 328:20, 356:14, 365:10, 374:8, 403:21, 413:14, 419:3, 422:8, 424:12, 426:8, 426:11, 443:7 you're 286:3, 286:7, 288:9, 289:1, 290:11, 293:10, 293:15, 294:6, 294:17, 299:5, 312:5, 325:14, 327:14, 329:4, 331:11, 335:15, 335:17, 342:18, 347:1, 359:22, 366:8, 369:2, 382:17, 387:20, 388:2, 389:20, 396:2, 404:3, 404:13, 412:3, 412:11, 413:6, 413:20, 415:20, 443:3 you've 290:17, 290:21, 311:7, 366:16, 400:4, 407:2, 407:13, 421:13 yourself 285:21, 421:12 's 332:9, 332:16 .2475 280:15 .2955 280:22 .8729 280:8	<hr/> 0 <hr/> 00 448:19, 448:20, 449:2, 449:5 01102 278:11, 441:15, 442:11 01103 278:14 023 287:5, 288:13, 290:9, 298:17, 301:12, 304:10, 304:14, 304:16, 304:19, 304:22, 305:7, 332:3, 335:9, 336:2, 336:9, 336:18, 336:21, 338:19, 338:20, 394:16, 404:20, 416:4, 416:6, 416:12, 416:16, 417:4, 417:14, 418:21, 419:5, 419:19, 420:7, 420:19, 421:18, 422:16, 423:14, 424:6, 424:19, 425:3, 426:14, 426:20, 427:13, 429:6, 429:11, 430:2, 430:13, 430:20, 431:13, 432:8, 432:15, 440:9, 443:13, 443:19, 443:22, 444:9, 444:15, 446:7, 447:5 06 451:22 0s 423:7 <hr/> 1 <hr/> 1 371:7, 371:9,
--	---	---	--

<p>371:13, 371:14 1-1-9 372:7 1-5-3 415:16 1-5-5 438:10 10 282:10, 300:22, 319:3, 372:15, 393:19, 393:20, 412:20, 432:20, 433:2, 434:18, 437:3, 437:22, 448:19, 448:20, 449:2, 449:5 10,000 366:18, 367:5 100 374:3, 379:1, 379:4, 379:11 105 354:5 107 331:21, 332:1 11 282:11, 330:4, 330:6, 411:8, 413:16, 416:17, 416:19, 420:1, 420:7, 420:17, 421:1, 421:5, 421:6, 421:22, 422:1, 422:18, 430:16, 431:1, 431:9, 434:20, 436:20, 436:21, 441:7, 441:8, 449:6, 451:22 11.0 411:8 1100 280:6 119 372:6, 372:9, 380:9 12 330:9, 330:10,</p>	<p>371:8, 394:19, 412:20 120 400:20, 401:1, 406:17, 407:1, 407:4, 408:5 1212 280:19, 451:20 123 322:4, 322:18, 322:20, 323:4 124 322:18 125 317:16, 320:9, 320:11, 326:13, 326:22 127 322:20, 323:5 138 373:9, 382:7 14 452:2 15 332:21, 341:21, 371:7, 371:9, 371:13 150 373:11, 377:18, 378:1, 378:11, 378:20, 379:11, 433:15 152 415:21 153 415:14, 415:22, 416:2 154 421:10 155 439:13, 440:3 16 415:20, 418:18, 420:12, 420:15, 421:6, 430:20, 432:20, 433:2, 435:13, 440:2 164 409:5, 409:7,</p>	<p>409:18, 410:16, 411:20 18 330:9, 345:22 1990 402:12 1995 287:19, 394:13 1s 423:7 <hr/> 2 <hr/> 2 371:15, 415:3, 415:6 2,000 370:12 20 291:19, 295:20, 313:4, 316:15, 371:15, 415:9 20005 280:7 2019 278:11, 278:14 202.772 280:8 2020 278:18, 451:21, 452:2, 452:3 205 355:10, 359:11, 359:18, 360:8, 361:17 210 355:5 23 314:6 24 314:5 25 405:22, 406:7, 408:14 250 280:20, 451:20 26 427:17 278 278:21</p>	<p>28 427:16 283 282:3 284 282:17 290 282:15 297 282:8 <hr/> 3 <hr/> 3 415:9, 415:10, 446:19, 446:21 3-oxford 393:7 30 330:4, 330:6, 337:18, 405:21, 415:3, 415:6, 427:3, 437:3 300799 278:20 307 280:13 33 330:10, 446:22 331 282:9 336 282:16 34 415:10 36 371:8, 371:14 37 367:22 38 378:7 390 379:2, 379:8, 380:11, 381:10, 381:20, 401:9, 402:2, 407:10, 444:3 394 282:10</p>
---	--	---	--

4	57	865	361:19, 370:11, 381:13, 381:14, 382:1, 388:8, 388:12, 388:15
4	385:14	330:16, 332:4, 332:9, 332:16, 332:19, 336:10, 336:16, 337:22, 338:1, 338:7, 339:5, 339:6, 339:11, 341:16, 342:10, 343:12, 343:13, 344:15, 345:4, 348:3, 348:18, 349:19, 352:13, 352:21, 354:2, 357:10, 362:19, 372:22, 374:5, 375:8, 375:10, 376:15, 376:16, 380:12, 382:4, 382:13, 383:13, 384:7, 386:15, 390:9, 390:13, 395:16, 395:17, 396:19, 397:3, 397:4, 397:14, 398:1, 398:9, 399:9, 400:8, 400:10, 401:11, 402:3, 407:12, 409:22, 410:16, 411:20, 412:22, 414:10, 444:4	972.550 280:22 972.722 280:15
446:22, 447:1, 449:7, 451:22	6		
41	60		
340:7	337:19, 427:18, 431:14, 433:3, 433:6		
441	61		
282:11	432:1		
45	62		
355:19, 444:21, 445:2, 445:5, 445:14, 446:19, 446:21	336:4, 336:5, 336:19, 336:22		
452	64		
278:21	433:10, 433:13		
46	65		
354:17	337:16, 339:8, 359:10		
48	7		
291:14	7,848,701		
49	278:12, 442:22		
447:1	7,979,023		
5	278:15, 282:16		
5,504	70		
296:22	346:5, 346:21, 404:15, 404:17		
5,504,786	701		
282:8	440:15, 440:16, 440:19, 442:14, 442:15, 442:16, 443:5, 443:10, 443:12, 443:18, 443:22, 444:11, 444:15, 447:5		
5,559,865	75		
282:9	379:19, 380:3, 381:2, 381:7		
5-5	75038		
339:8, 339:9	280:21, 451:21		
50	75087		
372:13, 379:8, 380:7, 381:11, 381:16, 381:21, 401:5, 402:7, 405:21, 407:6, 408:15, 433:4	280:14		
500	786		
372:14, 373:5, 373:12, 381:7, 386:13	296:22		
52	8		
449:7, 451:22	80		
54	346:5, 346:22		
310:8			
55			
339:7, 344:6			
		9	
		95	
		354:11, 357:8, 357:16, 358:21, 359:1, 359:16, 359:19, 360:1, 360:10, 361:9,	