

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

SAMSUNG ELECTRONICS CO.,)
LTD.,)

Petitioner,)

vs.)

No. IPR2025-01069

WILUS INSTITUTE OF STANDARDS)
AND TECHNOLOGY INC.,)

Patent Owner.)

-----)

DEPOSITION OF ZHI DING, Ph.D., taken remotely
via Zoom at 9:02 a.m. Pacific Time, Friday,
February 27, 2026, before Theresa JoAnn
Phillips-Blackwell, CSR 12700.

1 APPEARANCES OF COUNSEL:

2

3 For Plaintiff:

4

5

JAMES MILKEY, ESQ.

6

(Appearing via Zoom)

7

RUSS AUGUST & KABAT

8

12424 Wilshire Boulevard

9

Twelfth Floor

10

Los Angeles, California 90025

11

(310) 826-7474

12

13 For Defendants:

14

15

NICHOLAS W. STEPHENS, Esq.

16

KIM LEUNG, ESQ.

17

(Both Appearing via Zoom)

18

FISH & RICHARDSON

19

1000 Maine Avenue SW

20

Suite 1000

21

Washington, D.C. 20024

22

(202) 783-5070

23

nstephens@fr.com

24

leung@fr.com

25

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

I N D E X

DEPONENT	EXAMINED BY	PAGE
Zhi Ding, Ph.D.	Mr. Milkey	4

EXHIBITS

(NONE MARKED)

1 (Zhi Ding, Ph.D., deponent, was sworn, examined and
2 testified as follows:)

3

4 DEPOSITION OFFICER: Hello, everyone. My name
5 is Theresa Phillips-Blackwell. I'm a California
6 certified shorthand reporter, CSR No. 12700.

7 Raise your right hand, please.

8 You do solemnly state that the evidence you
9 shall give in this matter shall be the truth, the whole
10 truth, and nothing but the truth?

11 THE WITNESS: I do.

12

13

EXAMINATION

14

15 BY MR. MILKEY:

16 Q. Good morning. Could you please state your full
17 name for the record.

18 A. Yes. Good morning, Mr. Milkey.

19 My name is Zhi Ding. I live in Davis,
20 California, at the address of 2603 Nevelson Court.

21 Q. Great. Thank you very much, Mr. Ding.

22 You understand that you're here to testify
23 today about an IPR proceeding involving the '077 patent;
24 correct?

25 A. Yes, '077.

1 Q. And do you have a copy of the declaration that
2 you submitted in that proceeding?

3 A. I do. I printed out a -- a clean copy here, so
4 I have it here with me.

5 Q. Okay. Feel free to refer to any clean copy of
6 any materials that you have with you today as long as
7 they're already part of the IPR record. I am going to
8 upload a copy of your declaration, which is
9 Exhibit 1003, into the chat for the benefit of the
10 reporter. But feel free to -- again, feel free to refer
11 to any version that you have.

12 How did you prepare your declaration in this
13 proceeding?

14 A. In preparation for today's proceeding I was
15 provided by counsel for -- for Samsung a folder of
16 documents, and from there I reviewed the patent -- the
17 '077 patent, the PTAB's --

18 DEPOSITION OFFICER: The what?

19 THE WITNESS: The PTAB's. Sorry -- patent and
20 trademark -- I forgot what the -- what the A stands for,
21 but it's the -- yeah, it's patent and trademark office's
22 decision. And I also reviewed a few prior arts that --
23 the main prior arts that I've cited in my declaration.

24 BY MR. MILKEY:

25 Q. Okay. Thank you for that.

1 So was that answer regarding how you prepared
2 for today's deposition?

3 A. That's right. I thought that was what you were
4 asking.

5 Q. Okay. So just -- just to clarify, my question
6 was slightly different.

7 My question was, what -- how did you prepare
8 the declaration that you submitted in this proceeding,
9 Exhibit 1003?

10 A. Oh, okay. Well, at the time there was no
11 decision; so my -- the process of my work began with a
12 review of the patent, and I reviewed a large number of
13 potential prior arts, and that's how I prepared.

14 Q. Okay. Approximately how long did you spend
15 preparing your declaration in this proceeding?

16 A. Yeah. I honestly don't recall how long.

17 Q. Okay. You understand that all of the
18 invalidity grounds that you raise in your declaration
19 rely at least in part on the Bharadwaj prior art
20 reference; correct?

21 A. Yes.

22 Q. Okay. And you -- you understand that the
23 Bharadwaj reference claims priority, at least in part,
24 to the Bharadwaj '059 provisional application; correct?

25 A. That is my understanding, correct.

1 Q. Okay. Again, feel free to refer to any copies
2 of anything. I'm going to upload both Bharadwaj, which
3 is Exhibit 1006, and the Bharadwaj provisional
4 application. Or I might -- I may refer to it as
5 Bharadwaj '059. I've uploaded both of those into the
6 chat. Bharadwaj '059 is Exhibit 1007.

7 A. Yeah, I see them.

8 Q. Okay. Thank you.

9 Okay. So you -- so if you could take a look at
10 Exhibit 1007, which is the Bharadwaj '059 provisional.

11 A. Yes.

12 Q. And if you could -- if you could go to
13 Paragraph 51 of Exhibit 1007 and just let me know when
14 you're there.

15 Are you there?

16 A. I'm trying to download that first. It will
17 take a minute.

18 Okay. Which -- sorry. Which paragraph?

19 Q. Yeah. Paragraph 0051.

20 A. 0051. Okay. Yes.

21 Q. Okay. And do you see that in Paragraph 51 of
22 Bharadwaj '059 there is an LLength formula?

23 A. Yes.

24 Q. Okay. And --

25 A. I think it's -- just to confirm, I believe

1 you're referring to Equation 2.

2 Q. Correct. Yes. Equation 2. Exactly.

3 And do you see there that in Equation 2, the --
4 the last part of Equation 2 says, "+ M where M = 1, 2"?

5 A. Yeah, I -- yes. I see it.

6 Q. Okay. And then going down on to the page --
7 it's still within Paragraph 51 but on the page -- the
8 Page 19, the -- basically the second page that contains
9 Paragraph 51 --

10 A. Yes.

11 Q. -- do you see that there's a sentence starting
12 with, "The value m shown above"?

13 A. Yes.

14 Q. Okay. And -- okay.

15 So you agree that Bharadwaj's '059 provisional
16 application teaches that the value m shown above has
17 been added in IEEE 802.11ax to ensure that LLength is
18 not exactly a multiple of 3 and is, therefore, used to
19 distinguish between IEEE 802.11ax and IEEE 802.11ac
20 transmissions, e.g., auto-detections?

21 A. That is -- that is a literal statement from
22 Bharadwaj provisional, yes.

23 Q. Okay. So in light of the Bharadwaj provisional
24 application, would you agree with me that, you know, the
25 formula of Equation 2 has been added to ensure that

1 LLength is not exactly a multiple of 3 and is,
2 therefore, used to distinguish between IEEE 802.11ax and
3 IEEE 802.11ac transmissions, e.g., auto-detections?

4 A. I'm slightly lost. So you asked me whether
5 I -- I agree -- whether or not I agree that these
6 statements were in Paragraph 51 of Bharadwaj?

7 Q. Okay. So thank you, Dr. Ding. That's --
8 that's a good clarification.

9 So previously, I was asking if -- if the
10 statement was in Bharadwaj provisional. Currently, I'm
11 asking if you agree with the substance of the statement.
12 So I'll -- I'll rephrase the question to be slightly
13 more clear.

14 Would you agree with the substance of Bharadwaj
15 '059 provisional's teaching when it says that the value
16 m in Equation 2 ensures that LLength is not exactly a
17 multiple of 3 and is, therefore, used to distinguish
18 between IEEE 802.11ax and IEEE 802.11ac transmissions,
19 e.g., auto-detections?

20 MR. STEPHENS: Objection to form.

21 THE WITNESS: Well, okay. First thing, I think
22 we -- in your questioning and my answer we have
23 established that Paragraph 51 states what it states; and
24 then to the extent that whether or not having a value m
25 where m equals to 1 or 2 would allow the length to be

1 not exactly a multiple of 3, I agree with that.

2 And also, in my opinion -- my declaration I
3 also explain that you could add a positive m as over
4 here 1 or 2 or the m could also be negative -- minus 1
5 or minus 2. All four possibilities can make this --
6 make sure that the LLength will not be exactly a
7 multiple of 3.

8 And to the extent that this information allows
9 a receiver to distinguish between IEEE 802.11ax and
10 802.11ac transmissions in auto-detections, I agree that
11 you could add such a value m so long as the m is not 3.
12 But the number of m -- the number of possible m's will
13 be limited to basically plus/minus 1 or plus/minus 2
14 without having to repeat it when -- you could end up
15 with plus/minus 5, but that would not be necessary. So
16 there are four choices one could make.

17 MR. MILKEY: Okay. I'm going to object to that
18 answer as nonresponsive.

19 BY MR. MILKEY:

20 Q. So my specific question, Dr. Ding, is whether
21 what is disclosed in Bharadwaj's provisional application
22 '059 as Equation 2 -- without any modification, just
23 what is disclosed in Bharadwaj '059, Equation 2, ensures
24 that LLength is not exactly a multiple of 3 and is,
25 therefore, used to distinguish between IEEE 802.11ax and

1 IEEE 802.11ac transmissions, e.g., auto-detections?

2 MR. STEPHENS: Objection to form.

3 THE WITNESS: Yeah. So I believe I already
4 answered that, and you're ask -- I believe your question
5 is whether or not by adding a integer m can force
6 L_{Length} to be not exactly multiple of 3; and my answer
7 is yes, you can. You can take some m 's plus/minus 1 or
8 plus/minus 2.

9 And then I think your question states that
10 whether it is used or not for -- by IEEE 802.11 to
11 distinguish between a_x and a_c transmissions; right? I
12 think, yes, you said -- your question is whether it is
13 useful or not. My answer is it can be used, but that --
14 that was -- I think that's extent of my answer.

15 MR. MILKEY: Okay. So, Dr. Ding, I'm going to
16 object as -- as nonresponsive again.

17 BY MR. MILKEY:

18 Q. So you mentioned plus/minus 1 or 2 is the value
19 of m . I am not asking about anything other than what is
20 disclosed in Equation 2. Equation 2 says $m = 1$ or 2 .

21 So my -- my question is specifically, regarding
22 what is disclosed in Equation 2 of Bharadwaj '059
23 provisional, if that Equation 2 ensures that L_{Length} is
24 not exactly a multiple of 3 and is, therefore, used to
25 distinguish between IEEE 802.11ax and IEEE 802.11ac

1 transmissions, e.g., auto-detections.

2 MR. STEPHENS: Objection to form. I believe
3 this has been asked and answered, Counsel.

4 MR. MILKEY: Counsel, please limit your
5 objections to form. And it has not been asked and
6 answered because, again, as I pointed out, he is talking
7 about plus or minus 1 or 2; and that is not the
8 question.

9 MR. STEPHENS: I will limit speaking
10 objections, Counsel; but I'm not aware of any basis in
11 the rules for the question -- you're actually to object
12 to questions as well to the witness's answer, so I'll
13 note that for the record.

14 THE WITNESS: Allow me to repeat as I --
15 you're -- you're actually asking two questions; is that
16 correct?

17 I mean, the court reporter's here; so you don't
18 even have to look at it.

19 BY MR. MILKEY:

20 Q. Yeah. So I'm asking if in the Equation 2, as
21 it is literally disclosed in Bharadwaj '059 provisional,
22 without any modifications to that Equation 2, if that
23 Equation 2 ensures that LLength is not exactly a
24 multiple of 3 and is, therefore, used to distinguish
25 between IEEE 802.11ax and IEEE 802.11ac transmissions,

1 e.g., auto-detections?

2 A. I understand that. I believe I already
3 answered that your -- the first part -- so the first
4 question, whether or not this particular way of adding a
5 number m -- whether it's plus -- whether it's 1 or 2 or
6 plus/minus 1 or plus/minus 2, as I explained, will
7 ensure that this LLength value is not a multiple of
8 IEEE. My answer was yes and still is yes.

9 I based -- I simply explained that the possible
10 value of m is not limited to 1 or 2. It can be plus 1
11 or plus 2. But to the extent that if you want to say,
12 Well, what if it is only 1 and 2? and of course that's
13 included in my answer. So the answer is you will
14 make -- get a LLength that's not exactly multiple of 3.

15 Q. Okay. And would you also agree that it -- the
16 Equation 2 as disclosed in Bharadwaj '059 provisional
17 application distinguishes between IEEE 802.11ax and IEEE
18 802.11ac transmissions, e.g., auto-detections?

19 A. I -- I'm not certain as to all the question.
20 So whether the equation disclosure -- could you repeat
21 that again.

22 Q. Yeah. Is the equation -- is the -- strike
23 that.

24 Is the LLength formula in Equation 2 of
25 Bharadwaj's '059 provisional used to distinguish IEEE

1 802.11ax and IEEE 802.11ac transmissions, e.g.,
2 auto-detections?

3 A. Is the question, Is that equation used? I
4 don't know whether you're asking it by whom. I mean, my
5 question -- are you asking me whether someone uses that
6 in their device to distinguish ax and ac or -- I'm just
7 not following the -- I heard the question. I think it's
8 the same second half of the question you asked.

9 I wasn't able to answer it because I don't
10 understand whether you're saying it is currently being
11 used by someone or not or you're saying that was
12 something that -- it could have been used --

13 Q. Okay.

14 A. -- and I answered it could have been prior
15 arts.

16 Q. Okay. Thank you. So I'll -- let me clarify
17 that a little bit.

18 Can the equation in Equation 2 of Bharadwaj
19 '059 be used to distinguish between IEEE 802.11ax and
20 IEEE 802.11ac transmissions, e.g., auto-detections?

21 A. Okay. Thank you.

22 That is a possibility. Distinguishing whether
23 LLength is exactly a multiple of 3 or not, that
24 particular determination is possible when -- it is
25 possible for one to use that determination to tell

1 whether the data frame in transmission is a IEEE
2 802.11ax versus 802.11ac data frame.

3 Q. Are there any problems with the LLength formula
4 as expressed in Equation 2 of Bharadwaj '059 provision?

5 MR. STEPHENS: Objection. Form.

6 THE WITNESS: In that the -- I don't understand
7 the problem part. So the Equation 2 can be executed by
8 a stated -- use the word '077, a processor, and I think
9 the equation also uses the ceiling operator on top.

10 So to the extent that TXTime is specifically
11 known to the processor, then the -- here the equation
12 being -- the expression below Equation 2 tells what
13 TXTime is, that's the -- that is the entire time that
14 transmitter is active.

15 A -- so then for -- it is possible for a
16 processor at the transmitter end to determine this
17 LLength by adding a small m to the TXTime minus 20
18 divide by 4, taking its ceiling, multiply by 3, subtract
19 3, and selecting m to be 1 or 2 or, like I said, other
20 possible choices to prevent LLength to be a multiple of
21 3.

22 BY MR. MILKEY:

23 Q. Okay. When this -- or strike that.

24 If one were to use this LLength formula in the
25 context of IEEE 802.11ax, would it allow legacy devices

1 to correctly calculate the -- the desired number of
2 symbols, or NSYM?

3 A. I believe we are getting into the actual
4 substance of my declaration, so if you -- if you don't
5 mind going -- focusing back on my declaration, we can go
6 to specific sections, if you'd like.

7 Q. Yeah. Feel free to refer to anything in your
8 declaration, if you want to.

9 So again, my question is, if one were to use
10 this LLength formula in the context of IEEE 802.11ax --

11 A. Yes.

12 Q. -- would it allow legacy devices to correctly
13 calculate the desired number of symbols?

14 A. Understood. That's why I was saying -- I was
15 explaining that you're -- you're mentioning the
16 terminology for the first time, the number of symbols.
17 Could you define what you mean by the number of symbols.

18 Q. You understand that the Bharadwaj '059
19 provisional refers to an NSYM number, N-S-Y-M; correct?

20 A. Yes.

21 Q. Okay. Do you have an understanding of what
22 that is referring to?

23 A. I do.

24 Q. And what is that?

25 A. The NSYM, or the number of symbol -- that

1 particular value, it was computed not by the transmitter
2 but by the receiver to determine or estimate the total
3 number of equivalent OFDM symbols that are inside the --
4 a particular data packet that it receives.

5 Q. Okay. And then do you see in Bharadwaj
6 provisional '059, at Paragraph 48, there is a reference
7 to the number of symbols?

8 A. Yes. It does mention in most cases the number
9 of symbols for the data unit can be computed from the
10 following expression, Equation 1.

11 Q. Okay. And in Paragraph 52 of Bharadwaj '059
12 provisional, it states that the transmitter device
13 provides LLength and TXTime so that the receiver device
14 320 can know the number of data symbols, NSYM, that need
15 to be decoded; correct?

16 A. Yes, I see that.

17 Q. Okay. And then in IEEE 802.11ax, for the
18 receiver device 320 to know the number of data symbols,
19 NSYM, to be decoded, the transmitter device may provide
20 LLength, TXTime, and TSE; correct?

21 A. Yes.

22 Q. Okay. So if LLength were calculated according
23 to the formula in Bharadwaj '059 provisional's Equation
24 2 and then that LLength were provided to the receiver
25 device, do you know whether that would allow legacy

1 receiver devices to correctly calculate the desired
2 number of symbols?

3 MR. STEPHENS: Objection to form. Scope.

4 THE WITNESS: I believe we're -- we're looking
5 at the Paragraph 57. Is that correct, Mr. Milkey?
6 Paragraph 57 of the Bharadwaj provisional? I just want
7 to explain that.

8 BY MR. MILKEY:

9 Q. I'm specifically asking if -- I'm not referring
10 to any particular paragraph of Bharadwaj '059 other than
11 the paragraph that sets forth the Equation 2, the
12 LLength equation. All right?

13 My specific question is if LLength were
14 calculated according to Equation 2 in Bharadwaj '059 and
15 then that length were provided to a receiver device, if
16 that would allow legacy receiver devices to correctly
17 calculate the desired number of symbols.

18 MR. STEPHENS: Objection. Form. Scope.

19 THE WITNESS: All right. As -- let us -- let
20 us -- let us go back to my declaration, Paragraph 67.

21 Okay. So the main -- I think that the main
22 word -- the keyword you're -- you're using in the
23 question is about legacy devices. In Paragraph 67 I
24 explain in my declaration that, for example, for legacy
25 devices that operate according to 802.11ac standard,

1 like those described in Bharadwaj provisional '059, the
2 receiver of the legacy device would calculate the
3 duration of the transmitter data unit using the
4 following equation.

5 So there's a first step. The equation was
6 given in my declaration at -- on Page 40. That is
7 RXTime equals to the ceiling from the division of length
8 plus 3 divided by 3, and that ceiling is multiplied by 4
9 plus 20.

10 So that's what a -- I explained what a legacy
11 device of 802.11ac receiver would have done to compute
12 the RXTime. And from that RXTime, when it would further
13 move on to compute the LSYM -- or the particular legacy
14 device as LSYM -- sorry -- the NSYM, that's N-S-Y-M,
15 even here from Bharadwaj's Paragraph 0057, explain how
16 to compute that from the RXTime.

17 And I further explain that in the case of -- as
18 a -- as example -- and again, continuing from
19 Paragraph 57, as example when length equals to 240, then
20 the desired RXTime for legacy 802.11ac device would be
21 computed as follows and because of the ceiling -- right?
22 -- you would get 344. All right.

23 However, when one -- that would be the correct
24 value. But when you add a plus 1 or a plus 2 as
25 described in Bharadwaj provisional '059, the length that

1 are -- that is communicated to the receiver would have
2 become the true length plus m, and being -- again, being
3 1 or 2.

4 Therefore, I explain on the top of Page 41 in
5 my declaration that the same operation now having 240
6 plus m inside the ceiling operator before dividing by 3
7 is going to give you a 348, and that would be a
8 incorrect number based on the received LLength having
9 been altered by adding a small number m equal to 1 or 2.
10 So -- but you would have gotten a, like -- an incorrect
11 receiver time.

12 And on the other hand, if one changes that
13 equation to m equal minus 1 or minus 2, still in the
14 spirit of -- spirit of making sure that LLength is not
15 exactly a multiple of 3, then the RXTime calculated by a
16 legacy device would have been 344, which now it's going
17 to be correct. And once the receiver obtains a correct
18 RXTime, it can proceed to obtain the correct NSYM value.

19 Thank you.

20 BY MR. MILKEY:

21 Q. Okay. That -- that's very helpful. Thank you,
22 Dr. Ding.

23 So I see that you have a fair amount of
24 calculation in your Paragraph 67 explaining why
25 Bharadwaj '059's Equation 2 would result in an incorrect

1 RXTime if used to calculate RXTime in a legacy 802.11ac
2 device.

3 Did any prior art recognize that this RXTime
4 calculation wouldn't -- would be incorrect if based off
5 of Bharadwaj '059's Equation 2?

6 MR. STEPHENS: Objection. Form. Scope.

7 THE WITNESS: In my -- in my declaration,
8 Mr. Milkey, I also cited two additional prior arts; and
9 those are the Yu provisional -- Y-u, Yu provisional --
10 and also the Lee prior art.

11 So these -- from these two prior arts, a person
12 skilled in the art would have understood that using a
13 positive m here as described in Bharadwaj would have led
14 to a overestimate of the RXTime; and for that reason,
15 the Yu provisional as well as Lee -- I'm trying to get
16 my exhibit number out, so just give me a second.

17 Yeah. So I had Lee in -- in my declaration.
18 That -- that's Samsung Exhibit 1018. And the Yu
19 provisional -- let me see -- is the -- it's Samsung
20 Exhibit 1020.

21 They both recognizes that it would have been --
22 it would have -- one would have achieved the same
23 objective of generating an LLength that is not a
24 multiple of 3 and then avoided this problem we just
25 talked about, that is, having the -- a legacy receiver

1 unaware of the change -- change addition -- unaware of
2 the additional m in the LLength when computing the
3 RXTime, therefore, when computing the NSYM, the number
4 of symbols.

5 BY MR. MILKEY:

6 Q. Okay.

7 A. So yes. The answer it has been recognized, at
8 least to a person of the skill in the art, by Lee and by
9 Yu provisional.

10 Q. Okay. Thank you.

11 So let's start with the Lee. What portion of
12 Lee teaches that Bharadwaj's formula as expressed in
13 Equation 2 would lead to an incorrect calculation of
14 RXTime or the number of symbols?

15 And strike that. I'll -- I'll re-ask the
16 question to make clear that I'm talking about Bharadwaj
17 provisional.

18 Starting with Lee, what portion of Lee teaches
19 that Bharadwaj's provisional application '059 formula as
20 expressed in Equation 2 would lead to an incorrect
21 calculation of RXTime or the number of symbols?

22 MR. STEPHENS: Objection. Form. Scope.

23 THE WITNESS: If we go to Lee -- that's -- and
24 we go straight to Equation 3, Equation 3 in Paragraph
25 0078, the Lee equation, currently provided that the

1 LLength be changed by putting a minus n after the
2 subtraction of 3 in this Equation 3.

3 And further, going forward, to compensate for
4 the minus 3 and minus n, the -- Lee further shows, in
5 Paragraph 86, that in this case the CCA, clear channel
6 assessment -- the CCA visit time of the data packet
7 transmitted by Equation 3 above is shown in Equation 7
8 below, where the -- in the -- within the ceiling
9 operator, the LLength plus 3 plus n is added to the
10 LLength before dividing by 3 and taking the ceiling.

11 So this is coming from a view of a person of
12 skill in the art at the time of that 2012 but definitely
13 prior to the priority date of the '077 patent, and a
14 person of ordinary skill would have recognized that
15 using Lee's equation would have resulted in a legacy
16 device correctly computing the RXTime. And therefore,
17 in view of that, the recognition when reviewing Lee and
18 in reviewing what Bharadwaj provisional has suggested
19 that it's -- rather than minus n, it added a plus n. A
20 person of ordinary skill in the art would have
21 recognized that it would have been possible to use a
22 subtraction rather than addition to the LLength and,
23 therefore, providing the legacy device a -- with a
24 correct RXTime computation.

25 ///

1 BY MR. MILKEY:

2 Q. Okay. Does -- does Lee discuss the possibility
3 of using a -- strike that.

4 So you mentioned that Lee, for example, in
5 Paragraph 78 discusses a formula Equation 3 which ends
6 in minus n where n has a value of 0, 1, or 2. Does Lee
7 discuss any situation in which it would add n instead of
8 subtract n in calculating LLength?

9 A. No. Not to my recollection. Lee did not go
10 specifically to enumerate various possibilities of
11 whether this minus n could also be negative; therefore,
12 that would be an adding as opposed to here the n's are
13 positive in a subtraction.

14 Therefore -- I understand from the perspective
15 of -- of a skilled person in the art that Lee did not
16 need to enumerate all the possibilities and would have
17 considered them. But in Equation 3 and then, later on,
18 Equation 7, they were correct for that subtraction. Lee
19 suggested that the value n would be 0, 1, and 2 to
20 indicate different number of timetables for petition in
21 the -- in the transmitted data packet.

22 Q. Does -- does Lee teach that if you added n
23 instead of subtract n, that that would cause an
24 incorrect result in any subsequent calculations?

25 A. Not in so many words. Lee, by explaining sort

1 of subtraction, you would have obtained a RXTime, a
2 person of skill in the art would have been usually --
3 would have the opportunity to test it and confirm that
4 the RXTime is correctly calculated by the legacy device,
5 therefore, reaching their own conclusion that you
6 would -- they would be -- this is likely going to be a
7 small error in computing the RXTime if you change the
8 minus n from minus 1, minus 2, or -- sorry -- changing
9 minus n into a plus n. For Lee, that is.

10 Q. Okay. And then you mentioned the Yu
11 provisional, Exhibit 1020. And by the way, before we go
12 on to that, I'm also going to upload 1018 and 1020 into
13 the chat again. Of course, feel free to refer to any
14 copies that you have.

15 A. Thank you.

16 Q. You mentioned the Yu provisional, Exhibit 1020,
17 as teaching that Bharadwaj's equation -- Bharadwaj '059
18 provisional's Equation 2 would lead to an incorrect
19 calculation of -- of RXTime.

20 What portion of the Yu provisional discloses
21 that Bharadwaj '059's Equation 2 would lead to an
22 incorrect calculation of RXTime or number symbols?

23 MR. STEPHENS: Objection. Form. Scope.

24 THE WITNESS: Sorry. Thank you.

25 I received your -- I received the uploaded

1 Exhibit 1026. And so it's slightly harder to refer to a
2 paragraph; so I'll just go back the page, if it's okay.

3 BY MR. MILKEY:

4 Q. Yeah.

5 A. Okay. So if we look at the page numbers of 12,
6 slash, 16 -- I believe that I'm in 12 -- Page 12 of 16
7 total -- there is a equation from -- two -- Line 11 from
8 the top of that page where this Yu provisional prior art
9 provided another length field called the LLength field
10 or the length -- LLength field. That's -- that's
11 being -- referring to the ax designation. It's called
12 LLength field, and then he also said a length field in
13 the legacy can be used.

14 But he explained that using the LLength
15 information via -- with m in the following equation; and
16 here again, it shows that the length equals the TXTime
17 minus 20 divided by 4 times 3, and then minus 3 minus m,
18 specifically comma, m is greater than/equal to 0 or less
19 than/equal to 2.

20 So Lee -- so Yu, in this case, explained that
21 these different values are possible by selection of m
22 equals 0, 1, and 2, and then explained that the legacy
23 receiver identified the same length becomes the same
24 packet duration because one of them assembled lowest
25 rate include three byte data, and it further says that

1 the LLength may imply three different states for the
2 value of m without changing the operation of the legacy
3 receiver.

4 So a person of skill in the art reading that
5 would have understood that the reasons for putting a
6 subtraction m -- right? -- with m being positive in
7 this case -- because of the subtraction, would not
8 change the operation of the legacy device and also
9 properly conclude from this disclosure that doing it
10 otherwise -- that is, if we use this equation of Yu, but
11 then instead of putting a subtraction, putting addition
12 here, one would have changed the operation of the legacy
13 device.

14 So in -- in a nutshell, Yu provided the correct
15 information that would not affect the legacy receiver's
16 operation and person of skill in the art looking this --
17 at this equation would have concluded that Yu is
18 providing the teaching that by -- by using a plus sign,
19 one is likely going to run into the changing of
20 operation for the legacy receiver.

21 Q. Okay. And does the Yu provisional teach that
22 if you added m instead of subtracted m, that that would
23 cause an incorrect result in any subsequent
24 calculations?

25 MR. STEPHENS: Objection. Form.

1 THE WITNESS: The -- the Yu provisional, as I
2 explained, provided how you would change the length by
3 providing a subtraction and then emphasizing that doing
4 so would not change the operation of the legacy device.

5 Therefore, it is implied, but it is also very
6 direct and straightforward within -- totally within the
7 skill set of person of -- person of ordinary skill in
8 the art to try different m and say -- would think, like,
9 why would you have different -- why would you only have
10 m equal to 0 and 2 rather than, you know, thinking about
11 something that's negative, say, plus m instead of minus
12 m , and recognize that it would have changed the changed
13 the operation of the legacy device.

14 So very often, by providing something -- in
15 this case, by providing the correct answer and the
16 correct rationale, the Yu provisional signals to a
17 person of ordinary skill in the art that it would likely
18 run into a incorrect calculation of $RXTime$ if one were
19 to change the minus sign into plus sign, even though it
20 is still not -- you still have gotten $LLength$ that's
21 nonmultiple of 3.

22 BY MR. MILKEY:

23 Q. Okay. Is it your opinion that because Yu
24 specifies that m should be subtracted and m should be a
25 value between 0 and 2, that Yu suggests that you should

1 not implement a solution where m is added and m is a
2 value between 0 and 2?

3 MR. STEPHENS: Objection --

4 THE WITNESS: My -- my response and my opinion
5 is outlined in my declaration that as a person of
6 ordinary skill in the art, looking at this particular
7 disclosure and looking at Bharadwaj's disclosure, would
8 have tried both and very easily recognized that in one
9 case, where it's a minus m here in Yu provisional,
10 the -- Yu would not have changed the operation of the
11 legacy receiver, as Yu clearly stated.

12 And in the context of what Bharadwaj has
13 provided, with a plus m in Bharadwaj provisional, a
14 person of skill in the art would have easily recognized
15 that Yu provisional is teaching a alternative to
16 Bharadwaj and that alternative would have the added
17 benefit of not changing the operation of the legacy
18 device. In addition to making -- to ensure that the
19 length field is -- the value is not a multiple of 3.

20 BY MR. MILKEY:

21 Q. And do you know what level of skill the listed
22 inventors of the Yu provisional had?

23 A. I apologize. You mean do I know them
24 personally?

25 Q. Do you know how much experience they had when

1 they submitted this -- this application?

2 A. No. I do not know them; therefore, I cannot
3 provide you with a characterization of what are their
4 skills and level of education.

5 Q. And do you know what level of skill the
6 inventors of the Lee reference had when they submitted
7 the Lee application?

8 A. No. I did not analyze their -- their level of
9 education or their experience. My general -- or my
10 general analysis applies to a person of ordinary skill
11 in an art, so -- but I did not specifically go into
12 individual inventors of the patents to check on their
13 skill set.

14 Q. And do you know the level of skill of the
15 inventor -- or strike that.

16 Do you know the level of skill of the inventors
17 of the Bharadwaj provisional application?

18 A. No. I -- I do not know them personally. I
19 believe many of the names that appeared as -- appeared
20 as inventors of the prior arts, they work for a company
21 that participated in IEEE 802.11 standard working
22 groups.

23 Q. Is it possible that the inventors of the
24 Bharadwaj reference had a level of ordinary skill --
25 sorry. Strike that.

1 Is it possible that the inventors of the
2 Bharadwaj provisional application had a level of skill
3 that was far greater than your proposed level of
4 ordinary skill in the art?

5 MR. STEPHENS: Objection. Form. Scope.

6 THE WITNESS: I -- I imagine they -- they could
7 have other skills that are not -- that's -- that's not
8 in the context of 802.11, but I can't -- since I don't
9 know them, I can't tell you.

10 BY MR. MILKEY:

11 Q. Why would a person of far greater than ordinary
12 skill in the art have proposed an LLength formula that
13 provides the wrong downstream results in calculating
14 RXTime and n symbols?

15 MR. STEPHENS: Objection. Foundation. Scope.
16 Form.

17 THE WITNESS: I -- I cannot speculate why --
18 whether they have a skill set way beyond a person of
19 ordinary skill in the art or not.

20 In fact, I believe the -- the entire scope of
21 our discussion regarding the LLength would be a multiple
22 of 3, of whether substituting a altered LLength into a
23 simple calculation at the arithmetic level could obtain
24 the RXTime, these are clearly and very simply skills
25 that are well within the grasp of a person with ordinary

1 skill in the art.

2 Other -- just about -- this is all about if you
3 look at the -- the huge number of equations in -- in
4 these prior art, and also, I cited them in my
5 declaration, they're no more than divisions and
6 subtractions and additions. These are really at the
7 arithmetic level.

8 MR. MILKEY: We've been going about an hour.
9 Let's go off the record.

10 (A recess is taken.)

11 BY MR. MILKEY:

12 Q. So welcome back, Dr. Ding. I know we've talked
13 a little bit about the Lee reference and the Yu
14 provisional reference and your opinions regarding
15 whether those would make it obvious to a POSITA that
16 Bharadwaj '059 provisional's Equation 2 would lead to
17 some incorrect results. I want to ask about something
18 more specific. Specifically, does the Bharadwaj '059
19 provisional itself teach that its Equation 2 would lead
20 to an incorrect calculation of either RXTime or NSYM?

21 A. Bharadwaj's provisional in the equation 5
22 described how a nonlegacy device receiver would have
23 computed the RXTime correctly. It did not get into the
24 RXTime computation of a legacy device.

25 Since you're -- you want me to continue? It

1 would have been obvious to a person of skill in the art
2 to use Bharadwaj equation and test it with a legacy
3 device equation and concluded that the RXTime would have
4 been incorrectly calculated, which is what I've shown in
5 my declaration.

6 Q. Okay. I think that went a little beyond the
7 scope of my question. I just want to clarify.

8 In the Bharadwaj provisional application
9 Bharadwaj doesn't disclose that legacy device RXTime
10 calculation would be incorrect if its LLength formula in
11 Equation 2 were used; correct?

12 MR. STEPHENS: Objection. Form.

13 THE WITNESS: Right. Bharadwaj clearly
14 described that the LLength will be carried in the legacy
15 signal field of L-6 in the same paragraph, Paragraph
16 0051; right?

17 So for -- to a ordinary -- to a person of
18 ordinary skill in the art, one would have look at the
19 suggestions by Bharadwaj and put it into the equation
20 used by legacy device in deriving the RXTime and easily,
21 quickly determine that that value would have been
22 slightly over the correct RXTime.

23 That's what I'm explaining, is that Bharadwaj
24 provided that information about a legacy signal field,
25 and then the equation that it suggests to change the

1 length for the legacy signal field and -- making it
2 clear and obvious to a person of skill in the art to
3 check on the legacy device computation for RXTime.

4 BY MR. MILKEY:

5 Q. So a person of ordinary skill in the art would
6 know how to calculate RXTime on the basis of Bharadwaj's
7 equation -- strike that.

8 A person of ordinary skill in the art would
9 know how to calculate RXTime for a legacy device on the
10 basis of Bharadwaj '059's Equation 2; correct?

11 A. Yes. A person of ordinary skill in the art
12 would have -- would have known since the legacy device
13 would follow the standard in computing the RXTime and
14 know how to use this LLength to check the RXTime.

15 MR. MILKEY: Okay. I'll pass the witness.

16 MR. STEPHENS: Can we take ten minutes, please?

17 MR. MILKEY: Okay.

18 MR. STEPHENS: Thank you.

19 THE WITNESS: Thank you.

20 (A recess is taken.)

21 MR. STEPHENS: We have no questions for the
22 witness.

23 MR. MILKEY: Okay.

24 MR. STEPHENS: Off the record.

25 DEPOSITION OFFICER: Would you like to order a

1 copy, Mr. Stephens?

2 MR. STEPHENS: We do not need an order.

3 (Deposition session concluded at 10:36 p.m. Pacific
4 Time)

5 -oOo-

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 I have read the foregoing and by signing hereafter,
2 approve same.

3

4 Dated _____.

5

6 (Signature of Deponent)

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 of the testimony given by the witness. (Fed. R. Civ. P.
2 30(f)(1)).

3 Before Completion of the deposition, review of
4 the transcript { } was { } was not requested. If
5 requested, any changes made by the deponent (and
6 provided to the reporter) during the period allowed, are
7 appended hereto. (Fed. R. Civ. P. 30(e)).

8

9 Dated: _____, 2026

10

11

Theresa JoAnn Phillips-Blackwell

12

13

14

15

16

17

18

19

20

21

22

23

24

25



Magna

Key Contacts



Schedule a Deposition:
Scheduling@MagnaLS.com | 866-624-6221

Order a Transcript:
CustomerService@MagnaLS.com | 866-624-6221

General Billing Inquiries:
ARTeam@MagnaLS.com | 866-624-6221

Scheduling Operations Manager:
Patricia Gondor (E: PGondor@MagnaLS.com | C: 215-221-9566)

Customer Care:
Cari Hartley (E: CHartley@MagnaLS.com | C: 843-814-0841)

Director of Production Services:
Ron Hickman (E: RHickman@MagnaLS.com | C: 215-982-0810)

National Director of Discovery Support Services:
Carmella Mazza (E: CMazza@MagnaLS.com | C: 856-495-1920)

Billing Manager:
Maria Capetola (E: MCapetola@MagnaLS.com | C: 215-292-9603)

Director of Sales Operations:
Kristina Moukina (E: KMoukina@MagnaLS.com | C: 215-796-5028)

A			
able	affirmations	30:10	16:3 17:3 20:1 21:9
14:9	37:14	analyze	24:12 26:21 30:3
about	after	30:8	31:7,24,25 32:6
4:23 11:19 12:7	23:1	Angeles	38:6
18:23 21:25 22:16	again	2:10 37:4	arithmetic
28:10 32:2,2,8,13	5:10 7:1 11:16 12:6	another	31:23 32:7
32:17 33:24	13:21 16:9 19:18	26:9	art
above	20:2 25:13 26:16	answer	6:19 21:3,10,12 22:8
8:12,16 23:7	agree	6:1 9:22 10:18 11:6	23:12,20 24:15 25:2
ac	8:15,24 9:5,5,11,14	11:13,14 12:12 13:8	26:8 27:4,16 28:8
11:11 14:6	10:1,10 13:15	13:13,13 14:9 22:7	28:17 29:6,14 30:11
according	all	28:15	31:4,12,19 32:1,4
17:22 18:14,25	6:17 10:5 13:19	answered	33:1,18 34:2,5,8,11
achieved	18:12,19 19:22	11:4 12:3,6 13:3	arts
21:22	24:16 32:2	14:14	5:22,23 6:13 14:15
action	allow	any	21:8,11 30:20
37:21	9:25 12:14 15:25	5:5,6,11 7:1 10:22	as
active	16:12 17:25 18:16	12:10,22 15:3 18:10	4:2 5:6,6 7:4 10:3,11
15:14	allowed	21:3 24:7,24 25:13	10:18,22 11:16,16
actual	38:6	27:23 37:19 38:5	12:6,12,14,20 13:6
16:3	allows	anything	13:16,19 15:4 18:19
actually	10:8	7:2 11:19 16:7	19:14,17,18,19,21
12:11,15	already	apologize	19:24 21:13,15,15
add	5:7 11:3 13:2	29:23	22:12,19 24:12
10:3,11 19:24 24:7	also	APPEAL	25:17 28:1 29:5,11
added	5:22 10:2,3,4 13:15	1:2	30:19,20
8:17,25 23:9,19	15:9 21:8,10 24:11	APPEARANCES	ask
24:22 27:22 29:1,16	25:12 26:12 27:8	2:1	11:4 32:17
adding	28:5 32:4	appeared	asked
11:5 13:4 15:17 20:9	altered	30:19,19	9:4 12:3,5 14:8
24:12	20:9 31:22	Appearing	asking
addition	alternative	2:6,17	6:4 9:9,11 11:19
22:1 23:22 27:11	29:15,16	appended	12:15,20 14:4,5
29:18	am	38:7	18:9
additional	5:7 11:19 37:8,13,18	application	assembled
21:8 22:2	37:19,20,22	6:24 7:4 8:16,24	26:24
additions	amount	10:21 13:17 22:19	assessment
32:6	20:23	30:1,7,17 31:2 33:8	23:6
address	an	applies	at
4:20	4:23 7:22 16:19,21	30:10	1:13 4:20 6:10,19,23
administer	20:10,25 21:23	approve	7:9 12:18 15:16
37:13	22:13,20 24:12,23	36:2	17:6 18:5 19:6 22:7
affect	25:18,21 27:23	Approximately	23:12 26:5 27:17
27:15	30:11 31:12 32:8,20	6:14	29:6,7 31:23 32:3,6
	35:2	are	33:18 35:3
	analysis	7:15 10:16 14:5 15:3	attorney

37:18,20 AUGUST 2:7 authorized 37:13 auto-detections 8:20 9:3,19 10:10 11:1 12:1 13:1,18 14:2,20 Avenue 2:19 avoided 21:24 aware 12:10 ax 11:11 14:6 26:11 a.m 1:13	been 8:17,25 12:3,5 14:12 14:14 20:9,16 21:21 22:7 23:21 25:2 32:8 33:1,4,21 before 1:2,14 20:6 23:10 25:11 38:3 began 6:11 being 14:10 15:12 20:2,2 26:11 27:6 37:15 believe 7:25 11:3,4 12:2 13:2 16:3 18:4 26:6 30:19 31:20 below 15:12 23:8 benefit 5:9 29:17 between 8:19 9:2,18 10:9,25 11:11,25 12:25 13:17 14:19 28:25 29:2 beyond 31:18 33:6 Bharadwaj 6:19,23,24 7:2,3,5,6 7:10,22 8:22,23 9:6 9:10,14 10:23 11:22 12:21 13:16 14:18 15:4 16:18 17:5,11 17:23 18:6,10,14 19:1,25 20:25 21:5 21:13 22:16 23:18 25:17,21 29:12,13 29:16 30:17,24 31:2 32:16,18 33:2,8,9 33:13,19,23 34:10 Bharadwaj's 8:15 10:21 13:25 19:15 22:12,19 25:17 29:7 32:21 34:6	bit 14:17 32:13 Board 1:2 37:11 both 2:17 7:2,5 21:21 29:8 Boulevard 2:8 but 4:10 5:10,21 8:7 10:12,15 11:13 12:10 13:11 17:2 19:24 20:10 23:12 24:17 26:14 27:10 28:5 30:11 31:8 by 3:3 4:15 5:15,24 10:19 11:5,10,17 12:19 14:4,11 15:7 15:17,18,18,22 16:17 17:1,2 18:8 19:8,8 20:6,9,15,20 22:5,8,8 23:1,7,10 24:1,25 25:4,11 26:3,17,21 27:18,18 28:2,14,15,22 29:20 31:10 32:11 33:19 33:20 34:4 36:1 37:10,16 38:1,5 byte 26:25	24:24 27:24 California 2:10 4:5,20 37:3,9,11 37:14 called 26:9,11 can 10:5 11:5,7,7,13 13:10 14:18 15:7 16:5 17:9,14 20:18 26:13 34:16 cannot 30:2 31:17 can't 31:8,9 carried 33:14 case 19:17 23:5 26:20 27:7 28:15 29:9 cases 17:8 cause 24:23 27:23 CCA 23:5,6 ceiling 15:9,18 19:7,8,21 20:6 23:8,10 certain 13:19 Certificate 37:1,10 certified 4:6 37:8 certify 37:7 change 22:1,1 25:7 27:8 28:2 28:4,19 33:25 changed 23:1 27:12 28:12,12 29:10 changes 20:12 38:5 changing
B			
back 16:5 18:20 26:2 32:12 based 13:9 20:8 21:4 basically 8:8 10:13 basis 12:10 34:6,10 be 4:9 9:12,25 10:4,6,13 10:15 11:6,13 13:10 14:19 15:7,19,20 17:9,15,19 19:20,23 20:7,17 21:4 23:1 24:11,12,19 25:6,6 26:13 28:24,24 31:21 33:10,14 because 12:6 14:9 19:21 26:24 27:7 28:23 become 20:2 becomes 26:23			
		C	
		calculate 16:1,13 18:1,17 19:2 21:1 34:6,9 calculated 17:22 18:14 20:15 25:4 33:4 calculating 24:8 31:13 calculation 20:24 21:4 22:13,21 25:19,22 28:18 31:23 32:20 33:10 calculations	

25:8 27:2,19 29:17	23:24 32:24 34:3	24:11 31:6,23	deposition
channel	compute	counsel	1:12 4:4 5:18 6:2
23:5	19:11,13,16	2:1 5:15 12:3,4,10	34:25 35:3 37:1,22
characterization	computed	37:19,20	37:24 38:3
30:3	17:1,9 19:21 32:23	COUNTY	deriving
chat	computing	37:4	33:20
5:9 7:6 25:13	22:2,3 23:16 25:7	course	described
check	34:13	13:12 25:13	19:1,25 21:13 32:22
30:12 34:3,14	conclude	court	33:14
choices	27:9	4:20 12:17 37:10	designation
10:16 15:20	concluded	CSR	26:11
cited	27:17 33:3 35:3	1:15 4:6 37:10	desired
5:23 21:8 32:4	conclusion	currently	16:1,13 18:1,17
Civ	25:5	9:10 14:10 22:25	19:20
37:12,16,21 38:1,7	confirm		determination
Civil	7:25 25:3	D	14:24,25
37:14	considered	D	determine
claims	24:17	3:1	15:16 17:2 33:21
6:23	contains	data	device
clarification	8:8	15:1,2 17:4,9,14,18	14:6 17:12,13,18,19
9:8	context	19:3 23:6 24:21	17:25 18:15 19:2,11
clarify	15:25 16:10 29:12	26:25	19:14,20 20:16 21:2
6:5 14:16 33:7	31:8	date	23:16,23 25:4 27:8
clean	continue	23:13	27:13 28:4,13 29:18
5:3,5	32:25	Dated	32:22,24 33:3,9,20
clear	continuing	36:4 38:9	34:3,9,12
9:13 22:16 23:5 34:2	19:18	Davis	devices
clearly	copies	4:19	15:25 16:12 18:1,16
29:11 31:24 33:13	7:1 25:14	decision	18:23,25
CO	copy	5:22 6:11	did
1:4	5:1,3,5,8 35:1	declaration	5:12 6:7,14 21:3 24:9
Code	correct	5:1,8,12,23 6:8,15,18	24:15 30:8,11 32:23
37:14	4:24 6:20,24,25 8:2	10:2 16:4,5,8 18:20	different
coming	12:16 16:19 17:15	18:24 19:6 20:5	6:6 24:20 26:21 27:1
23:11	17:20 18:5 19:23	21:7,17 29:5 32:5	28:8,9
comma	20:17,17,18 23:24	33:5	Ding
26:18	24:18 27:14 28:15	decoded	1:12 3:4 4:1,19,21
communicated	28:16 33:11,22	17:15,19	9:7 10:20 11:15
20:1	34:10	Defendants	20:22 32:12
company	correctly	2:13	direct
30:20	16:1,12 18:1,16	define	28:6
compensate	23:16 25:4 32:23	16:17	disclose
23:3	could	definitely	33:9
Completion	4:16 7:9,12,12 10:3,4	23:12	disclosed
38:3	10:11,14,16 13:20	deponent	10:21,23 11:20,22
computation	14:12,14 16:17	3:3 4:1 36:6 38:5	12:21 13:16

discloses 25:20	6:16 12:17 14:4,9 15:6 16:4 31:8	entire 15:13 31:20	13:14 14:23 20:15
disclosure 13:20 27:9 29:7,7	down 8:6	enumerate 24:10,16	EXAMINATION 4:13
discuss 24:2,7	download 7:16	equal 20:9,13 28:10	examined 3:3 4:1 37:15
discusses 24:5	downstream 31:13	equals 9:25 19:7,19 26:16 26:22	example 18:24 19:18,19 24:4
discussion 31:21	Dr 9:7 10:20 11:15 20:22 32:12	equation 8:1,2,3,4,25 9:16 10:22,23 11:20,20 11:22,23 12:20,22 12:23 13:16,20,22 13:24 14:3,18,18 15:4,7,9,11,12 17:10,23 18:11,12 18:14 19:4,5 20:13 20:25 21:5 22:13,20 22:24,24,25 23:2,7 23:7,15 24:5,17,18 25:17,18,21 26:7,15 27:10,17 32:16,19 32:21 33:2,3,11,19 33:25 34:7,10	executed 15:7
distinguish 8:19 9:2,17 10:9,25 11:11,25 12:24 13:25 14:6,19	duly 37:8,16	duration 19:3 26:24	EXHIBITS 3:9
distinguishes 13:17	during 38:6	D.C 2:21	experience 29:25 30:9
Distinguishing 14:22	<hr/> E <hr/>		explain 10:3 18:7,24 19:15 19:17 20:4
divide 15:18	E 3:1		explained 13:6,9 19:10 26:14 26:20,22 28:2
divided 19:8 26:17	easily 29:8,14 33:20		explaining 16:15 20:24 24:25 33:23
dividing 20:6 23:10	education 30:4,9	equations 32:3	expressed 15:4 22:12,20
division 19:7	effect 37:12	equivalent 17:3	expression 15:12 17:10
divisions 32:5	either 32:20	error 25:7	extent 9:24 10:8 11:14 13:11 15:10
do 4:8,11 5:1,3 7:21 8:3 8:11 16:21,23 17:5 17:25 29:21,23,25 30:2,5,14,16,18 35:2	ELECTRONICS 1:4	Esq 2:5,15,16	e.g 8:20 9:3,19 11:1 12:1 13:1,18 14:1,20
documents 5:16	emphasizing 28:3	established 9:23	<hr/> F <hr/>
does 17:8 24:2,2,6,22,22 27:21 32:18	employee 37:18	estimate 17:2	fact 31:20
doesn't 33:9	end 10:14 15:16	even 12:18 19:15 28:19	fair 20:23
doing 27:9 28:3	ends 24:5	everyone 4:4	far 31:3,11
done 19:11	ensure 8:17,25 13:7 29:18	evidence 4:8	February 1:14
don't	ensures 9:16 10:23 11:23 12:23	exactly 8:2,18 9:1,16 10:1,6 10:24 11:6,24 12:23	

Fed 37:12,16,21 38:1,7	5:20	16:3	21:12,13,21,22,22
feel 5:5,10,10 7:1 16:7 25:13	form 9:20 11:2 12:2,5 15:5 18:3,18 21:6 22:22 25:23 27:25 31:5,16 33:12	give 4:9 20:7 21:16	23:14,15,20,21 24:16 25:1,2,3,14 27:5,12,17 28:9,9 28:12,20 29:8,10,14 29:16 31:7,12,18 32:22 33:1,3,18,21 34:12,12,21 36:1
few 5:22	formula 7:22 8:25 13:24 15:3 15:24 16:10 17:23 22:12,19 24:5 31:12 33:10	given 19:6 38:1	having 9:24 10:14 20:5,8 21:25
field 26:9,9,10,12,12 29:19 33:15,24 34:1	forth 18:11	go 7:12 16:5 18:20 22:23,24 24:9 25:11 26:2 30:11 32:9	he 12:6 26:12,14
financially 37:20	forward 23:3	going 5:7 7:2 8:6 10:17 11:15 16:5 20:7,16 23:3 25:6,12 27:19 32:8	heard 14:7
first 7:16 9:21 13:3,3 16:16 19:5 37:16	Foundation 31:15	good 4:16,18 9:8	Hello 4:4
FISH 2:18	four 10:5,16	gotten 20:10 28:20	helpful 20:21
Floor 2:9	frame 15:1,2	grasp 31:25	here 4:22 5:3,4 10:4 12:17 15:11 19:15 21:13 24:12 26:16 27:12 29:9
focusing 16:5	free 5:5,10,10 7:1 16:7 25:13	Great 4:21	hereafter 36:1
folder 5:15	Friday 1:13	greater 26:18 31:3,11	hereby 37:6
follow 34:13	from 5:16 8:21 17:9 19:7 19:12,15,16,18 21:11 23:11 24:14 25:8 26:7,7 27:9	grounds 6:18	hereto 38:7
following 14:7 17:10 19:4 26:15	full 4:16 37:11	groups 30:22	holder 37:9
follows 4:2 19:21	further 19:12,17 23:3,4 26:25	<hr/> H <hr/>	honestly 6:16
for 2:3,13 4:17 5:9,14,15 5:15,20,25 6:2 11:10 12:11,13 14:25 15:15,15 16:16 17:9,17 18:24 18:24 19:20 21:14 23:3 24:4,18,20 25:9 27:1,5,20 30:20 33:17 34:1,3 34:9,21	<hr/> G <hr/>	had 21:17 29:22,25 30:6 30:24 31:2	hour 32:8
force 11:5 37:11	general 30:9,10	half 14:8	how 5:12 6:1,7,13,14,16 19:15 28:2 29:25 32:22 34:6,9,14
foregoing 36:1 37:23,24	generating 21:23	hand 4:7 20:12	However 19:23
forgot	get 13:14 19:22 21:15 32:23	harder 26:1	huge 32:3
	getting	has 8:16,25 12:3,5 22:7 23:18 24:6 29:12	<hr/> I <hr/>
		have 5:1,4,6,11 9:22 12:18 14:12,14 16:21 19:11 20:1,10,16,23	

identified 26:23	10:8 26:15 27:15 33:24	32:25 33:2,19,25 34:1	known 15:11 34:12
IEEE 8:17,19,19 9:2,3,18 9:18 10:9,25 11:1 11:10,25,25 12:25 12:25 13:8,17,17,25 14:1,19,20 15:1,25 16:10 17:17 30:21	inside 17:3 20:6	its 15:18 32:19 33:10	<hr/> L <hr/>
if 7:9,12,12 9:9,9,11 11:23 12:20,22 13:11,12 15:24 16:4 16:4,6,8,9 17:22 18:9,13,15 20:12 21:1,4 22:23 24:22 25:7 26:2,5 27:10 27:22 28:18 32:2 33:10 38:4	instead 24:7,23 27:11,22 28:11	itself 32:19	large 6:12
integer 11:5	INSTITUTE 1:7	it's 5:21,21 7:25 8:7 13:5 13:5 14:7 20:16 21:19 23:19 26:1,2 26:11 29:9	last 8:4
interested 37:21	into 5:9 7:5 16:3 25:9,12 27:19 28:18,19 30:11 31:22 32:23 33:19	I'll 9:12,12 12:12 14:16 22:15,15 26:2 34:15	later 24:17
invalidity 6:18	inventor 30:15	I'm 4:5 7:2,16 9:4,10 10:17 11:15 12:10 12:20 13:19 14:6 18:9,9 21:15 22:16 25:12 26:6 33:23	lead 22:13,20 25:18,21 32:16,19
inventor 30:15	inventors 29:22 30:6,12,16,20 30:23 31:1	I've 5:23 7:5 33:4	least 6:19,23 22:8
imagine 31:6	involving 4:23	<hr/> J <hr/>	led 21:13
implement 29:1	IPR 4:23 5:7	JAMES 2:5	Lee 21:10,15,17 22:8,11 22:12,18,18,23,25 23:4,17 24:2,4,6,9 24:15,18,22,25 25:9 26:20 30:6,7 32:13
implied 28:5	IPR2025-01069 1:6	JoAnn 1:14 37:6	Lee's 23:15
imply 27:1	issued 37:10	just 6:5,5 7:13,25 10:22 14:6 18:6 21:16,24 26:2 32:2 33:7	legacy 15:25 16:12 17:25 18:16,23,24 19:2,10 19:13,20 20:16 21:1 21:25 23:15,23 25:4 26:13,22 27:2,8,12 27:15,20 28:4,13 29:11,17 32:24 33:2 33:9,14,20,24 34:1 34:3,9,12
INC 1:8	it 5:4 7:4,16 8:5 9:15 9:23 10:14 11:10,12 11:13 12:5,18,21 13:10,12,15 14:4,9 14:10,12,14,24 15:15,25 16:12 17:1 17:4,8,12 19:12 20:18 21:21,22 22:7 23:19,21 24:7 25:3 26:16,25 27:9 28:5 28:5,12,17,19,23 30:23 31:1 32:15,23	<hr/> K <hr/>	length 9:25 18:15 19:7,19 19:25 20:2 26:9,10 26:12,16,23 28:2 29:19 34:1
include 26:25		KABAT 2:7	less 26:18
included 13:13		keyword 18:22	let 7:13 14:16 18:19,19 18:20 21:19
incorrect 20:8,10,25 21:4 22:13,20 24:24 25:18,22 27:23 28:18 32:17,20 33:10		KIM 2:16	let's
incorrectly 33:4		know 7:13 8:24 14:4 17:14 17:18,25 28:10 29:21,23,25 30:2,5 30:14,16,18 31:9 32:12 34:6,9,14	
indicate 24:20			
individual 30:12			
information			

22:11 32:9	look	matter	morning
LEUNG	7:9 12:18 26:5 32:3	4:9	4:16,18
2:16	33:18	may	most
leung@fr.com	looking	7:4 17:19 27:1	17:8
2:24	18:4 27:16 29:6,7	me	move
level	Los	5:4 7:13 8:24 9:4	19:13
29:21 30:4,5,8,14,16	2:10 37:4	12:14 14:5,16 21:16	Mr
30:24 31:2,3,23	lost	21:19 32:25 37:16	3:4 4:15,18,21 5:24
32:7	9:4	mean	9:20 10:17,19 11:2
light	lowest	12:17 14:4 16:17	11:15,17 12:2,4,9
8:23	26:24	29:23	12:19 15:5,22 18:3
like	LSYM	mention	18:5,8,18 20:20
15:19 16:6 19:1	19:13,14	17:8	21:6,8 22:5,22 24:1
20:10 28:8 34:25	LTD	mentioned	25:23 26:3 27:25
likely	1:4	11:18 24:4 25:10,16	28:22 29:3,20 31:5
25:6 27:19 28:17	L-6	mentioning	31:10,15 32:8,11
limit	33:15	16:15	33:12 34:4,15,16,17
12:4,9		might	34:18,21,23,24 35:1
limited	M	7:4	35:2
10:13 13:10	m	Milkey	much
Line	8:4,4,12,16 9:16,24	2:5 3:4 4:15,18 5:24	4:21 29:25
26:7	9:25 10:3,4,11,11	10:17,19 11:15,17	multiple
listed	10:12 11:5,19,20	12:4,19 15:22 18:5	8:18 9:1,17 10:1,7,24
29:21	13:5,10 15:17,19	18:8 20:20 21:8	11:6,24 12:24 13:7
literal	20:2,6,9,13 21:13	22:5 24:1 26:3	13:14 14:23 15:20
8:21	22:2 26:15,17,18,21	28:22 29:20 31:10	20:15 21:24 29:19
literally	27:2,6,6,22,22 28:8	32:8,11 34:4,15,17	31:21
12:21	28:10,11,12,24,24	34:23	multiplied
little	29:1,1,9,13	mind	19:8
14:17 32:13 33:6	made	16:5	multiply
live	38:5	minus	15:18
4:19	main	10:4,5 12:7 15:17	my
LLength	5:23 18:21,21	20:13,13 23:1,4,4	4:4,19 5:23 6:5,7,11
7:22 8:17 9:1,16 10:6	Maine	23:19 24:6,11 25:8	6:11,25 9:22 10:2,2
10:24 11:6,23 12:23	2:19	25:8,8,9 26:17,17	10:20 11:6,13,14,21
13:7,14,24 14:23	make	26:17 28:11,19 29:9	11:21 13:8,13 14:4
15:3,17,20,24 16:10	10:5,6,16 13:14	minute	16:4,5,9 18:13,20
17:13,20,22,24	22:16 32:15	7:17	18:24 19:6 20:5
18:12,13 20:8,14	making	minutes	21:7,7,16,17 24:9
21:23 22:2 23:1,9	20:14 29:18 34:1	34:16	29:4,4,4,5 30:9,9
23:10,22 24:8 26:9	many	modification	32:4 33:5,7
26:10,12,14 27:1	24:25 30:19	10:22	m's
28:20 31:12,21,22	MARKED	modifications	10:12 11:7
33:10,14 34:14	3:11	12:22	N
long	materials	more	n
5:6 6:14,16 10:11	5:6	9:13 32:5,18	

3:1 23:1,4,9,19,19 24:6,6,7,8,11,19,22 24:23 25:8,9,9 31:14 name 4:4,17,19 names 30:19 necessary 10:15 need 17:14 24:16 35:2 negative 10:4 24:11 28:11 Nevelson 4:20 NICHOLAS 2:15 no 1:6 4:6 6:10 24:9 30:2,8,18 32:5 34:21 NONE 3:11 nonlegacy 32:22 nonmultiple 28:21 nonresponsive 10:18 11:16 nor 37:19,20 not 8:18 9:1,5,16,24 10:1 10:6,11,15,24 11:5 11:6,10,13,19,24 12:5,7,10,23 13:4,7 13:10,14,19 14:7,11 14:23 17:1 18:9 20:14 21:23 24:9,9 24:15,25 27:7,15 28:4,20 29:1,10,17 29:19 30:2,8,11,18 31:7,7,19 32:23 35:2 37:18 38:4 note	12:13 nothing 4:10 now 20:5,16 nstephens@fr.com 2:23 NSYM 16:2,19,25 17:14,19 19:14 20:18 22:3 32:20 number 6:12 10:12,12 13:5 16:1,13,16,17,19,25 17:3,7,8,14,18 18:2 18:17 20:8,9 21:16 22:3,14,21 24:20 25:22 32:3 37:10 numbers 26:5 nutshell 27:14 n's 24:12 N-S-Y-M 16:19 19:14 <hr/> O <hr/> oaths 37:13 object 10:17 11:16 12:11 Objection 9:20 11:2 12:2 15:5 18:3,18 21:6 22:22 25:23 27:25 29:3 31:5,15 33:12 objections 12:5,10 objective 21:23 obtain 20:18 31:23 obtained 25:1 obtains	20:17 obvious 32:15 33:1 34:2 OFDM 17:3 off 21:4 32:9 34:24 OFFICE 1:1 officer 4:4 5:18 34:25 37:22 OFFICER'S 37:1 office's 5:21 often 28:14 Oh 6:10 okay 5:5,25 6:5,10,14,17 6:22 7:1,8,9,18,20 7:21,24 8:6,14,14 8:23 9:7,21 10:17 11:15 13:15 14:13 14:16,21 15:23 16:21 17:5,11,17,22 18:21 20:21 22:6,10 24:2 25:10 26:2,5 27:21 28:23 33:6 34:15,17,23 on 6:19 8:6,7 15:9 16:5 19:6,13 20:4,8,12 24:17 25:12 30:12 34:3,6,9 once 20:17 one 10:16 14:25 15:24 16:9 19:23 20:12 21:22 26:24 27:12 27:19 28:18 29:8 33:18 only 13:12 28:9	oOo 35:5 operate 18:25 operation 20:5 27:2,8,12,16,20 28:4,13 29:10,17 operator 15:9 20:6 23:9 opinion 10:2 28:23 29:4 opinions 32:14 opportunity 25:3 opposed 24:12 or 7:4 9:5,24,25 10:4,4 10:5,13 11:5,7,10 11:13,18,20 12:7,7 13:4,5,5,6,10,11 14:6,11,11,23 15:19 15:19,23 16:2,25 17:2 19:13,24 20:3 20:9,13 22:14,21 24:6 25:8,22 26:10 26:18 30:9,9,15 31:19 32:20 37:13 37:18,18,18,19,20 order 34:25 35:2 ordinary 23:14,20 28:7,17 29:6 30:10,24 31:4 31:11,19,25 33:17 33:18 34:5,8,11 other 11:19 15:19 18:10 20:12 31:7 32:2 otherwise 27:10 our 31:21 out 5:3 12:6 21:16
--	---	---	---

outlined 29:5	period 38:6	14:22 24:2	provide 17:19 30:3
over 10:3 33:22	person 21:11 22:8 23:11,14	possible 10:12 13:9 14:24,25	provided 5:15 17:24 18:15
overestimate 21:14	23:20 24:15 25:2	15:15,20 23:21	22:25 26:9 27:14
own 25:5	27:4,16 28:7,7,17	26:21 30:23 31:1	28:2 29:13 33:24
Owner 1:9	29:5,14 30:10 31:11	potential 6:13	38:6
	31:18,25 33:1,17	preparation 5:14	provides 17:13 31:13
<hr/> P <hr/>	34:2,5,8,11	prepare 5:12 6:7	providing 23:23 27:18 28:3,14
P	personally 29:24 30:18	prepared 6:1,13	28:15
37:12,17,21 38:1,7	perspective 24:14	preparing 6:15	provision 15:4
Pacific	petition 24:20	prevent 15:20	provisional 6:24 7:3,10 8:15,22
1:13 35:3	Petitioner 1:5	previously 9:9	8:23 9:10 10:21
packet	Phillips-Blackwell 1:15 4:5 37:6	printed 5:3	11:23 12:21 13:16
17:4 23:6 24:21	Ph.D 1:12 3:4 4:1	prior 5:22,23 6:13,19	13:25 16:19 17:6,12
26:24	Plaintiff 2:3	14:14 21:3,8,10,11	18:6 19:1,25 21:9,9
page	please 4:7,16 12:4 34:16	23:13 26:8 30:20	21:15,19 22:9,17,19
3:3 8:6,7,8,8 19:6	plus 12:7 13:5,10,11 19:8	32:4 37:15	23:18 25:11,16,20
20:4 26:2,5,6,8	19:9,24,24 20:2,6	priority 6:23 23:13	26:8 27:21 28:1,16
paragraph	23:9,9,19 25:9	problem 15:7 21:24	29:9,13,15,22 30:17
7:13,18,19,21 8:7,9	27:18 28:11,19	problems 15:3	31:2 32:14,19,21
9:6,23 17:6,11 18:5	29:13	Procedure 37:15	33:8
18:6,10,11,20,23	plus/minus 10:13,13,15 11:7,8	proceed 20:18	provisional's 9:15 17:23 25:18
19:15,19 20:24	11:18 13:6,6	proceeding 4:23 5:2,13,14 6:8,15	32:16
22:24 23:5 24:5	pointed 12:6	process 6:11	PTAB's 5:17,19
26:2 33:15,15	portion 22:11,18 25:20	processor 15:8,11,16	pursuant 37:14
part	POSITA 32:15	properly 27:9	put 33:19
5:7 6:19,23 8:4 13:3	positive 10:3 21:13 24:13	proposed 31:3,12	putting 23:1 27:5,11,11
15:7	27:6		p.m 35:3
participated	possibilities 10:5 24:10,16		<hr/> Q <hr/>
30:21	possibility		Q
particular			4:16,21 5:1,5,25 6:5
13:4 14:24 17:1,4			6:14,17,22 7:1,8,12
18:10 19:13 29:6			7:19,21,24 8:2,6,11
parties			8:14,23 9:7 10:20
37:19			
pass			
34:15			
patent			
1:1,2,9 4:23 5:16,17			
5:19,21 6:12 23:13			
patents			
30:12			

11:18 12:20 13:15 13:22 14:13,16 15:3 15:23 16:7,12,18,21 16:24 17:5,11,17,22 18:9 20:21 22:6,10 24:2,22 25:10,16 26:4 27:21 28:23 29:21,25 30:5,14,23 31:11 32:12 33:6 34:5	reasons 27:5 recall 6:16 received 20:8 25:25,25 receiver 10:9 17:2,13,18,24 18:1,15,16 19:2,11 20:1,11,17 21:25 26:23 27:3,20 29:11 32:22	32:14 relative 37:18,19 rely 6:19 remotely 1:12 repeat 10:14 12:14 13:20 rephrase 9:12 reporter 4:6 5:10 37:9 38:6 Reporters 37:11 reporter's 12:17 requested 38:4,5 response 29:4 result 20:25 24:24 27:23 resulted 23:15 results 31:13 32:17 review 6:12 38:3 reviewed 5:16,22 6:12 reviewing 23:17,18 re-ask 22:15 RICHARDSON 2:18 right 4:7 6:3 11:11 18:12 18:19 19:21,22 27:6 33:13,16 rules 12:11 run 27:19 28:18 RUSS	2:7 RXTime 19:7,12,12,16,20 20:15,18 21:1,1,3 21:14 22:3,14,21 23:16,24 25:1,4,7 25:19,22 28:18 31:14,24 32:20,23 32:24 33:3,9,20,22 34:3,6,9,13,14
qualified 37:8 question 6:5,7 9:12 10:20 11:4 11:9,12,21 12:8,11 13:4,19 14:3,5,7,8 16:9 18:13,23 22:16 33:7 questioning 9:22 questions 12:12,15 34:21 quickly 33:21	receiver's 27:15 receives 17:4 recess 32:10 34:20 recognition 23:17 recognize 21:3 28:12 recognized 22:7 23:14,21 29:8 29:14 recognizes 21:21 recollection 24:9 record 4:17 5:7 12:13 32:9 34:24 37:24 recorded 37:23 refer 5:5,10 7:1,4 16:7 25:13 26:1 reference 6:20,23 17:6 30:6,24 32:13,14 referring 8:1 16:22 18:9 26:11 refers 16:19 regarding 6:1 11:21 31:21	rephrase 9:12 reporter 4:6 5:10 37:9 38:6 Reporters 37:11 reporter's 12:17 requested 38:4,5 response 29:4 result 20:25 24:24 27:23 resulted 23:15 results 31:13 32:17 review 6:12 38:3 reviewed 5:16,22 6:12 reviewing 23:17,18 re-ask 22:15 RICHARDSON 2:18 right 4:7 6:3 11:11 18:12 18:19 19:21,22 27:6 33:13,16 rules 12:11 run 27:19 28:18 RUSS	<hr/> S <hr/> said 11:12 15:19 26:12 same 14:8 20:5 21:22 26:23,23 33:15 36:2 Samsung 1:4 5:15 21:18,19 say 13:11 28:8,11 saying 14:10,11 16:14 says 8:4 9:15 11:20 26:25 scope 18:3,18 21:6 22:22 25:23 31:5,15,20 33:7 second 8:8 14:8 21:16 Section 37:15 sections 16:6 see 7:7,21 8:3,5,11 17:5 17:16 20:23 21:19 selecting 15:19 selection 26:21 sentence 8:11 session 35:3
<hr/> R <hr/> R 37:12,16,21 38:1,7 raise 4:7 6:18 rate 26:25 rather 23:19,22 28:10 rationale 28:16 reaching 25:5 read 36:1 reading 27:4 really 32:6 reason 21:14	<hr/> R <hr/> R 37:12,16,21 38:1,7 raise 4:7 6:18 rate 26:25 rather 23:19,22 28:10 rationale 28:16 reaching 25:5 read 36:1 reading 27:4 really 32:6 reason 21:14	<hr/> R <hr/> R 37:12,16,21 38:1,7 raise 4:7 6:18 rate 26:25 rather 23:19,22 28:10 rationale 28:16 reaching 25:5 read 36:1 reading 27:4 really 32:6 reason 21:14	<hr/> R <hr/> R 37:12,16,21 38:1,7 raise 4:7 6:18 rate 26:25 rather 23:19,22 28:10 rationale 28:16 reaching 25:5 read 36:1 reading 27:4 really 32:6 reason 21:14

set 28:7 30:13 31:18	slightly 6:6 9:4,12 26:1 33:22	31:17	strike 13:22 15:23 22:15 24:3 30:15,25 34:7
sets 18:11	small 15:17 20:9 25:7	spend 6:14	submitted 5:2 6:8 30:1,6
shall 4:9,9	so 5:3 6:1,5,11 7:9,9 8:15,23 9:4,7,9,12 10:11,15,20 11:3,15 11:18,21 12:12,17 12:20 13:3,13,20 14:16 15:7,10,15 16:4,9 17:13,22 18:21 19:5,10 20:10 20:23 21:11,16,17 22:7,11 23:11 24:4 24:25 26:1,2,5,20 26:20 27:4,14 28:4 28:14 30:11 32:12 33:17 34:5	spirit 20:14,14	subsequent 24:24 27:23
shorthand 4:6 37:8	solemnly 4:8	ss 37:3	substance 9:11,14 16:4
should 28:24,24,25	solution 29:1	standard 18:25 30:21 34:13	substituting 31:22
shown 8:12,16 23:7 33:4	some 11:7 32:17	STANDARDS 1:7	subtract 15:18 24:8,23
shows 23:4 26:16	someone 14:5,11	stands 5:20	subtracted 27:22 28:24
sign 27:18 28:19,19	something 14:12 28:11,14 32:17	start 22:11	subtraction 23:2,22 24:13,18 25:1 27:6,7,11 28:3
signal 33:15,24 34:1	sorry 5:19 7:18 19:14 25:8 25:24 30:25	starting 8:11 22:18	subtractions 32:6
signals 28:16	sort 24:25	state 4:8,16 37:3,9	such 10:11 37:20
Signature 36:6	speaking 12:9	stated 15:8 29:11	suggested 23:18 24:19
signing 36:1	specific 10:20 16:6 18:13 32:18	statement 8:21 9:10,11	suggestions 33:19
simple 31:23	specifically 11:21 15:10 18:9 24:10 26:18 30:11 32:18	statements 9:6	states 1:1 9:23,23 11:9 17:12 27:1
simply 13:9 31:24	specifies 28:24	stenographically 37:23	step 19:5
since 31:8 32:25 34:12	speculate	step 19:5	Stephens 2:15 9:20 11:2 12:2,9 15:5 18:3,18 21:6 22:22 25:23 27:25 29:3 31:5,15 33:12 34:16,18,21,24 35:1 35:2
situation 24:7		still 8:7 13:8 20:13 28:20 28:20	Suite 2:20
skill 22:8 23:12,14,20 25:2 27:4,16 28:7,7 28:17 29:6,14,21 30:5,10,13,14,16,24 31:2,4,12,18,19 32:1 33:1,18 34:2,5 34:8,11		straight 22:24	sure 10:6 20:14
skilled 21:12 24:15		straightforward 28:6	SW 2:19
skills 30:4 31:7,24			sworn 4:1 37:16
slash 26:6			symbol 16:25
			symbols 16:2,13,16,17 17:3,7 17:9,14,18 18:2,17 22:4,14,21 25:22 31:14
			<hr/> T <hr/>
			take

7:9,17 11:7 34:16	13:12,14 15:13	14:7 15:8 18:21	8:20 9:3,18 10:10
taken	16:14 19:10,14	28:8 33:6	11:1,11 12:1,25
1:12 32:10 34:20	20:21 21:18 22:23	thinking	13:18 14:1,20
taking	26:10,10 28:11,20	28:10	transmitted
15:18 23:10	31:7,7 33:23	this	23:7 24:21
talked	their	4:9 5:12 6:8,15 10:5	transmitter
21:25 32:12	14:6 25:5 30:3,8,8,9	10:8 12:3 13:4,7	15:14,16 17:1,12,19
talking	30:12	15:16,23,24 16:10	19:3
12:6 22:16	them	21:3,24 23:2,5,11	TRIAL
teach	7:7 24:17 26:24	24:11 25:6 26:8,20	1:2
24:22 27:21 32:19	29:23 30:2,18 31:9	27:7,9,10,16,17	tried
teaches	32:4	28:15 29:6 30:1,1	29:8
8:16 22:12,18	then	32:2 34:14 37:21	true
teaching	8:6 9:24 11:9 15:11	those	20:2 37:24
9:15 25:17 27:18	15:15 17:5,17,24	7:5 19:1 21:9 32:15	truth
29:15	18:15 19:19 20:15	though	4:9,10,10
TECHNOLOGY	21:24 24:17 25:10	28:19	try
1:8	26:12,17,22 27:11	thought	28:8
tell	28:3 33:25	6:3	trying
14:25 31:9	there	three	7:16 21:15
tells	5:16 6:10 7:14,15,22	26:25 27:1	TSE
15:12	8:3 10:16 15:3 17:6	time	17:20
ten	26:7	1:13 6:10 15:13	Twelfth
34:16	therefore	16:16 20:11 23:6,12	2:9
terminology	8:18 9:2,17 10:25	35:4	two
16:16	11:24 12:24 20:4	times	12:15 21:8,11 26:7
test	22:3 23:16,23 24:11	26:17	TXTime
25:3 33:2	24:14 25:5 28:5	timetables	15:10,13,17 17:13,20
testified	30:2	24:20	26:16
4:2	Theresa	today	
testify	1:14 4:5 37:6	4:23 5:6	U
4:22	there's	today's	unaware
testimony	8:11 19:5	5:14 6:2	22:1,1
37:23 38:1	these	top	understand
than	9:5 21:11,11 26:21	15:9 20:4 26:8	4:22 6:17,22 13:2
11:19 18:10 23:19,22	31:24 32:4,6	total	14:10 15:6 16:18
28:10 31:3,11 32:5	they	17:2 26:7	24:14
thank	21:21 24:18 25:6	totally	understanding
4:21 5:25 7:8 9:7	29:25 30:1,6,20	28:6	6:25 16:21
14:16,21 20:19,21	31:6,6,18	trademark	understood
22:10 25:15,24	they're	1:1 5:20,21	16:14 21:12 27:5
34:18,19	5:7 32:5	transcript	unit
than/equal	thing	37:24 38:4	17:9 19:3
26:18,19	9:21	transmission	UNITED
that's	think	15:1	1:1
6:3,13 9:7,8 11:14	7:25 9:21 11:9,12,14	transmissions	up

10:14	1:13 2:6,17 26:15	5:18,20,20 6:3,7 9:23	8:7 23:8 28:6,6 31:25
upload	view	10:21,23 11:19,22	without
5:8 7:2 25:12	23:11,17	13:12 15:12 16:17	10:14,22 12:22 27:2
uploaded	visit	16:21,24 19:10,10	witness
7:5 25:25	23:6	22:11,18 23:18	4:11 5:19 9:21 11:3
us	vs	25:20 29:12,21 30:3	12:14 15:6 18:4,19
18:19,20,20	1:6	30:5 33:4,23	21:7 22:23 25:24
use		when	28:1 29:4 31:6,17
14:25 15:8,24 16:9	<hr/> W <hr/>	7:13 9:15 10:14	33:13 34:15,19,22
23:21 27:10 33:2	W	14:24 15:23 19:12	37:16 38:1
34:14	2:15	19:19,23,24 22:2,3	witness's
used	want	23:17 29:25 30:6	12:12
8:18 9:2,17 10:25	13:11 16:8 18:6	where	word
11:10,13,24 12:24	32:17,25 33:7	8:4 9:25 23:8 24:6	15:8 18:22
13:25 14:3,11,12,19	was	26:8 29:1,9	words
21:1 26:13 33:11,20	4:1 5:14 6:1,3,6,7,10	whether	24:25
useful	9:9,10 11:14 13:8	9:4,5,24 10:20 11:5	work
11:13	14:11 16:14,14 17:1	11:10,12 13:4,5,5	6:11 30:20
uses	19:5 31:3 37:16	13:20 14:4,5,10,22	working
14:5 15:9	38:4,4	15:1 17:25 24:11	30:21
using	Washington	31:18,22 32:15	would
18:22 19:3 21:12	2:21	which	8:24 9:14,25 10:15
23:15 24:3 26:14	wasn't	5:8 7:2,10,18,18	13:15 15:25 16:12
27:18	14:9	20:16 24:5,7 33:4	17:25 18:16 19:2,11
usually	way	37:11	19:12,20,22,23 20:1
25:2	13:4 25:11 31:18	whole	20:7,10,16,25 21:4
	we	4:9	21:12,13,21,22,22
<hr/> V <hr/>	9:22,22 16:3,5 21:24	whom	22:13,20 23:14,15
value	22:23,24 25:11 26:5	14:4	23:20,21 24:7,12,16
8:12,16 9:15,24	27:10 34:16,21 35:2	why	24:19,23 25:1,2,3,6
10:11 11:18 13:7,10	welcome	16:14 20:24 28:9,9	25:6,18,21 27:5,7
17:1 19:24 20:18	32:12	31:11,17	27:12,15,17,22 28:2
24:6,19 27:2 28:25	well	will	28:4,8,9,9,12,17
29:2,19 33:21	6:10 9:21 12:12	7:16 10:6,12 12:9	29:7,10,14,16 31:11
values	13:12 21:15 31:25	13:6,13 33:14	31:21 32:15,16,19
26:21	went	Wilshire	32:22 33:1,3,10,18
various	33:6	2:8	33:21 34:5,8,12,12
24:10	were	WILUS	34:13,25
version	6:3 9:6 15:24 16:9	1:7	wouldn't
5:11	17:22,24 18:13,15	with	21:4
versus	24:18 28:18 33:11	5:4,6 6:11 8:12,24	wrong
15:2	we're	9:11,14 10:1,15	31:13
very	18:4,4	15:3 22:11,18 23:23	
4:21 20:21 28:5,14	we've	26:15 27:6 29:13	<hr/> X <hr/>
29:8 31:24	32:8,12	30:3 31:25 33:2	X
via	what	within	3:1

Y	Yu	20:3,9,13 24:6,19 25:8 26:22	34:10
yeah	21:9,9,15,18 22:9	10:36	20
5:21 6:16 7:7,19 8:5	25:10,16,20 26:8,20	35:3	15:17 19:9 26:17
11:3 12:20 13:22	27:10,14,17,21 28:1	1000	20024
16:7 21:17 26:4	28:16,23,25 29:9,10	2:19,20	2:21
yes	29:11,15,22 32:13	1003	2012
4:18,25 6:21 7:11,20	Y-u	5:9 6:9	23:12
7:23 8:2,5,10,13,22	21:9	1006	202
11:7,12 13:8,8	Z	7:3	2:22
16:11,20 17:8,16,21	Zhi	1007	2026
22:7 34:11	1:12 3:4 4:1,19	7:6,10,13	1:14 38:9
you	Zoom	1018	2093(b)
4:8,8,16,21,22 5:1,2	1:13 2:6,17	21:18 25:12	37:15
5:6,6,11,12,25 6:1,3	o	1020	240
6:7,8,14,17,18,22	o	21:20 25:11,12,16	19:19 20:5
6:22 7:8,9,9,12,12	24:6,19 26:18,22	1026	2603
7:15,21 8:3,11,15	28:10,25 29:2	26:1	4:20
8:24,24 9:4,7,11,14	0051	11	27
10:3,11,14 11:7,7	7:19,20 33:16	26:7	1:14
11:12,18 12:17	0057	12	28
13:11,13,15,20 14:5	19:15	26:5,6,6	37:21
14:8,16,21 16:4,4,8	0078	12424	28(a)
16:17,17,18,21 17:5	22:25	2:8	37:17
17:25 19:22,24 20:7	059	12700	28(a))
20:10,19,21,23	6:24 7:5,6,10,22 8:15	1:15 4:6 37:10	37:12
22:10 24:4,22 25:1	9:15 10:22,23 11:22	16	3
25:5,7,10,14,15,16	12:21 13:16,25	26:6,6	3
25:24 27:22 28:2,9	14:19 15:4 16:18	19	8:18 9:1,17 10:1,7,11
28:9,10,20,25 29:21	17:6,11,23 18:10,14	8:8	10:24 11:6,24 12:24
29:23,25 30:3,5,14	19:1,25 22:19 25:17	2	13:14 14:23 15:18
30:16 31:9 32:2,25	32:16,18	2	15:19,21 19:8,8
34:18,19,25	059's	8:1,2,3,4,4,25 9:16	20:6,15 21:24 22:24
your	20:25 21:5 25:21	9:25 10:4,5,13,22	22:24 23:2,2,4,7,9
4:7,16 5:8,12 6:15,18	34:10	10:23 11:8,18,20,20	23:10 24:5,17 26:17
9:22 11:4,9,12 12:4	077	11:20,22,23 12:7,20	26:17 28:21 29:19
13:3 16:7 20:24	4:23,25 5:17 15:8	12:22,23 13:5,6,10	31:22
25:25 28:23 31:3	23:13	13:11,12,16,24	30(e))
32:14	1	14:18 15:4,7,12,19	38:7
you'd	1	17:24 18:11,14	30(f)(1))
16:6	8:4 9:25 10:4,4,13	19:24 20:3,9,13,25	37:17 38:2
you're	11:7,18,20 12:7	21:5 22:13,20 24:6	310
4:22 7:14 8:1 11:4	13:5,6,10,10,12	24:19 25:8,18,21	2:11
12:11,15,15 14:4,10	15:19 17:10 19:24	26:19,22 28:10,25	320
14:11 16:15,15		29:2 32:16,19 33:11	17:14,18
18:22,22 32:25			344

19:22 20:16 348 20:7	10:25 11:25 12:25 13:17 14:1,19 15:2 15:25 16:10 17:17		
<hr/> 4 <hr/>	820.11ac 15:2		
4 3:4 15:18 19:8 26:17	826-7474 2:11		
40 19:6	86 23:5		
41 20:4	<hr/> 9 <hr/>		
48 17:6	9:02 1:13		
<hr/> 5 <hr/>	90025 2:10		
5 10:15 32:21			
51 7:13,21 8:7,9 9:6,23			
52 17:11			
57 18:5,6 19:19			
<hr/> 6 <hr/>			
67 18:20,23 20:24			
<hr/> 7 <hr/>			
7 23:7 24:18			
78 24:5			
783-5070 2:22			
<hr/> 8 <hr/>			
802.11 11:10 30:21 31:8			
802.11ac 8:19 9:3,18 10:10 11:1,25 12:25 13:18 14:1,20 18:25 19:11 19:20 21:1			
802.11ax 8:17,19 9:2,18 10:9			