

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

JUMIO CORPORATION,	)	
	)	
Petitioner,	)	IPR2025-00106;
	)	IPR2025-00107.
v.	)	IPR2025-00108;
	)	IPR2025-00109
FACETEC, INC.,	)	
	)	
Patent Owner.	)	PAGES 1 - 77
	)	
_____	)	

DEPOSITION OF DR. CHRISTOPHER DAFT
Friday, August 29, 2025
LOS ANGELES, CALIFORNIA

STENOGRAPHICALLY REPORTED BY:
LINDSAY A. STOKER, RDR, RMR, CRR, CRC
CA CSR No. 14373
Job No.

Henderson Legal Services

202-220-4158

www.hendersonlegalservices.com

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD
3

4 JUMIO CORPORATION,)
5 Petitioner,) IPR2025-00106;
6 v.) IPR2025-00107.
7 FACETEC, INC.,) IPR2025-00108;
8 Patent Owner.) IPR2025-00109
9)
10)
11)
12)
13)
14)
15)
16)
17)
18)
19)
20)
21)
22)
23)
24)
25)

Deposition of Dr. Christopher Daft, taken on behalf of
the Patent Owners Pursuant to Notice at the offices of
Morrison Foerster, 707 Wilshire Boulevard, Los Angeles,
California, commencing at 9:04 a.m., on Friday,
August 29, 2025, before Lindsay Anne Stoker, an NCRA
Registered Diplomate Reporter, Registered Merit
Reporter, Certified Realtime Reporter, Certified
Realtime Captioner, and Certified Shorthand Reporter No.
14373 in and for the State of California.

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

A P P E A R A N C E S
--oOo--

APPEARING ON BEHALF OF THE PETITIONER JUMIO CORPORATION:

MORRISON & FOERSTER LLP
BY: KYLE W.K. MOONEY, ESQ.
250 West 55th Street
New York, NY 10019-9601
Telephone: (212) 336-4092
Email: Kmooney@mofo.com

MORRISON & FOERSTER LLP
BY: MEHRAN ARJOMAND, ESQ.
707 Wilshire Boulevard
Los Angeles, CA 90017-3543
Telephone: (213) 892-5630
Email: Marjomand@mofo.com

MORRISON & FOERSTER LLP
BY: JEAN NGUYEN, PH.D., ESQ.
707 Wilshire Boulevard
Los Angeles, CA 90017-3543
Telephone: (213) 892-5295
Email: Jnguyen@mofo.com

APPEARING ON BEHALF OF THE PATENT OWNER FACETEC, INC.:

FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER LLP
BY: CHRISTOPHER C. JOHNS, ESQ.
901 New York Avenue, NW
Washington, DC 20001-4413
Telephone: (202) 408-4155
Facsimile: (202) 408-4400
Email: Christopher.johns@finnegan.com

4

1 INDEX

2 WITNESS: DR. CHRISTOPHER DAFT

3 PAGE

4 EXAMINATION BY MR. JOHNS 6

5

6

EXHIBITS

7

8 NUMBER DESCRIPTION PAGE

9 EXHIBIT 2032 Christopher Daft, Transcranial 31
10 Focused Ultrasound (TFUS) System
11 Configured with Simplified Probes,
12 U.S. Patent Application No.
18/879,120, Pub. No. 2025/0121215 A1
(filed Oct. 8, 2024, published Apr.
17, 2025).

13 EXHIBIT 2033 Christopher Daft, Wearable Closed 33
14 Loop TUS System, U.S. Patent
15 Application No. 18/879,121, Pub. No.
2025/0161718 A1 (filed Oct. 14, 2024,
published May 22, 2025).

16 EXHIBIT 2034 Howe v. Speedway LLC, No. 52
17 1:19-cv-01374, 2024 WL ____ (N.D. Ill.
18 Sept. 29, 2024) (memorandum opinion
and order by Judge Edmond E. Chang).

19 EXHIBIT 2035 Plaintiff CPC Patent Technologies 60
20 Pty. Ltd.'s Motion to Exclude the
21 Testimony of Dr. Christopher Daft,
CPC Patent Techs. Pty. Ltd. V. HMD
Global OY, No. 6:21-cv-00166-ADA
(W.D. Tex. Mar. 10, 2023).

22

23

24

25

1

PREVIOUSLY MARKED EXHIBITS

2

NUMBER

PAGE

3

EXHIBIT 1003

14

4

EXHIBIT 1004

12

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

1 LOS ANGELES, CALIFORNIA

2 Friday, August 29, 2025, 9:04 a.m.

3 DR. CHRISTOPHER DAFT,

4 called as a witness, having been first duly

5 sworn, was examined and testified as follows:

6 EXAMINATION

7 BY MR. JOHNS:

8 Q. Good morning, Dr. Daft. I'm Chris Johns, as I
9 already said. I am an attorney for FaceTec. Could you
10 just state your full name for the record?

11 A. **I am Christopher Mark William Daft.**

12 Q. So it is nice to meet another Chris.

13 A. **Yeah.**

14 Q. Have you been deposed before?

15 A. **Yes, I have.**

16 Q. How many times?

17 A. **I believe it is 14.**

18 Q. 14. Okay. So I'm just going to go over a
19 couple housekeeping items you are certainly familiar
20 with.

21 I will be asking questions today; you will be
22 providing answers. We have our court reporter, and a
23 transcript will be prepared. So, of course, you know,
24 to help her understand your answers, clear verbal
25 answers are going to be important. Things like "Uh-huh"

1 or "Unh-unh" may not be transcribed properly. So we
2 will just agree to clear full answers. Is that all
3 right?

4 **A. Yes.**

5 Q. If you don't understand any of my questions,
6 please ask me and I'm happy to clarify. Is that okay?

7 **A. Yes.**

8 Q. Okay. If I ask you a question and you do
9 answer it, it will be understood that you understood the
10 question. Is that fair?

11 **A. That's fair.**

12 Q. Okay. And, again, you have been through a lot
13 of these. Your counsel may object to a question. But
14 you are generally required to answer that question.

15 **A. Yeah, I understand.**

16 Q. Okay. And you understand that you are under
17 oath today?

18 **A. I do.**

19 Q. Okay. Is there anything that's going to
20 prevent you from providing full and truthful answers
21 today?

22 **A. Nothing.**

23 Q. Okay. We can take breaks every hour. But if
24 you need a break, of course, just let me know. I am
25 happy to take a break. If I am asking a question, I ask

1 that you finish the answer to that question before we
2 take a break. Is that all right?

3 **A. I understand, yeah.**

4 Q. Okay.

5 MR. MOONEY: Counsel, before we get into it, I
6 think the witness prefers a break every hour.

7 MR. JOHNS: Yeah. Again, let me know if that
8 changes.

9 BY MR. JOHNS:

10 Q. And during those breaks every hour or whenever,
11 you may not discuss the substance with counsel. Is that
12 understood?

13 **A. That is understood.**

14 Q. Did you do anything to prepare for this
15 deposition?

16 **A. I did.**

17 Q. What did you do to prepare?

18 **A. I reviewed a number of documents, and I had**
19 **meetings with retained counsel.**

20 Q. Did you meet in person or remotely?

21 **A. Both.**

22 Q. Did you meet with Kyle here?

23 **A. Yes.**

24 Q. Did you meet with any others?

25 **A. With Gene.**

1 Q. Okay. About how many hours did you spend
2 preparing for this deposition with your counsel here?

3 A. **About 15 hours in total.**

4 Q. Okay. And you said you reviewed some documents
5 during your preparation; is that right?

6 A. **Yes.**

7 Q. Okay. Which documents did you review, if you
8 recall?

9 MR. MOONEY: I will object and instruct the
10 witness not to respond based on attorney-client
11 privilege.

12 MR. JOHNS: I'm sorry. I couldn't hear that
13 last part of what you said.

14 MR. MOONEY: I will instruct the witness not to
15 respond based on attorney-client privilege as to the
16 selection of documents he reviewed.

17 MR. JOHNS: Okay.

18 MR. MOONEY: I mean, shouldn't be surprised if
19 you want to ask about the petition. That's fine.

20 BY MR. JOHNS:

21 Q. I am not asking about any particular
22 communications you had with counsel. I am just asking
23 in your own time you had reviewed any documents.

24 MR. MOONEY: Do you understand the question?

25 THE WITNESS: I understand the question. I

1 reviewed my declaration and the prior art and possibly
2 some other relevant documents.

3 BY MR. JOHNS:

4 Q. Okay. How long did you take to review them?

5 A. **Maybe 10 hours.**

6 Q. Okay. Have you done any work for Jumio
7 Corporation before these cases that we're talking about
8 today?

9 A. **No.**

10 Q. Are you familiar with iProov?

11 A. **I first heard of iProov when I was reviewing**
12 **the institution document a couple of days ago. And I**
13 **didn't understand the context of what the judge was**
14 **writing about, I think.**

15 Q. So just to go back to your answer, you said you
16 first heard of them when reviewing the institution
17 decision a few days ago?

18 A. **That's correct.**

19 Q. So you had not reviewed the institution
20 decision before a few days ago?

21 A. **That is correct.**

22 Q. Okay. And you have not worked for iProov in
23 any way?

24 A. **No.**

25 Q. Have you done any work for FaceTec?

1 **A. No.**

2 Q. Have you worked for any companies that provide
3 biometric security systems before, again, for these
4 cases?

5 **A. I have.**

6 Q. Okay. Which companies are those?

7 **A. I did technical consulting for Qualcomm on**
8 **biometric security.**

9 Q. Uh-huh. Okay. So did you personally work on
10 any biometric security systems while you were working
11 for Qualcomm?

12 **A. Yes. I was a consultant to Qualcomm. There**
13 **was a group that was developing a cell phone biometric**
14 **security system, and so I was contributing to that.**

15 Q. Okay. What were your contributions to that
16 biometric security system for cell phone?

17 **A. I was providing them with technical analysis**
18 **and solutions on transducers, on the physics of waves**
19 **and signal processing.**

20 Q. Okay. For the transducers, what sort of
21 biometric systems were the transducers used in?

22 **A. The transducers were generating ultrasonic**
23 **waves that were transmitted into the finger, and this is**
24 **a superior way of getting fingerprint information**
25 **compared with what's previously been on the market.**

1 Q. Okay. So you worked at Qualcomm for
2 fingerprint analysis and authentication?

3 A. **That's correct.**

4 Q. Okay. Have you worked for any other companies
5 that provide biometric security systems other than
6 Qualcomm and Jumio in this case?

7 A. **I have done -- I have been an expert witness on
8 a case that was also involving biometric security.**

9 Q. Okay. Other than for the case, have you worked
10 for any other companies that do -- that work on -- that
11 provide biometric security systems?

12 A. **When I worked at General Electric, I was
13 involved in a project that was also fingerprint related.
14 That was for a military application through Lockheed
15 Martin.**

16 MR. JOHNS: Okay. I'm going to hand you a
17 document. It is marked as Jumio 1004 in the bottom
18 right.

19 (Exhibit No. 1004 identified.)

20 BY MR. JOHNS:

21 Q. Do you recognize this document?

22 A. **I do.**

23 Q. What is this document?

24 A. **This is my CV.**

25 Q. Okay. And it is your CV as of the date that

1 these proceedings were filed; is that right?

2 **A. It's my CV as of the date that I signed the**
3 **declaration.**

4 Q. Okay. Thank you. On -- if we can turn to page
5 8, about halfway down, you see where it says "General
6 Electric Company"?

7 **A. Yes.**

8 Q. I think, just before this, you mentioned you
9 had worked on a project with Lockheed Martin that was
10 related to fingerprints; is that right?

11 **A. That's right.**

12 Q. Is that mentioned in your CV here?

13 **A. It's not.**

14 Q. Is there a reason that it was omitted?

15 **A. Yes. In order to keep my CV to a reasonable**
16 **length, I have only listed the things that I spent -- I**
17 **mean, I worked for GE for 10 years. These are the**
18 **things that I spent most of my time on.**

19 **This fingerprint project was a smaller thing;**
20 **so I didn't include it in my CV.**

21 Q. How much time would you say you worked on the
22 fingerprint project for?

23 **A. A few weeks.**

24 Q. Are there any other companies that you worked
25 for that provide biometric security systems that you

1 worked on?

2 **A. I don't recall any others.**

3 Q. Okay. Have you worked for any companies that
4 provide facial liveness systems before these cases?

5 MR. MOONEY: Objection. Form.

6 THE WITNESS: I have not.

7 BY MR. JOHNS:

8 Q. Okay. Have you ever personally used any
9 products provided by iProov?

10 **A. To my knowledge, I have not.**

11 Q. Have you ever used any products provided by
12 Jumio?

13 **A. To my knowledge, I have not.**

14 Q. Have you ever used any products provided by
15 FaceTec?

16 **A. To my knowledge, I have not.**

17 MR. JOHNS: Okay. I'm going to make
18 everybody's lives a little bit difficult and pass you a
19 very large document.

20 (Exhibit No. 1003 identified.)

21 MR. JOHNS: So I have passed you this document
22 marked Jumio 1003 on the bottom right-hand corner of the
23 first page.

24 BY MR. JOHNS:

25 Q. Do you recognize this document?

1 **A. I do.**

2 Q. What is this document?

3 **A. This is my declaration in this matter.**

4 Q. Okay. Did you review this declaration,
5 preparing for today's deposition?

6 **A. I did.**

7 Q. Okay. On all the way at the end on page --
8 almost all the way at the end, on page 481, there is a
9 signature.

10 **A. I see that.**

11 Q. Is that your handwritten signature?

12 **A. It is.**

13 Q. Did you apply that signature yourself for this
14 document?

15 **A. I did.**

16 Q. And you see on page 481 the declaration is
17 dated November 6th, 2024.

18 Do you see that?

19 **A. I do see that.**

20 Q. So this declaration reflects the entirety of
21 your opinion regarding these IPR proceedings as of
22 November 6th, 2024; correct?

23 **A. There may be some typos in it, but this is my**
24 **view as of that date.**

25 Q. Okay. What was your involvement in the

1 preparation of this declaration?

2 **A. I wrote it.**

3 Q. Did you write the entire declaration?

4 **A. No.**

5 Q. Okay. Did you have help writing the
6 declaration?

7 **A. Yes.**

8 Q. Okay. What sort of help did you have?

9 **A. You'll see that in -- particularly in Section**
10 **4, there are a lot of paragraphs that begin with the**
11 **words "I understand that." Those paragraphs were**
12 **written by retaining counsel.**

13 Q. Okay. Is that the only portion -- I'm sorry,
14 Section 4. I see. Is that the only portion that
15 counsel prepared?

16 **A. The other portions we -- I wrote jointly with**
17 **counsel.**

18 Q. Was a first draft of those other portions
19 prepared for you and sent to you?

20 **A. No.**

21 Q. So the rest of the document you prepared in
22 cooperation with counsel?

23 **A. I first prepared the first draft, and from**
24 **there there was a lot of back and forth.**

25 Q. How many rounds of revision would you say there

1 were?

2 **A. There were many.**

3 Q. If you had to guess, how many would you say
4 there were?

5 **A. I think that there were more than 10.**

6 Q. How much time did you spend preparing,
7 revising, and finalizing the declaration?

8 **A. I don't recall specifically, but there was a**
9 **period of several months where I was working quite**
10 **consistently on this declaration.**

11 Q. Okay. Again, if you had to guess, if you could
12 think of a number of hours, if you --

13 **A. That is --**

14 MR. MOONEY: If you could --

15 THE WITNESS: Sorry.

16 MR. MOONEY: Objection. Form.

17 THE WITNESS: My effort on this was a good year
18 ago, and I do not recall how many hours were involved.

19 BY MR. JOHNS:

20 Q. Okay. This one declaration covers four
21 separate patents; is that correct?

22 **A. That is correct.**

23 Q. Okay. So just for ease of our conversation, if
24 I refer to the '471 patent, you will understand that I'm
25 talking about the Patent Number 10,776,471?

1 **A. Yes.**

2 Q. Okay. And the same for the '606, '938, and
3 '910 patents, as they are listed on the first page?

4 MR. MOONEY: Objection. Form.

5 BY MR. JOHNS:

6 Q. Is that going to be clear?

7 **A. Using those abbreviations for the patent is**
8 **totally fine.**

9 Q. Great. You just mentioned this effort was
10 about a year ago. When did you begin preparing this
11 declaration?

12 **A. This is a doubtless inaccurate guess but maybe**
13 **the middle of last year. I do not remember well.**

14 Q. Okay. Would you say it was spring or summer
15 when you started on this declaration?

16 **A. I would say more likely summer.**

17 Q. Okay. Do you remember what month you might
18 have started it in?

19 **A. I do not.**

20 Q. Okay. And when did you finish preparing this
21 declaration?

22 **A. November 6th, 2024.**

23 Q. Okay. If you can switch to page 22, on pages
24 22 to 24, there is an exhibit list.

25 Do you see that?

1 **A. I do.**

2 Q. Did you review each of those exhibits when
3 preparing the original declaration?

4 **A. I did.**

5 Q. Okay. Looking at Exhibit 1001 that refers to
6 all four of the patents, how much time did you estimate
7 you spent reviewing the '471 patent while preparing the
8 original declaration?

9 **A. A long time.**

10 Q. Do you have an estimate of how much time you
11 spent looking at the '471 patent while preparing the
12 original declaration?

13 **A. No. I looked at it in great detail.**

14 Q. Okay. How much time do you estimate you spent
15 reviewing '606 patent while preparing the original
16 declaration?

17 **A. I reviewed each patent in great detail.**

18 Q. In preparing the declaration, did you read each
19 patent front to back?

20 **A. Yes.**

21 Q. Did you read each patent front to back multiple
22 times?

23 **A. Yes.**

24 Q. How many times would you say you reviewed them?

25 **A. I don't recall.**

1 MR. MOONEY: Doctor, just be careful not to cut
2 him off.

3 THE WITNESS: Sorry.

4 BY MR. JOHNS:

5 Q. Would you say you spent an equal amount of time
6 reviewing each of the four patents during the
7 preparation of your original declaration?

8 A. **I don't recall the division of time.**

9 Q. Okay. If we can flip back to your CV that I
10 handed you earlier. So you have a Doctor of Philosophy
11 in Material Science; is that right?

12 A. **That's correct.**

13 Q. And the focus of that -- those doctoral studies
14 was acoustic microscopy?

15 A. **That is correct.**

16 Q. Did I say that correctly?

17 A. **Yes.**

18 Q. What is acoustic microscopy?

19 A. **If you think of a light microscope, which you
20 might use for histology, an acoustic -- so there you
21 have light waves interacting with tissue. The acoustic
22 microscope is an exact analog, except using sound waves
23 instead of light waves.**

24 Q. And, forgive my ignorance, what is histology?

25 A. **Histology is the study of tissue, and it is**

1 **closely related to medical disciplines like pathology.**

2 Q. Is acoustic microscopy a form of ultrasonic
3 imaging?

4 **A. It is.**

5 Q. Okay. On this first page under "Summary," the
6 second bullet, you see you have experience in biometric
7 security.

8 Do you see that?

9 **A. I do.**

10 Q. Okay. And then on page 7, you list that you
11 have technical consulting and expert witness practice
12 followed by a number of things with biometric security
13 in the middle.

14 Do you see that?

15 **A. I do.**

16 Q. Okay. So -- and we discussed a little bit of
17 this before, but can you explain whether the biometric
18 security on page 7 in that sentence refers to technical
19 consulting or expert witness practice?

20 MR. MOONEY: Objection. Form.

21 THE WITNESS: It refers to both.

22 BY MR. JOHNS:

23 Q. So you have been working for River Sonic
24 Solutions since 2012; is that correct?

25 **A. It is.**

1 Q. Have you been working on biometric security in
2 the technical consulting realm since 2012?

3 **A. I have done biometric security technical**
4 **projects. I have not continuously been working on**
5 **biometric security. As a consultant I do lots of**
6 **projects.**

7 Q. Of course. But as part of River Sonic
8 Solutions, have you been working on technical consulting
9 projects in the area of biometric security since 2012?

10 MR. MOONEY: Objection. Form.

11 THE WITNESS: I have done biometric security
12 projects since 2012, yes.

13 BY MR. JOHNS:

14 Q. Okay. Is that the project you worked on with
15 Qualcomm?

16 **A. That's right.**

17 MR. MOONEY: If you can just give me a short
18 second to object if I have an objection.

19 Objection. Form.

20 THE WITNESS: Yes, Qualcomm.

21 BY MR. JOHNS:

22 Q. So, if I understand correctly, that Qualcomm
23 project was in 2012?

24 **A. I am going to say that was probably 2016,**
25 **sometime around then.**

1 Q. What projects were you working on in the area
2 of biometric security in 2012?

3 A. I am not aware of doing biometric security in
4 2012.

5 Q. Okay. What projects were you working on in the
6 area of biometric security in 2013?

7 A. I am not aware of doing projects in that field
8 in 2013.

9 Q. Okay. What projects were you working on in the
10 area of biometric security in 2014?

11 A. I do not recall the exact dates of my
12 interaction with Qualcomm. It did go on for several
13 years. It is possible that my interactions with
14 Qualcomm have begun in 2014.

15 Q. Okay. Were there any projects you were working
16 on other than Qualcomm in 2014 --

17 A. I do not --

18 Q. -- relating to biometric security?

19 A. I do not recall.

20 Q. Were there any other projects you were working
21 on relating to biometric security in 2015?

22 A. I think that's when the Qualcomm project was --
23 it included 2015.

24 Q. Are you familiar with systems that capture
25 images of the visible vasculature of human eyes?

1 **A. I am aware of such systems.**

2 Q. Okay. Can you name any particular systems that
3 capture images of the visible vasculature of human eyes
4 that you have worked on?

5 **A. I have not worked --**

6 MR. MOONEY: Objection. Form.

7 THE WITNESS: I have not worked on systems to
8 capture visible vasculature of human eyes.

9 BY MR. JOHNS:

10 Q. Are you familiar with systems that capture
11 facial images for biometric purposes?

12 **A. Yes.**

13 Q. Can you name any particular systems involving
14 capturing facial images for biometric purposes that you
15 have worked on?

16 MR. MOONEY: Objection. Form.

17 THE WITNESS: I have not worked on facial image
18 capture for biometric security.

19 BY MR. JOHNS:

20 Q. Okay. My question was a little bit broader
21 than that. Have you worked on any systems involving
22 capturing facial images for biometric purposes that you
23 have worked on?

24 MR. MOONEY: Objection. Form.

25 THE WITNESS: I have not worked on facial image

1 capture systems for the purposes of biometric security.

2 BY MR. JOHNS:

3 Q. Have you worked on any systems relating to
4 facial images for any biometric purposes?

5 MR. MOONEY: Objection. Form.

6 THE WITNESS: I have not worked on any systems
7 for facial image capture for biometric purpose.

8 BY MR. JOHNS:

9 Q. Are you familiar with systems involving facial
10 liveness detection?

11 A. I am aware of those systems.

12 Q. Can you name any particular systems involving
13 facial liveness detection that you have worked on?

14 MR. MOONEY: Objection. Form.

15 THE WITNESS: I have not worked on systems for
16 facial liveness detection in a technical capacity.

17 (Reporter Clarification.)

18 (Recess.)

19 BY MR. JOHNS:

20 Q. Hi again, Dr. Daft. Looking at your
21 declaration, which I think we were looking at right
22 before the break, if you can turn to page 9 -- I'm
23 sorry, your CV -- page 9 of your CV. You list testimony
24 experience. Is this a complete list of all the cases
25 you provided testimony in?

1 **A. These are all of the cases where I provided**
2 **testimony, at least at deposition.**

3 Q. Okay. Is this a complete list of all legal
4 matters you've worked on?

5 **A. No. I have worked on other legal matters that,**
6 **for example, were settled before -- before I would have**
7 **been deposed.**

8 Q. How many matters would you say you worked on
9 that ended before you would have been deposed?

10 **A. I'm going to guess 15 other matters.**

11 Q. Have you worked for Jumio Corporation on any
12 legal matters other than these IPR proceedings that are
13 the subject of this deposition?

14 **A. I have not.**

15 Q. You -- do you recall that these IPRs were
16 originally filed by a different law firm?

17 **A. I do recall that.**

18 Q. Do you recall the name of that law firm?

19 **A. Perkins Coie.**

20 Q. So earlier you said you worked with lawyers to
21 prepare your declaration. Were you working with lawyers
22 at Perkins Coie to prepare your declaration?

23 MR. MOONEY: Objection. Form.

24 THE WITNESS: I did work with lawyers from
25 Perkins Coie.

1 BY MR. JOHNS:

2 Q. Did you have an engagement agreement with
3 Perkins Coie?

4 A. I did.

5 Q. Do you have a new engagement agreement with
6 Morrison Foerster?

7 A. I do.

8 Q. Okay. Who did you work with at Perkins Coie?

9 A. There were several attorneys, as I recall.

10 Q. Do you recall any of their names?

11 A. One of the attorneys I worked with, his name
12 was David Pekarek Krohn.

13 Q. Do you recall any other names?

14 A. I don't clearly recall the names of the others.
15 There were several.

16 Q. And while you were working with Perkins Coie,
17 who did you send any invoices to?

18 A. To David Pekarek Krohn.

19 Q. And have you continued to send your invoices to
20 David Pekarek Krohn the entire time that you have worked
21 on these IPRs?

22 A. The invoices that pertained to these IPRs, I
23 have sent to him.

24 Q. Does that include any invoices relating to
25 preparation for this deposition?

1 **A. It does not.**

2 Q. Have you sent invoices to somebody else
3 since -- while preparing for this deposition?

4 **A. I have not.**

5 Q. So you have just -- have you continued to send
6 invoices to David Pekarek Krohn while preparing for this
7 deposition?

8 **A. I have not.**

9 Q. Have you sent any invoices to anyone relating
10 to preparing for this deposition?

11 **A. I have not.**

12 Q. Have you been paid for your work on these
13 matters at all?

14 **A. I have been paid for my work.**

15 Q. Do you have an hourly rate that you charge?

16 **A. In paragraph 6 of the declaration, you will see
17 that I have stated that I am being compensated for my
18 work in my standard hourly rate of \$550 and also for
19 travel expenses.**

20 Q. Okay. Has your rate of \$550 changed at all
21 during the course of filing this IPR to today?

22 **A. It has.**

23 Q. How much is it now?

24 **A. \$600.**

25 Q. And this \$600 per hour rate, is that a rate

1 that will be invoiced for the preparation for this
2 deposition and for this deposition itself?

3 **A. That's correct.**

4 Q. Who will you be sending your invoices to for
5 the preparation for this deposition and the deposition
6 itself?

7 **A. To Morrison Foerster.**

8 Q. Looking at pages 4 to 6 of your CV, starting at
9 the very bottom of page 4, you have a rather impressive
10 list of publications. I think there are 27 of them. Is
11 this a full and complete list of all your academic
12 publications?

13 **A. I believe it is.**

14 Q. Do you have any academic publications in the
15 biometrics field?

16 MR. MOONEY: Objection. Form.

17 THE WITNESS: Yes, I do.

18 BY MR. JOHNS:

19 Q. Okay. Which -- is it listed on one of pages 4
20 through 6?

21 **A. Yes. There is biometric content in the paper**
22 **that is labeled 3 on page 5.**

23 Q. So that is entitled "Neural Networks for Image
24 Analysis"; is that right?

25 **A. That is correct.**

1 Q. Okay. Can you describe the biometric content
2 in the paper numbered 3?

3 MR. MOONEY: Objection. Form.

4 THE WITNESS: This was some of the background
5 academic material that I was using for the project that
6 I mentioned with Lockheed on fingerprint recognition.
7 BY MR. JOHNS:

8 Q. Did Paper Number 3 discuss any other forms of
9 biometric security or biometrics?

10 A. **They did not.**

11 Q. Okay. Other than your work -- I'm sorry,
12 strike that.

13 Looking at pages 3 to 4, again, you list a
14 pretty impressive number of issued patents and pending
15 patent applications.

16 Do you see that?

17 A. **I do see that.**

18 Q. Are these all of your issued patents and
19 pending patent applications on pages 3 and 4?

20 A. **I believe this is a complete list.**

21 Q. Okay. So I'm going to also ask you to pull up
22 your declaration. On page 27, in paragraph 14, you
23 state that you have been involved in computer vision
24 work.

25 Do you see that?

1 **A. Yes.**

2 Q. In that paragraph, spanning pages 27 and 28,
3 you list three provisional patent applications; is that
4 correct?

5 **A. Yes, it is.**

6 Q. So are these the only three applications that
7 are relevant to your work in computer vision?

8 **A. Recently, I've done a lot of innovation**
9 **involving computer vision. These three are patent**
10 **applications with the largest amount of computer vision**
11 **content. There may be computer vision content in some**
12 **of the other patent applications I have filed.**

13 MR. JOHNS: I am going to present you with a
14 document.

15 THE WITNESS: Thank you.

16 (Exhibit 2032 was marked for
17 identification.)

18 BY MR. JOHNS:

19 Q. So, on the first page of this document, do you
20 see a related U.S. application data field on the left
21 side?

22 **A. I do see that field.**

23 Q. Do you see a provisional application number
24 listed?

25 **A. I see a provisional application number.**

1 Q. What number is that?

2 A. **63/589,928.**

3 Q. Is this one of the applications that's listed
4 in your CV and in your declaration?

5 A. **I see that number in my declaration, and I see
6 it listed in my CV.**

7 Q. Okay. Do you see the abstract on the right
8 side of the document on the first page?

9 A. **I see the abstract, yes.**

10 Q. Could you read that first sentence for me?

11 A. **"A transcranial Focused Ultrasound (tFUS)
12 system employs a probe array for steering and focusing a
13 neuromodulation beam, wherein the probe array comprises
14 an array of piezoelectric elements and the size of each
15 element is larger in elevation than azimuth."**

16 Q. Okay. What is transcranial Focused Ultrasound?

17 A. **That means placing a transducer on the head of
18 a subject, producing acoustic waves that travel into the
19 brain and focusing those ultrasonic waves.**

20 Q. So transcranial Focused Ultrasound is used to
21 create an image of something inside the body; is that
22 right?

23 A. **Not necessarily.**

24 Q. Could you explain what transcranial Focused
25 Ultrasound is used for?

1 **A. transcranial Focused Ultrasound has a variety**
2 **of purposes. The object of this patent application is**
3 **to use it as a means of treating common mental health**
4 **issues.**

5 MR. JOHNS: Okay. I would like to give you
6 another document. I think we will have to mark as 2033.
7 (Exhibit 2033 was marked for
8 identification.)

9 BY MR. JOHNS:

10 Q. Do you recognize this document, Dr. Daft?

11 **A. I do recognize it.**

12 Q. Again, on the left side, do you see a related
13 U.S. application data field?

14 **A. I do.**

15 Q. What is the provisional application number
16 listed in that field?

17 **A. It is 63/601,577.**

18 Q. And is that provisional application number one
19 of the application numbers you list in paragraph 14 of
20 the application?

21 **A. I see that it is.**

22 Q. On the right side, do you see the abstract
23 field?

24 **A. I do see the abstract field.**

25 Q. Can you read the first sentence?

1 A. **"A TUS (transcranial ultrasound) system with a**
2 **matrix array transducer in a wearable format is**
3 **disclosed."**

4 Q. Can you explain what transcranial ultrasound
5 is?

6 A. This means the same as the acronym tFUS that is
7 in the abstract of the prior patent application.

8 Q. So there are no differences between tFUS and
9 TUS?

10 A. Not a lot. I stopped in my patent applications
11 referring to tFUS when I recognized clinical benefit in
12 ultrasonic fields that were not necessarily focused. So
13 this "F" in the acronym did not seem to be helpful. And
14 so I began to just call it TUS.

15 Q. So, again, I think I understood TFUS and TUS,
16 they are both about placing a transducer on the head of
17 a subject for producing acoustic waves that go into the
18 brain; is that correct?

19 A. That's correct. In the field, both acronyms
20 are used.

21 Q. So for TUS or tFUS, the -- is any image of the
22 inside of the brain produced?

23 A. In these applications but not in all TUS
24 systems, an image of the brain is produced.

25 Q. Does this patent application that we're looking

1 at right now utilize transcranial imaging to verify
2 biometrics?

3 **A. This patent application uses transcranial**
4 **information to acquire biometric data.**

5 Q. Is that biometric data used for biometric
6 security purposes?

7 MR. MOONEY: Objection. Form.

8 THE WITNESS: The thrust of this patent is not
9 for biometric security; however, the design of these
10 systems includes very high levels of security in order
11 to protect the privacy of the patient.

12 BY MR. JOHNS:

13 Q. So, when you are referring to security in that
14 context, are you referring to security of biometric
15 data? Or are you referring to security of data secured
16 by biometrics? Or something else?

17 MR. MOONEY: Objection. Form.

18 THE WITNESS: In these patents, the focus is
19 on protection of the biometric data which the system
20 acquires as part of its operation. And it needs to
21 acquire that in order to direct the therapeutic
22 ultrasound to the right locations.

23 BY MR. JOHNS:

24 Q. Can you show me where in this publication,
25 Exhibit 2033, that security is discussed?

1 **A. In paragraph 29 of this patent application,**
2 **there is a description of the diagram labeled Figure 2.**
3 **And you will see that there is labeled 138, "Secure**
4 **Network Device, and the application says that "All**
5 **communication with the TUS system is through the secure**
6 **network device 130. This allows for authentication and**
7 **encryption of all communications."**

8 **That means protection of the biometric data**
9 **acquired from the patient, "tamper detection, protection**
10 **against side-channel attacks, and isolation of the**
11 **subject device and the internet from the operation of**
12 **the TUS wearable," which is 120.**

13 Q. What you just read in paragraph 29 and
14 paragraph 30, in your opinion, is that what -- does that
15 refer to biometric security?

16 **A. These hardware and firmware components are**
17 **described in the paragraphs 29 and 30. Their purpose is**
18 **to secure the biometric data acquired by their system.**

19 Q. So, in your CV on page 7, when you referred to
20 technical consulting and expert witness practice, you
21 list biometric security.

22 Do you see that?

23 **A. I see that.**

24 Q. So does the biometric security in this
25 paragraph refer to the portions of Exhibit 2032, 2033

1 that you just read?

2 MR. MOONEY: Objection. Form.

3 THE WITNESS: Yes. I think that this would
4 fall under the -- so the invention in this patent
5 application falls under the description of biometric
6 security.

7 BY MR. JOHNS:

8 Q. If we can go back to Exhibit 2032, then.

9 A. **I'm not sure which of those patent**
10 **applications.**

11 Q. I'm sorry. It is the publication number ending
12 in -215 at the top right?

13 A. **Okay.**

14 MR. MOONEY: Actually, Counsel, it is probably
15 useful for the witness to have exhibit numbers on the
16 documents in front of him.

17 (Discussion held off the record.)

18 BY MR. JOHNS:

19 Q. 2032.

20 A. **Okay.**

21 Q. Does this patent application that we're looking
22 at right now utilize transcranial imaging to verify
23 biometrics?

24 A. **It utilizes transcranial imaging to acquire**
25 **biometric data of the patient.**

1 Q. Is that biometric data used for biometric
2 security purposes?

3 MR. MOONEY: Objection. Form.

4 THE WITNESS: The biometric data this patent
5 acquires is not used to authenticate the patient.

6 BY MR. JOHNS:

7 Q. Is there anything in this application that you
8 feel relates to biometric security?

9 A. **In paragraph 33 of this patent application, it**
10 **discusses -- and this is like the second sentence --**
11 **"during product development, a large amount of volume**
12 **data from many subjects is acquired using a matrix**
13 **ultrasound probe. Subsequently, in the clinic, slice**
14 **data is evaluated by artificial intelligence performed**
15 **by an AI-capable processor and a computer," and then it**
16 **then goes on to describe what is done with that data.**

17 **All that data is biometric data and would be**
18 **required to be secured.**

19 Q. So the portion that you just read in paragraph
20 33, are you referring to the security of biometric data?
21 Or are you referring to the security of data secured by
22 biometrics? Or something else?

23 MR. MOONEY: Objection. Form.

24 THE WITNESS: I am referring to the security of
25 the biometric data this system is creating.

1 BY MR. JOHNS:

2 Q. Okay. If we can move back to your declaration,
3 which is Exhibit 1004. I'm sorry, Exhibit 1003. In
4 paragraph 15 of your declaration, you list a number of
5 awards.

6 Do you see that?

7 A. Yes, I see that.

8 Q. If I understand correctly, you received a
9 senior key expert designation during your time at
10 Siemens; is that right?

11 A. Yes, that's right.

12 Q. And while you were at Siemens, you worked on
13 their silicon ultrasound project; is that right?

14 A. I was involved with a startup that was
15 purchased by Siemens, and that startup was the silicon
16 ultrasound project that Siemens then continued to
17 develop.

18 Q. What is the name of the startup that you were
19 at that was purchased by Siemens?

20 A. That's Sensant Corporation.

21 Q. So, if I recall from your CV, you started
22 working at Siemens in 2005. Does that sound correct?

23 A. Yes, that's correct.

24 Q. So you worked at Siemens until 2011; is that
25 right?

1 **A. Yes, that's correct.**

2 Q. When you were at Siemens, did you work in the
3 ultrasound division?

4 **A. Yes, that's correct.**

5 Q. A lot of your work at Siemens related to
6 ultrasound imaging systems; is that correct?

7 **A. That's correct. I'm a physics-and-waves kind**
8 **of guy.**

9 Q. When you were at Siemens, did you work on any
10 biometric security products?

11 MR. MOONEY: Objection. Form.

12 THE WITNESS: I did not.

13 BY MR. JOHNS:

14 Q. Looking at your declaration again, you say that
15 you received the Whitney Technical Achievement Award for
16 a software package during your time at General Electric.

17 Do you see that?

18 **A. Yes, I see that.**

19 Q. And also in paragraph 15, you received the
20 Dushman Award for your contributions to GE's first
21 premium ultrasound imager; is that correct?

22 **A. That's also correct.**

23 Q. So, when you were at GE, you also worked on
24 their ultrasound products; is that right?

25 **A. GE at that time was a conglomerate that worked**

1 in a number of areas. So it wasn't all ultrasound work,
2 but it was mostly so.

3 Q. You worked in the corporate R&D department; is
4 that right?

5 A. Yes. That was a companywide resource that the
6 various businesses would fund research projects at.

7 Q. So, during your time at GE in the corporate R&D
8 department, did the majority of your work relate to
9 ultrasound technology?

10 A. That's fair.

11 Q. And during your time at GE in the corporate
12 R&D, did you work on any biometric security systems?

13 A. I worked on the project with Lockheed Martin
14 that I had mentioned before.

15 Q. Did you work on any other projects during your
16 time at GE relating to biometric security?

17 A. I don't recall any others.

18 Q. Okay. On page 8 of your CV, it talks about
19 your time at Sensant Corporation.

20 Do you see that?

21 A. Yes, I do.

22 Q. And during your time at Sensant Corporation,
23 you worked on their ultrasound products as well; is that
24 right?

25 A. It was a bit broader than that. We were

1 developing micromachined sensor technology, and some of
2 that was for diagnostic ultrasound, but the company saw
3 it as a platform technology that could be deployed in a
4 variety of areas.

5 Q. When you were at Sensant working on this
6 micromachined sensor technology, did you work on any
7 biometric security systems?

8 A. We had a lot of different applications. We did
9 gas flow. We did therapeutic ultrasound. Right now, I
10 am not recalling biometric security application.

11 Q. Okay. Just to go a bit broader, during your
12 time at Sensant Corporation -- during the entirety of
13 your time at Sensant Corporation, did you work on any
14 biometric security systems?

15 A. I don't recall any such projects.

16 Q. Going back to page 7 of your CV, you list that
17 you were at Cephasonics Incorporated, which was
18 previously known as Samplify. Did I understand that
19 correctly?

20 A. Yes, that's correct. The company changed its
21 name. It forked into two companies, and the part that I
22 ended up in was Cephasonics, and there was another group
23 that retained the name Samplify. So it was Samplify
24 when I joined, Cephasonics when I left.

25 Q. I see. So, during your time at Samplify

1 Systems, did you also work on their ultrasound products?

2 **A. This was a fabless semiconductor company --**
3 **(Reporter Clarification.)**

4 THE WITNESS: Fabless. It means it's a
5 semiconductor company that does not own factory for
6 making chips.

7 So, as a fabless semiconductor company,
8 Samplify and Cephasonics was making electronic products
9 that were subsystems for ultrasound -- for ultrasound
10 systems. So it was making a part that another
11 manufacturer would incorporate into its product.

12 BY MR. JOHNS:

13 Q. So just again, while you were at Samplify
14 Systems, did you work on ultrasound products? Or did
15 you work on something else?

16 MR. MOONEY: Object to form.

17 THE WITNESS: Most of Samplify's developments
18 were in the field of chips for ultrasound. There was
19 also work on data compression. And so there was a
20 smaller effort that was realtime data compression.

21 BY MR. JOHNS:

22 Q. Did you work on realtime data compression
23 during your time at Samplify?

24 **A. That was part of the early systems I was**
25 **developing there.**

1 Q. Did you work on any systems -- sorry. Did you
2 work on any biometric security systems while you were at
3 Samplify?

4 A. Samplify was a component vendor, and the
5 electronics could be used in many ways.

6 I was not developing chips that were explicitly
7 for biometric security.

8 Q. Did you have any experience with biometric
9 security systems when you were at Samplify?

10 MR. MOONEY: Objection. Form.

11 THE WITNESS: The management of Samplify may
12 have talked to biometric security potential customers,
13 but I do not have a good recollection of what those
14 discussions were.

15 BY MR. JOHNS:

16 Q. Okay. And if I recall correctly, you said that
17 Samplify -- Cephasonics split off from Samplify; is that
18 correct?

19 A. That's a fair description, yes.

20 Q. Okay. And you went with Cephasonics when that
21 happened; is that right?

22 A. That is correct.

23 Q. So, when you were at Cephasonics, were you
24 working on Cephasonics ultrasound products?

25 A. Yes, I was.

1 Q. Did you work on any biometric security systems
2 while you were at Cephasonics?

3 A. **Not directly. Again, it was chips for a**
4 **subsystem, and there was potential for the chips to be**
5 **used in many ways. But they were not being designed**
6 **explicitly for biometric security systems.**

7 Q. Okay. Going back to page 8 of your CV, when
8 you worked at the University of Illinois at
9 Urbana-Champaign, do you see that at the bottom of the
10 page?

11 A. **Yes, I do.**

12 Q. Did you do research in scanning laser acoustic
13 microscopy?

14 A. **Yes, I did.**

15 Q. Did you do research in ultrasonic imaging?

16 A. **I did. This scanning laser acoustic microscopy**
17 **involves both light and sound.**

18 Q. Okay. Did you perform any research in
19 biometric security while you were at UIUC?

20 MR. MOONEY: Objection. Form.

21 THE WITNESS: I did not.

22 BY MR. JOHNS:

23 Q. It says you taught undergraduate courses in
24 circuit theory, medical imaging, and acoustics; is that
25 correct?

1 **A. That is correct.**

2 Q. Did you teach any courses on biometric security
3 while you were at the University of Illinois?

4 **A. I taught bioengineering courses that involved**
5 **the acquisition of biometric data. I did not**
6 **specifically teach about biometric security in those**
7 **courses.**

8 Q. It also says you were a thesis advisor for
9 masters' students and undergraduate senior projects; is
10 that correct?

11 **A. Yes, that's correct.**

12 Q. And did you advise on any theses or
13 undergraduate senior projects relating to biometric
14 security?

15 **A. I did not.**

16 Q. Back to your declaration in paragraph 15 -- we
17 can strike that question.

18 **A. Actually, we've been going now --**

19 MR. JOHNS: We've been going for about an hour,
20 maybe more. Happy to take a break.

21 MR. MOONEY: That's fair.

22 (Recess.)

23 BY MR. JOHNS:

24 Q. Hi, Dr. Daft, how are you?

25 **A. I'm fine.**

1 Q. Did you have a good break?

2 A. **I did.**

3 Q. Did you speak with anybody during that break?

4 A. **I discussed the AI wars with the gentleman**
5 **here.**

6 Q. Always an exciting topic. So going back to the
7 last page of your CV, Exhibit 1004, we discussed these
8 cases that you gave testimony in; is that correct?

9 A. **Yes, that's correct.**

10 Q. I'd like to focus on a few of them. Looking at
11 Case Number 1, Hologic versus Fujifilm.

12 Do you see that case?

13 A. **Yes, I do.**

14 Q. Which side did you represent in that case?

15 MR. MOONEY: Objection. Form.

16 BY MR. JOHNS:

17 Q. Let me rephrase that. Were you hired to give
18 testimony for a particular party in that case?

19 A. **I was retained by counsel for Fujifilm.**

20 Q. Was Case Number 1 a patent case?

21 A. **Yes.**

22 Q. What was the technology involved in Case Number
23 1?

24 A. **The technology involved was broadly X-ray breast**
25 **imaging. The particular technology was X-ray**

1 **tomosynthesis.**

2 Q. Was Case Number 1 related to biometric
3 security?

4 **A. It was not.**

5 Q. Was Case Number 1 related to facial liveness
6 detection?

7 **A. It was not.**

8 Q. Case Number 2, were you hired for Case Number 2
9 by Fujifilm?

10 **A. I was retained by counsel for Fujifilm in Case**
11 **Number 2.**

12 Q. What was the technology involved in Case Number
13 2?

14 **A. The same technology as Case Number 1.**

15 Q. So Case Number 2 also was not related to
16 biometric security; right?

17 **A. Case Number 2 is not related to biometric**
18 **security.**

19 Q. Was Case Number 2 related to facial liveness
20 detection?

21 **A. It was not.**

22 Q. Case Number 3, which side did you give
23 testimony for in Case Number 3?

24 **A. I was retained by counsel for the plaintiff in**
25 **Case Number 3.**

1 Q. And who was the plaintiff in Case Number 3?

2 A. **An individual, Mr. Lobo.**

3 Q. Was case number 3 a patent-related case?

4 A. **It was not a patent case.**

5 Q. What was the technology involved in Case Number
6 3?

7 A. **The technology in Case Number 3 involved**
8 **software for mobile radio systems.**

9 Q. Was this case related to biometric security?

10 A. **No, it wasn't.**

11 Q. Was Case Number 3 related to facial liveness
12 detection?

13 A. **It was not.**

14 Q. Looking at Case Number 4, which side did you
15 give testimony on behalf of Case Number 4?

16 A. **I was retained by counsel for Garmin and**
17 **Fitbit.**

18 Q. Were there patents involved in Case Number 4?

19 A. **Yes, there were.**

20 Q. What was the technology involved in Case Number
21 4?

22 A. **These were optical systems, wearable optical**
23 **systems to acquire health information from the wearer.**

24 Q. What sort of health was acquired from the
25 wearer as -- in the technology that you referred to?

1 MR. MOONEY: Objection. Form.

2 THE WITNESS: A variety of metrics including
3 heart rate and blood oxygen saturation.

4 BY MR. JOHNS:

5 Q. Did the technology involved in Case 4 relate to
6 capturing facial images?

7 A. It did not.

8 Q. Did the technology in Case Number 4 relate to
9 biometric security?

10 A. It did not.

11 Q. Did the technology in Case Number 4 relate to
12 facial liveness detection?

13 A. It did not.

14 Q. Case Number 5, which of the parties did you
15 offer testimony on behalf of?

16 A. I was retained by counsel for BTL Industries.

17 Q. Were there patents involved in case number 5?

18 A. Yes, there were.

19 Q. What was the technology involved in Case Number
20 5?

21 A. The technology involved transmitting magnetic
22 fields into body for aesthetic purposes, such as firming
23 muscle and reducing fat.

24 Q. Was this case related to biometric security?

25 A. It was not.

1 Q. Was this case related to facial liveness
2 detection?

3 A. It was not.

4 Q. Case Number 6, which of the parties did you
5 offer testimony on behalf of?

6 A. I was retained by counsel for Dr. Lamego.

7 Q. Were there patents involved in Case Number 6?

8 A. Yes, there were.

9 Q. What was the technology involved in Case Number
10 6?

11 A. This involved optical systems that measure
12 biometric information from the wearer of the device.

13 Q. Was this case related to biometric security?

14 A. It was not.

15 Q. Was this case related to facial liveness
16 detection?

17 A. It was not.

18 Q. Case Number 7, which of the parties did you
19 offer testimony on behalf of?

20 A. I was retained by counsel for Mr. Howe in this
21 case.

22 Q. Were there patents involved in this case?

23 A. There were not.

24 Q. Was there technology involved in this case that
25 you provided a technical opinion about?

1 **A. Yes. The technology involved were biometric**
2 **time clocks.**

3 Q. Did you offer yourself as an expert in
4 biometric security in this case?

5 MR. MOONEY: Objection. Form.

6 THE WITNESS: The court found that I was
7 qualified in the technology of this case.

8 BY MR. JOHNS:

9 Q. Did the court qualify you as an expert in
10 biometric security in this case?

11 **A. This case did involve biometric security.**

12 Q. Did the court qualify you as an expert in
13 biometric security?

14 **A. I do not recall exactly what the court said**
15 **about me.**

16 MR. JOHNS: I am going to hand you a document.
17 (Exhibit 2034 was marked for
18 identification.)

19 BY MR. JOHNS:

20 Q. Dr. Daft, do you recognize Exhibit 2034?

21 **A. I do.**

22 Q. Have you seen this document before?

23 **A. Yes.**

24 Q. On page 9, there's a section entitled
25 "Analysis."

1 Do you see that?

2 A. I see that.

3 Q. Can you please read the last sentence of the
4 first paragraph of that section on page 9?

5 A. "He has worked on the development of 'biosensor
6 systems' and at least one fingerprint scanner and
7 considers himself an expert in 'biosensing' technology."

8 Q. So is it fair to say that you offered yourself
9 as an expert in biosensing technology in this case?

10 A. That isn't exactly the word that I would use,
11 but I see that's what the court said here.

12 Q. Was this case related to biometric security?

13 A. Yes, it was.

14 Q. Can you please explain how this case was
15 related to biometric security?

16 A. The technology at issue was biometric time
17 clocks used by employees of Speedway.

18 Q. What sort of biometrics did these biometric
19 time clocks record?

20 A. The biometric time clocks recorded
21 fingerprints.

22 Q. Did the biometric time clocks record any other
23 type of biometric?

24 A. I don't believe so. The other capability they
25 had involved employee ID cards.

1 Q. Do you recall if the biometric time clocks
2 could capture or record facial biometrics?

3 A. **As I sit here today, I don't recall it would do**
4 **that.**

5 Q. Sorry, just to be clear, you don't recall that
6 they could do that, or you don't recall whether they
7 could do that or not?

8 A. **I believe the particular clocks at issue in**
9 **this case had fingerprint and ID card capability.**

10 Q. Do you recall if the fingerprints were captured
11 using these biometric time clocks with visual means?

12 A. **As I recall, it was an optical type of**
13 **fingerprint sensor that these time clocks used.**

14 Q. Did the biometric time clocks use ultrasonic
15 imaging to capture fingerprints?

16 A. **From what I reviewed, I did not believe they**
17 **used ultrasound.**

18 Q. Was this case related to facial liveness
19 detection?

20 A. **It was not.**

21 Q. Do you recall the areas your testimony was
22 offered in this case?

23 A. **My deposition for this was some time ago in**
24 **2021. So -- but I see that there is information about**
25 **that at the bottom of page 9.**

1 Q. Yes. On page 9, there are -- pages 9 and 10,
2 there are five different areas that your opinions were
3 offered in.

4 Do you see that?

5 A. **Yes, I see that.**

6 Q. Which of these five items, if any, relate to
7 biometric security, in your opinion?

8 A. **I'm sorry. Could you be a bit more specific**
9 **about that question?**

10 Q. Sure. There are five items listed in the last
11 paragraph on page 9 on to page 10. Which of those areas
12 that you offered opinions in relate to biometric
13 security?

14 A. **It seems that all of these have some connection**
15 **to the field of biometric security.**

16 Q. Okay. Did the court in this case qualify you
17 as an expert in biometric security?

18 A. **My understanding of the history of this case is**
19 **that, after this document was issued by the court, the**
20 **parties settled. So it did -- so I did a deposition,**
21 **but I did not do -- do a trial testimony because the**
22 **matter had settled.**

23 Q. So the court did not qualify you as an expert
24 in biometric security; is that right?

25 A. **I did not testify at trial.**

1 Q. And I think I may have asked this before, but
2 had you seen this document before today?

3 A. **Yes, I have.**

4 Q. Did you know that the court barred you from
5 providing opinions on whether the template created from
6 the fingerprint scan is biometric information under the
7 BIPA?

8 MR. MOONEY: Objection. Form.

9 THE WITNESS: I see that, at the bottom of page
10 11, the court says that "expert testimony about the
11 meaning of the statute and regulations is a subject for
12 the court and not for testimonial experts."

13 BY MR. JOHNS:

14 Q. Can you turn to page 13 of this document,
15 please. And the first full paragraph, about halfway
16 down, do you see where it says, "Daft is barred from
17 offering opinions that Speedway's time clocks collect a
18 'fingerprint' that is a 'biometric identifier' under
19 BIPA and that the Template created from the fingerprint
20 is 'biometric information'?"

21 A. **I see that text.**

22 Q. Did you know that the court barred you from
23 providing -- from offering these opinions in this area?

24 A. **I have read this document.**

25 Q. So you did know before today that the court had

1 barred you from providing opinions in the area listed in
2 page 13?

3 **A. I had read before today the paragraph here that**
4 **you are pointing to.**

5 Q. So this information is not new to you; is that
6 correct?

7 **A. It is not new to me.**

8 Q. Did you mention that you had been barred from
9 offering these opinions in your CV?

10 **A. I did not.**

11 Q. Did you mention that you have been barred from
12 offering these opinions in your declaration?

13 **A. I did not.**

14 Q. Why did you not mention that you had been
15 barred from offering these opinions in your CV in your
16 declaration?

17 **A. I discussed this document with --**

18 MR. MOONEY: I will caution the witness not to
19 reveal any discussions with counsel.

20 To the extent you can otherwise respond, go
21 ahead.

22 THE WITNESS: Could you repeat the question,
23 please.

24 BY MR. JOHNS:

25 Q. Why did you not mention that you had been

1 barred from offering these opinions in your CV or in
2 your declaration?

3 MR. MOONEY: Same objection. Don't reveal any
4 discussions with counsel based on attorney-client
5 privilege or attorney work product.

6 To the extent you can otherwise respond to the
7 question, go ahead.

8 THE WITNESS: I don't think I can respond to
9 the question without revealing conversations with
10 counsel.

11 BY MR. JOHNS:

12 Q. Going back to your CV for a second, Case Number
13 8, which of the parties did you offer testimony on
14 behalf of in Case Number 8?

15 A. **I was retained by counsel for ReCor Medical and**
16 **Otsuka Medical Devices.**

17 Q. Were there patents involved in Case Number 8?

18 A. **Yes, there were.**

19 Q. What was the technology involved in Case Number
20 8?

21 A. **The technology was minimally invasive methods**
22 **for renal denervation, which means altering the way that**
23 **nerves near the kidney operate.**

24 Q. Sorry. Was that denervation?

25 A. **Denervation, d-e-n-e-r-v-a-t-i-o-n.**

1 Q. Was Case Number 8 related to biometric
2 security?

3 A. It was not.

4 Q. Was Case Number 8 related to facial liveness
5 detection?

6 A. It was not.

7 Q. Case Number 9, which of the parties did you
8 offer testimony on behalf of?

9 A. I was retained by counsel for HMD Global Oy.

10 Q. Was this a patent case?

11 A. Yes, it was.

12 Q. What was the technology involved in this case?

13 A. Biometric security for cell phones.

14 Q. Did you take the stand in this case?

15 A. I did not.

16 Q. Did the court in Case Number 9 qualify you as
17 an expert in biometric security?

18 A. I don't know what the court said about me, if
19 anything. I did two depositions, and then the case
20 settled.

21 Q. To the best of your recollection, did the court
22 in this case qualify you as an expert in biometric
23 security?

24 A. I don't recall reading a document from the
25 court that mentioned me.

1 Q. Okay. Were you aware -- sorry, strike that.

2 I am going to hand you another document that I
3 think will be 2035.

4 (Exhibit 2035 was marked for
5 identification.)

6 BY MR. JOHNS:

7 Q. Do you recognize this document?

8 A. I do not.

9 Q. To confirm, you have not seen this document
10 before?

11 A. I have not.

12 Q. Were you aware that the testimony in Case
13 Number 9 that you gave was the subject of a motion to
14 exclude?

15 A. I was not.

16 Q. Did the patents in this case relate to facial
17 liveness detection?

18 A. I don't believe they did.

19 Q. Did the patents in this case relate to facial
20 biometric security?

21 A. I don't think so.

22 Q. Turning back to your declaration, which is
23 Exhibit 1003, a very large document. On page 480,
24 paragraph 1139, you state you were not aware of any
25 secondary considerations of non-obviousness or evidence

1 sufficient to change your opinions that each of the
2 challenged patents are obvious in view of the prior art.

3 Do you see that?

4 **A. I do see that.**

5 Q. What kinds of things would make you reconsider
6 or change your opinions that the challenged patents are
7 obvious in view of the prior art?

8 **A. Can you be more specific? Give me examples and**
9 **then I could perhaps respond to them. What would be**
10 **your examples of secondary considerations?**

11 Q. Well, I'm asking you what sorts of things could
12 make you reconsider your opinion on obviousness of the
13 patent, if any?

14 **A. Sitting here right now, I can't identify any.**

15 Q. And to be clear, I'm not asking about specific
16 things. I am more curious what categories of things
17 would make you reconsider your opinion that these
18 patents are obvious in view of the prior art?

19 **A. Sitting here right now, I can't point to any**
20 **categories.**

21 Q. Would evidence of commercial success of a
22 product embodying the patent make you reconsider your
23 opinion on obviousness?

24 MR. MOONEY: Objection. Form.

25 THE WITNESS: I need to look at the evidence

1 before I could form an opinion.

2 BY MR. JOHNS:

3 Q. Is it possible that there is evidence of
4 commercial success of a product embodying a patent that
5 would make you reconsider an opinion on obviousness?

6 MR. MOONEY: Objection. Form.

7 THE WITNESS: Anything is possible, but I would
8 need to see the specifics of the commercial success.

9 BY MR. JOHNS:

10 Q. Would evidence of unexpected results of a
11 patented invention make you reconsider your opinion on
12 obviousness?

13 **A. Again, anything is possible, but I would need**
14 **to see the specific evidence before I could form an**
15 **opinion.**

16 Q. Would evidence of long felt but previously
17 unsolved needs make you reconsider your opinion on
18 obviousness?

19 **A. Again, anything is possible, but I would need**
20 **the specific evidence before I could form an opinion.**

21 Q. Would evidence of prior skepticism of experts
22 in the relevant field about a patented invention make
23 you reconsider your opinion on obviousness?

24 **A. Anything is possible, but I would need to see**
25 **the specific evidence before I could form an opinion on**

1 **that matter.**

2 Q. Would evidence of copying of a patented
3 invention make you reconsider your opinion on
4 obviousness?

5 A. **Again, anything is possible, but I could not**
6 **form an opinion without seeing the specific evidence.**

7 Q. Have you had an opportunity to consider
8 evidence of secondary considerations in any of your past
9 cases?

10 A. **Yes, I have.**

11 Q. Which cases did you consider secondary --
12 evidence of secondary considerations in?

13 A. **I should say that this is some time ago because**
14 **my deposition was in 2021. But as I recall, in Case**
15 **Number 5 listed on page 9 of my CV, secondary**
16 **considerations were involved in that case.**

17 Q. Were you represented by a party that was
18 challenging the validity of a patent or not challenging
19 the validity of a patent in Case Number 5?

20 MR. MOONEY: Objection. Form.

21 BY MR. JOHNS:

22 Q. Sorry, let me -- if I can strike that.

23 Were you offering testimony on behalf of a
24 party that was challenging the validity of a patent in
25 Case Number 5?

1 **A. In Case Number 5, I was retained by counsel for**
2 **the plaintiff.**

3 Q. Was the plaintiff in Case Number 5 asserting
4 the patent or defending against a patent assertion?

5 **A. The plaintiff in this case was asserting the**
6 **patent.**

7 Q. And in Case Number 5, you -- I believe you said
8 that you reviewed evidence of secondary considerations
9 of non-obviousness; is that correct?

10 **A. I believe that there was material on secondary**
11 **considerations which I saw, but I am not recalling**
12 **details of that material.**

13 Q. Do you recall what type of evidence of
14 secondary considerations it was that you saw in Case 5?

15 **A. It was under the headings of the questions that**
16 **you posed to me a couple of minutes ago under those**
17 **headings.**

18 Q. Was it under all of the headings that I
19 proposed to you a few minutes ago?

20 **A. At least several of them.**

21 Q. Which categories were they?

22 **A. My memory is fuzzy, and I don't want to**
23 **speculate. But I do think that the areas that you were**
24 **asking me about, it did include some of those areas.**

25 Q. Do you recall what about the evidence you

1 saw -- sorry, strike that.

2 In Case Number 5, did you believe that the
3 patents were invalid but for the secondary
4 considerations evidence that you reviewed?

5 MR. MOONEY: Objection. Form.

6 THE WITNESS: That is not my recollection. I
7 wrote a report with opinions that the patents were
8 valid.

9 BY MR. JOHNS:

10 Q. Did your report consider the evidence of
11 secondary considerations that you saw in Case 5?

12 A. What I'm not remembering clearly is whether the
13 information on the secondary considerations was shown to
14 me before or after my report. I'm fuzzy as to when that
15 information came out.

16 Q. Did you consider evidence of secondary
17 considerations in any other cases?

18 A. I may have, but I am not recalling which cases
19 involved secondary considerations.

20 Q. Did you consider evidence of secondary
21 considerations in any other cases that are not listed on
22 page 9 of your CV?

23 A. The cases which are not listed on this page
24 didn't get as far as a deposition; so I would be
25 surprised if I had been provided with secondary

1 **consideration evidence in those cases. So I can't be**
2 **certain, but I would be -- I doubt it.**

3 Q. Okay. Turning back to your declaration,
4 Exhibit 1003 -- and this is page 76 -- in paragraph 131,
5 you opine about the level of ordinary skill in the art
6 as of August 2014.

7 Do you see that?

8 **A. Yes, I see that.**

9 Q. Did you come up with that level of ordinary
10 skill in the art?

11 MR. MOONEY: Objection. Form.

12 THE WITNESS: I came up with it and also
13 discussed it with --

14 MR. MOONEY: Caution the witness not to reveal
15 any discussions that you had with counsel, but if you
16 can otherwise respond to the question, go ahead.

17 THE WITNESS: This is my opinion of a person of
18 ordinary skill in the art.

19 BY MR. JOHNS:

20 Q. Did you come up with this level of ordinary
21 skill in the art entirely yourself?

22 MR. MOONEY: Objection. Form.

23 THE WITNESS: In order to not reveal
24 discussions with retaining counsel, I should make a
25 broad top-level statement that this is my opinion and

1 this was discussed.

2 BY MR. JOHNS:

3 Q. Before having a discussion with counsel about
4 this level of ordinary skill in the art, did you come up
5 with this level of ordinary skill in the art yourself?

6 MR. MOONEY: Objection. Form.

7 THE WITNESS: I'm not recalling the process,
8 and I'm a little concerned that to try to give you a
9 description would be to go into the discussions with
10 retaining counsel.

11 BY MR. JOHNS:

12 Q. Other than yourself, could you name somebody
13 that comes to mind that meets this ordinary skill in the
14 art?

15 A. For sure. I was an engineering manager at
16 Siemens and working for me as my employees were people
17 with this level of ordinary skill in the art.

18 Q. Those people that you are referring to, did
19 they have experience in the field of biometric security?

20 A. They had a bachelor's degree in these
21 engineering disciplines and had experience in computer
22 vision and optics. And so obviously the people working
23 for me were not biometric security specialists, but they
24 meet the criteria of education and the technical
25 experience in the field.

1 Q. Can you describe the field of optics for me?

2 A. Optics is a field in physics, and it pertains
3 to light and how light propagates. Optics is the
4 physics of light.

5 Q. Did you have two years of work experience in
6 the field of optics in August of 2014?

7 A. Yes, I have.

8 Q. Did you have two years of work experience in
9 the field of biometrics in August 2014?

10 A. I had done work in the biometric field, and I
11 had worked for a good deal -- more than two years in
12 related fields.

13 Q. Had you done two years of work experience in
14 the field of biometrics in August 2014?

15 A. Putting together my experience at GE and my
16 work at Qualcomm, that would be the two years work
17 experience.

18 Q. As of August 2014; right?

19 A. Yes.

20 Q. Did you have two years of work experience in
21 the field of facial authentication in August of 2014?

22 A. No, I had not -- I have not had, at that date,
23 the work experience in facial authentication
24 specifically.

25 Q. Did you have two years of work experience in

1 the field of computer vision in August of 2014?

2 **A. Yes. I had a lot more than two years'**
3 **experience in that field at that point.**

4 Q. And by "computer vision," are we talking about
5 the computer vision we discussed earlier with respect to
6 the patents that we reviewed?

7 MR. MOONEY: Objection. Form.

8 THE WITNESS: Yes, that's correct.

9 BY MR. JOHNS:

10 Q. If a person had a degree in physics and two
11 years of work experience with optics, in your opinion,
12 would they be a person of ordinary skill in the art?

13 **A. That would depend -- you'll see at the end of**
14 **paragraph 131 that I state that "A formal education**
15 **would be a substitute for work experience and conversely**
16 **work experience could substitute for formal education."**

17 Q. Could somebody with two years of work
18 experience in biometrics and facial authentication and a
19 degree in physics be a person of ordinary skill in the
20 art?

21 MR. MOONEY: Objection. Form.

22 THE WITNESS: If they had significant academic
23 and work experience in both software development and
24 optics, I could see that person being a person of
25 ordinary skill in the art.

1 BY MR. JOHNS:

2 Q. What do you mean by "significant academic and
3 work experience"?

4 A. That means either taking college courses that
5 pertain to this or working in a technical field and
6 needing to solve problems in these areas.

7 Q. By "significant academic and work experience,"
8 do you mean more than a bachelor's degree and/or more
9 than two years of work experience?

10 MR. MOONEY: Objection. Form.

11 THE WITNESS: No. The clause that starts "Such
12 that they would have significant and/or work experience"
13 is fleshing out and qualifying the statements before,
14 which are on the field of the academic degree and the
15 type of work experience.

16 BY MR. JOHNS:

17 Q. Could somebody with a bachelor's degree in
18 electrical engineering and more than two years
19 experience with biometrics and facial authentication be
20 a person of ordinary skill in the art?

21 MR. MOONEY: Objection. Form.

22 THE WITNESS: As long as that person has
23 significant academic and/or work experience in software
24 development and optics, I would think so.

25 ///

1 BY MR. JOHNS:

2 Q. Could somebody with a bachelor's degree in
3 electrical engineering and more than two years
4 experience with biometrics and facial authentication be
5 more qualified than you?

6 MR. MOONEY: Objection. Form.

7 THE WITNESS: I do not think so.

8 BY MR. JOHNS:

9 Q. Why do you not think so?

10 A. Because I have been working for more than
11 30 years in a field which has exactly the same physics
12 as optics; and, therefore, I have a lot more work
13 experience than someone with the bachelor's degree in
14 electrical engineering and the two years work
15 experience. So I think I am more qualified than the --
16 the bar for a POSITA here.

17 MR. MOONEY: We have been going for about an
18 hour, Counsel.

19 MR. JOHNS: I think I'm about done.

20 MR. MOONEY: If you're good for a break for a
21 few minutes.

22 MR. JOHNS: We can take a break. I'm done with
23 my questioning.

24 MR. MOONEY: A break probably makes sense,
25 then.

1 (Recess.)

2 EXAMINATION

3 BY MR. MOONEY:

4 Q. Good afternoon, Dr. Daft. How are you?

5 A. Great.

6 Q. Kyle Mooney representing Jumio, as you are
7 aware.

8 Do you have Exhibit 1003, which is a copy of
9 your declaration, with you?

10 A. I do.

11 Q. And could you turn to paragraph 131 on page 76
12 of your declaration?

13 A. Okay, I've got that.

14 Q. You were asked moments ago about your
15 experience in connection with some of the fields that
16 are identified in paragraph 131; is that right?

17 A. Yes.

18 Q. And you testified that you had, as of
19 August 2014, more than two years experience in optics.
20 Do you recall that?

21 A. Yes.

22 Q. And could you please describe your experience
23 in optics as of August 2014?

24 A. Yes. There's two types of experience involved
25 there. The first is that the diagnostic ultrasound that

1 **I have spent -- I had spent the majority of my time from**
2 **1990 to 2014 -- involves exactly the same physics as**
3 **optics.**

4 **And so, in my mind, that is optic experience.**
5 **Also, I was involved in several projects that bridged**
6 **ultrasound and optical systems and so those directly**
7 **involved optical systems.**

8 Q. You testified also that you had more than two
9 years' experience in computer vision as of August 2014.

10 Do you recall that?

11 A. **Yes, I do.**

12 Q. Can you please describe for me your experience
13 in computer vision as of August 2014?

14 A. **My computer vision experience, as of**
15 **August 2014, involved interpreting medical images. This**
16 **is very important because this can aid a physician in**
17 **producing a better diagnosis.**

18 **So I would take the medical imaging data and**
19 **apply computer vision technique to it in order that**
20 **the -- in order to help the physician diagnose disease.**

21 Q. You also testified that you had more than two
22 years' experience, as of August 2014, in fields related
23 to biometrics.

24 Do you recall that?

25 A. **I do.**

1 Q. Can you please describe for me your experience
2 in fields related to biometrics as of August of 2014?

3 A. Yes. The work experience that I had done
4 involved a project, when I worked at General Electric,
5 that was a biometric fingerprint recognition. And
6 the -- that was for law enforcement and military
7 applications.

8 As well as that, I had experience when I was a
9 consultant to Qualcomm. And there the biometric work
10 was on an improved way of having fingerprint
11 authentication for cell phones.

12 Q. And did your work on the biometric fingerprint
13 recognition at General Electric relate to biometric
14 security?

15 A. It did.

16 Q. How so?

17 A. It was involved with the authentication of the
18 identity of people from fingerprint database.

19 Q. Did your work on the fingerprint identification
20 for cell phones at Qualcomm relate to biometric
21 security?

22 A. Yes, it did.

23 Q. How so?

24 A. The purpose of the subsystem that I developed
25 along with the group at Qualcomm involved getting better

1 information on a fingerprint than the standard
2 approaches, which you'll see, for example, in an iPhone.

3 And so the whole point was to authenticate the
4 user of the cell phone.

5 Q. And so is it correct that, as of August of
6 2014, you had more than two years of experience in
7 fields relating to biometrics?

8 A. Yes.

9 Q. Is it true that, as of August of 2014, you had
10 more than two years' experience in optics?

11 A. Yes.

12 Q. And is it also true that, as of August 2014,
13 you had more than two years' experience in computer
14 vision?

15 A. Yes.

16 MR. MOONEY: Nothing further.

17 MR. JOHNS: I don't have anything either.

18 (The deposition was concluded
19 at 12:16 p.m.)

20

21

22

23

24

25

1 I certify or declare under declaration
2 under penalty of perjury that the foregoing testimony is
3 true and correct.

4
5 Executed this ____ day of _____,
6 2024, at _____, California.

7
8
9
10 _____
Dr. Christopher Daft

11
12
13
14
15
16
17
18
19
20
21
22
23
24
25

7 That the foregoing deposition was taken
8 before me at the time and place therein set forth, at
9 which time the witness was duly sworn by me;

14 I further certify that I am neither counsel for
15 nor related to any party to said action, nor in any way
16 interested in the outcome thereof;

21 In witness whereof, I have subscribed my name,
22 this 4th day of September, 2025.

23
24 
25 Lindsay A. Stoker, RDR, RMR, CRR, CRC
CA CSR No. 14373

A	63:13 64:16 64:19 72:14	42:10	9:10,15 58:4	bar 71:16
a.m 2:17 6:2	agree 7:2	applications 30:15,19	attorneys 27:9	barred 56:4,16
A1 4:11,14	agreement 27:2,5	31:3,6,10,12	27:11	56:22 57:1,8
abbreviations 18:7	ahead 57:21	32:3 34:10	August 1:16	57:11,15
abstract 32:7	58:7 66:16	34:23 37:10	2:18 6:2 66:6	58:1
32:9 33:22	AI 47:4	42:8 74:7	68:6,9,14,18	based 9:10,15
33:24 34:7	AI-capable 38:15	apply 15:13	68:21 69:1	58:4
academic 29:11,14	aid 73:16	73:19	72:19,23	beam 32:13
30:5 69:22	allows 36:6	approaches 75:2	73:9,13,15	began 34:14
70:2,7,14,23	altering 58:22	Apr 4:11	73:22 74:2	begun 23:14
Achievement 40:15	amount 20:5	area 22:9 23:1	75:5,9,12	behalf 2:14 3:3
acoustic 20:14	31:10 38:11	23:6,10	authenticate 38:5 75:3	3:15 49:15
20:18,20,21	analog 20:22	56:23 57:1	authentication 12:2 36:6	50:15 51:5
21:2 32:18	analysis 11:17	areas 41:1	68:21,23	51:19 58:14
34:17 45:12	12:2 29:24	42:4 54:21	69:18 70:19	59:8 63:23
45:16	52:25	55:2,11	71:4 74:11	believe 6:17
acoustics 45:24	and/or 70:8,12	64:23,24	74:17	29:13 30:20
acquire 35:4	70:23	70:6	Avenue 3:17	53:24 54:8
35:21 37:24	Angeles 1:17	ARJOMAND 3:8	Award 40:15	54:16 60:18
49:23	2:16 3:9,12	array 32:12,13	40:20	64:7,10 65:2
acquired 36:9	6:1	32:14 34:2	awards 39:5	benefit 34:11
36:18 38:12	Anne 2:18 77:4	art 10:1 61:2,7	aware 23:3,7	best 59:21
49:24	answer 7:9,14	61:18 66:5	24:1 25:11	better 73:17
acquires 35:20	8:1 10:15	66:10,18,21	60:1,12,24	74:25
38:5	answers 6:22	67:4,5,14,17	72:7	bioengineeri... 46:4
acquisition 46:5	6:24,25 7:2	69:12,20,25	azimuth 32:15	biometric 11:3
acronym 34:6	7:20	70:20	B	11:8,10,13
34:13	anybody 47:3	artificial 38:14	bachelor's 67:20 70:8	11:16,21
acronyms 34:19	APPEAL 1:3	asked 56:1	70:17 71:2	12:5,8,11
action 77:15	2:2	72:14	71:13	13:25 21:6
advise 46:12	APPEARING 3:3,15	asking 6:21	back 10:15	21:12,17
advisor 46:8	application 4:10,14	7:25 9:21,22	16:24 19:19	22:1,3,5,9,11
aesthetic 50:22	12:14 31:20	61:11,15	19:21 20:9	23:2,3,6,10
afternoon 72:4	31:23,25	64:24	37:8 39:2	23:18,21
ago 10:12,17	33:2,13,15	asserting 64:3	42:16 45:7	24:11,14,18
10:20 17:18	33:18,19,20	64:5	46:16 47:6	24:22 25:1,4
18:10 54:23	34:7,25 35:3	assertion 64:4	58:12 60:22	25:7 29:21
	36:1,4 37:5	attacks 36:10	66:3	30:1,9 35:4,5
	37:21 38:7,9	attorney 6:9	background 30:4	35:5,9,14,19
		58:5		36:8,15,18
		attorney-clie...		36:21,24
				37:5,25 38:1
				38:1,4,8,17

38:20,25	2:2	54:15	65:17,18,21	clarify 7:6
40:10 41:12	body 32:21	captured	65:23 66:1	clause 70:11
41:16 42:7	50:22	54:10	categories	clear 6:24 7:2
42:10,14	bottom 12:17	capturing	61:16,20	18:6 54:5
44:2,7,8,12	14:22 29:9	24:14,22	64:21	61:15
45:1,6,19	45:9 54:25	50:6	caution 57:18	clearly 27:14
46:2,5,6,13	56:9	card 54:9	66:14	65:12
48:2,16,17	Boulevard	cards 53:25	cell 11:13,16	clinic 38:13
49:9 50:9,24	2:16 3:8,12	careful 20:1	59:13 74:11	clinical 34:11
51:12,13	brain 32:19	case 12:6,8,9	74:20 75:4	clocks 52:2
52:1,4,10,11	34:18,22,24	47:11,12,14	Cephasonics	53:17,19,20
52:13 53:12	break 7:24,25	47:18,20,20	42:17,22,24	53:22 54:1,8
53:15,16,18	8:2,6 25:22	47:22 48:2,5	43:8 44:17	54:11,13,14
53:20,22,23	46:20 47:1,3	48:8,8,10,12	44:20,23,24	56:17
54:1,11,14	71:20,22,24	48:14,15,17	45:2	Closed 4:13
55:7,12,15	breaks 7:23	48:19,22,23	certain 66:2	closely 21:1
55:17,24	8:10	48:25 49:1,3	certainly 6:19	Coie 26:19,22
56:6,18,20	breast 47:24	49:3,4,5,7,9	Certified 2:20	26:25 27:3,8
59:1,13,17	bridged 73:5	49:11,14,15	2:20,21 77:5	27:16
59:22 60:20	broad 66:25	49:18,20	certify 76:1	collect 56:17
67:19,23	broader 24:20	50:5,8,11,14	77:6,14	college 70:4
68:10 74:5,9	41:25 42:11	50:17,19,24	challenged	come 66:9,20
74:12,13,20	broadly 47:24	51:1,4,7,9,13	61:2,6	67:4
biometrics	BTL 50:16	51:15,18,21	challenging	comes 67:13
29:15 30:9	bullet 21:6	51:22,24	63:18,18,24	commencing
35:2,16	businesses	52:4,7,10,11	Chang 4:17	2:17
37:23 38:22	41:6	53:9,12,14	change 61:1,6	commercial
53:18 54:2		54:9,18,22	changed 28:20	61:21 62:4,8
68:9,14	C	55:16,18	42:20	common 33:3
69:18 70:19	C 3:1,16	58:12,14,17	changes 8:8	communicat...
71:4 73:23	CA 1:24 3:9,12	58:19 59:1,4	charge 28:15	36:5
74:2 75:7	77:25	59:7,10,12	chips 43:6,18	communicat...
biosensing	California 1:17	59:14,16,19	44:6 45:3,4	9:22 36:7
53:9	2:17,22 6:1	59:22 60:12	Chris 6:8,12	companies
biosensing'	76:6 77:1,6	60:16,19	Christopher	11:2,6 12:4
53:7	call 34:14	63:14,16,19	1:15 2:14	12:10 13:24
biosensor	called 6:4	63:25 64:1,3	3:16 4:2,9,13	14:3 42:21
53:5	capability	64:5,7,14	4:19 6:3,11	company 13:6
BIPA 56:7,19	53:24 54:9	65:2,11	76:10	42:2,20 43:2
bit 14:18 21:16	capacity 25:16	77:18	Christopher....	43:5,7
24:20 41:25	Captioner 2:21	cases 10:7	3:19	companywide
42:11 55:8	capture 23:24	11:4 14:4	circuit 45:24	41:5
blood 50:3	24:3,8,10,18	25:24 26:1	Clarification	compared
BOARD 1:3	25:1,7 54:2	47:8 63:9,11	25:17 43:3	11:25

compensated 28:17	considers 53:7	42:13	court 6:22	46:24 52:20
complete 25:24 26:3 29:11 30:20	consistently 17:10	correct 10:18	52:6,9,12,14	56:16 72:4
completion 77:19	consultant 11:12 22:5 74:9	10:21 12:3	53:11 55:16	76:10
component 44:4	consulting 11:7 21:11	15:22 17:21	55:19,23	data 31:20
components 36:16	21:19 22:2,8 36:20	17:22 20:12	56:4,10,12	33:13 35:4,5
compression 43:19,20,22	content 29:21 30:1 31:11 31:11	20:15 21:24	56:22,25	35:15,15,19
comprises 32:13	context 10:13 35:14	29:3,25 31:4	59:16,18,21	36:8,18
computer 30:23 31:7,9 31:10,11 38:15 67:21 69:1,4,5 73:9 73:13,14,19 75:13	continued 27:19 28:5 39:16	34:18,19	59:25	37:25 38:1,4
concerned 67:8	continuously 22:4	39:22,23	covers 17:20	38:12,14,16
concluded 75:18	contributing 11:14	40:1,4,6,7,21	CPC 4:18,20	38:17,17,20
Configured 4:10	contributions 11:15 40:20	40:22 42:20	CRC 1:23 77:4 77:24	38:21,25
confirm 60:9	conversation 17:23	44:18,22	create 32:21	43:19,20,22
conglomerate 40:25	conversations 58:9	45:25 46:1	created 56:5 56:19	46:5 73:18
connection 55:14 72:15	conversely 69:15	46:10,11	creating 38:25	database 74:18
consider 63:7 63:11 65:10 65:16,20	cooperation 16:22	47:8,9 57:6	criteria 67:24	date 12:25 13:2 15:24 68:22
consideration 66:1	copy 72:8 77:13	64:9 69:8	CRR 1:23 77:4 77:24	dated 15:17
consideratio... 60:25 61:10 63:8,12,16 64:8,11,14 65:4,11,13 65:17,19,21	copying 63:2	75:5 76:3 77:12	CSR 1:24 77:25	dates 23:11
	corner 14:22	correctly 20:16 22:22 39:8 42:19 44:16	curious 61:16	David 27:12,18 27:20 28:6
	corporate 41:3 41:7,11	counsel 7:13 8:5,11,19 9:2 9:22 16:12 16:15,17,22 37:14 47:19 48:10,24 49:16 50:16 51:6,20 57:19 58:4 58:10,15 59:9 64:1 66:15,24 67:3,10 71:18 77:14	customers 44:12	day 76:5 77:22
	Corporation 1:5 2:4 3:3 10:7 26:11 39:20 41:19 41:22 42:12	COUNTY 77:3	cut 20:1	days 10:12,17 10:20
		couple 6:19 10:12 64:16	CV 12:24,25 13:2,12,15 13:20 20:9 25:23,23 29:8 32:4,6 36:19 39:21 41:18 42:16 45:7 47:7 57:9,15 58:1 58:12 63:15 65:22	DC 3:17
		course 6:23 7:24 22:7 28:21	D	deal 68:11
		courses 45:23 46:2,4,7 70:4	d-e-n-e-r-v-a... 58:25	decision 10:17 10:20
			Daft 1:15 2:14 4:2,9,13,19 6:3,8,11 25:20 33:10	declaration 10:1 13:3 15:3,4,16,20 16:1,3,6 17:7 17:10,20 18:11,15,21 19:3,8,12,16 19:18 20:7 25:21 26:21 26:22 28:16 30:22 32:4,5 39:2,4 40:14 46:16 57:12 57:16 58:2 60:22 66:3

72:9,12 76:1 declare 76:1 defending 64:4 degree 67:20 69:10,19 70:8,14,17 71:2,13 denervation 58:22,24,25 department 41:3,8 depend 69:13 deployed 42:3 deposed 6:14 26:7,9 deposition 1:15 2:14 8:15 9:2 15:5 26:2,13 27:25 28:3,7 28:10 29:2,2 29:5,5 54:23 55:20 63:14 65:24 75:18 77:7,18 depositions 59:19 describe 30:1 38:16 68:1 72:22 73:12 74:1 described 36:17 description 4:8 36:2 37:5 44:19 67:9 design 35:9 designation 39:9 designed 45:5 detail 19:13,17 details 64:12 detection	25:10,13,16 36:9 48:6,20 49:12 50:12 51:2,16 54:19 59:5 60:17 develop 39:17 developed 74:24 developing 11:13 42:1 43:25 44:6 development 38:11 53:5 69:23 70:24 developments 43:17 device 36:4,6 36:11 51:12 Devices 58:16 diagnose 73:20 diagnosis 73:17 diagnostic 42:2 72:25 diagram 36:2 differences 34:8 different 26:16 42:8 55:2 difficult 14:18 Diplomate 2:19 direct 35:21 directly 45:3 73:6 disciplines 21:1 67:21 disclosed 34:3 discuss 8:11 30:8 discussed 21:16 35:25	47:4,7 57:17 66:13 67:1 69:5 discusses 38:10 discussion 37:17 67:3 discussions 44:14 57:19 58:4 66:15 66:24 67:9 disease 73:20 division 20:8 40:3 Doctor 20:1,10 doctoral 20:13 document 10:12 12:17 12:21,23 14:19,21,25 15:2,14 16:21 31:14 31:19 32:8 33:6,10 52:16,22 55:19 56:2 56:14,24 57:17 59:24 60:2,7,9,23 documents 8:18 9:4,7,16 9:23 10:2 37:16 doing 23:3,7 doubt 66:2 doubtless 18:12 Dr 1:15 2:14 4:2,19 6:3,8 25:20 33:10 46:24 51:6 52:20 72:4 76:10 draft 16:18,23	duly 6:4 77:9 DUNNER 3:16 Dushman 40:20 E E 3:1,1 4:17 earlier 20:10 26:20 69:5 early 43:24 ease 17:23 Edmond 4:17 education 67:24 69:14 69:16 effort 17:17 18:9 43:20 either 70:4 75:17 Electric 12:12 13:6 40:16 74:4,13 electrical 70:18 71:3 71:14 electronic 43:8 electronics 44:5 element 32:15 elements 32:14 elevation 32:15 Email 3:6,10 3:13,19 embodying 61:22 62:4 employee 53:25 employees 53:17 67:16 employs 32:12 encryption	36:7 ended 26:9 42:22 enforcement 74:6 engagement 27:2,5 engineering 67:15,21 70:18 71:3 71:14 entire 16:3 27:20 entirely 66:21 entirety 15:20 42:12 entitled 29:23 52:24 equal 20:5 ESQ 3:4,8,11 3:16 estimate 19:6 19:10,14 evaluated 38:14 everybody's 14:18 evidence 60:25 61:21 61:25 62:3 62:10,14,16 62:20,21,25 63:2,6,8,12 64:8,13,25 65:4,10,16 65:20 66:1 exact 20:22 23:11 exactly 52:14 53:10 71:11 73:2 EXAMINATI... 4:4 6:6 72:2 examined 6:5
--	--	---	--	---

example 26:6 75:2	53:7,9 55:17 55:23 56:10 59:17,22	24:10 25:9 far 65:24	54:10,15 finish 8:1 18:20	25:5,14 26:23 29:16 30:3 35:7,17
examples 61:8 61:10	experts 56:12 62:21	FARABOW 3:16	FINNEGAN 3:16	37:2 38:3,23 40:11 43:16
exciting 47:6	explain 21:17 32:24 34:4	fat 50:23	firm 26:16,18	44:10 45:20
exclude 4:19 60:14	53:14	federal 77:18	firming 50:22	47:15 50:1
Executed 76:5	explicitly 44:6 45:6	feel 38:8	firmware 36:16	52:5 56:8
exhibit 4:9,13 4:16,18 5:3,4	extent 57:20 58:6	felt 62:16	first 6:4 10:11 10:16 14:23	61:24 62:1,6 62:14,20,25
12:19 14:20	eyes 23:25 24:3,8	field 23:7 29:15 31:20	16:18,23,23	63:6,20 65:5
18:24 19:5	F	33:16,23,24	18:3 21:5	66:11,22
31:16 33:7	F 34:13	34:19 43:18	31:19 32:8	67:6 69:7,21
35:25 36:25	fabless 43:2,4 43:7	55:15 62:22	32:10 33:25	70:10,21
37:8,15 39:3	FaceTec 1:8 2:7 3:15 6:9	67:19,25	40:20 53:4	71:6
39:3 47:7	10:25 14:15	68:1,2,6,9,10	56:15 72:25	formal 69:14 69:16
52:17,20	facial 14:4 24:11,14,17	68:14,21	Fitbit 49:17	format 34:2
60:4,23 66:4	24:22,25	69:1,3 70:5	five 55:2,6,10	forms 30:8
72:8	25:4,7,9,13	70:14 71:11	fleshing 70:13	forth 16:24 77:8
exhibits 4:6 5:1 19:2	25:16 48:5	fields 34:12 50:22 68:12	flip 20:9	found 52:6
expenses 28:19	48:19 49:11	72:15 73:22	flow 42:9	four 17:20 19:6 20:6
experience 21:6 25:24	50:6,12 51:1	74:2 75:7	focus 20:13 35:18 47:10	Friday 1:16 2:17 6:2
44:8 67:19	51:15 54:2	Figure 36:2	focused 4:9 32:11,16,20	front 19:19,21 37:16
67:21,25	54:18 59:4	filed 4:11,14 13:1 26:16	32:24 33:1	Fujifilm 47:11 47:19 48:9
68:5,8,13,15	60:16,19	31:12	34:12	48:10
68:17,20,23	68:21,23	filing 28:21	focusing 32:12,19	full 6:10 7:2,20 29:11 56:15
68:25 69:3	69:18 70:19	finalizing 17:7	Foerster 2:16 3:4,7,11 27:6	fund 41:6
69:11,15,16	71:4	fine 9:19 18:8 46:25	29:7	further 75:16 77:14,17
69:18,23	Facsimile 3:18	finger 11:23	followed 21:12	fuzzy 64:22 65:14
70:3,7,9,12	factory 43:5	fingerprint 11:24 12:2	follows 6:5	G
70:15,19,23	fair 7:10,11 41:10 44:19	12:13 13:19	foregoing 76:2 77:7,17	Garmin 49:16
71:4,13,15	46:21 53:8	13:22 30:6	forgive 20:24	GARRETT 3:16
72:15,19,22	fall 37:4	53:6 54:9,13	forked 42:21	gas 42:9
72:24 73:4,9	falls 37:5	56:6,19 74:5	form 14:5 17:16 18:4	
73:12,14,22	familiar 6:19 10:10 23:24	74:10,12,18	21:2,20	
74:1,3,8 75:6		74:19 75:1	22:10,19	
75:10,13		fingerprint' 56:18	24:6,16,24	
expert 12:7 21:11,19		fingerprints 13:10 53:21		
36:20 39:9				
52:3,9,12				

GE 13:17 40:23,25 41:7,11,16 68:15 GE's 40:20 Gene 8:25 General 12:12 13:5 40:16 74:4,13 generally 7:14 generating 11:22 gentleman 47:4 getting 11:24 74:25 give 22:17 33:5 47:17 48:22 49:15 61:8 67:8 Global 4:20 59:9 go 6:18 10:15 23:12 34:17 37:8 42:11 57:20 58:7 66:16 67:9 goes 38:16 going 6:18,25 7:19 12:16 14:17 18:6 22:24 26:10 30:21 31:13 42:16 45:7 46:18,19 47:6 52:16 58:12 60:2 71:17 good 6:8 17:17 44:13 47:1 68:11 71:20 72:4 great 18:9 19:13,17	72:5 group 11:13 42:22 74:25 guess 17:3,11 18:12 26:10 guy 40:8 H halfway 13:5 56:15 hand 12:16 52:16 60:2 handed 20:10 handwritten 15:11 happened 44:21 happy 7:6,25 46:20 hardware 36:16 head 32:17 34:16 headings 64:15,17,18 health 33:3 49:23,24 hear 9:12 heard 10:11,16 heart 50:3 held 37:17 help 6:24 16:5 16:8 73:20 helpful 34:13 HENDERSON 3:16 Hi 25:20 46:24 high 35:10 hired 47:17 48:8 histology 20:20,24,25 history 55:18 HMD 4:20 59:9	Hologic 47:11 hour 7:23 8:6 8:10 28:25 46:19 71:18 hourly 28:15 28:18 hours 9:1,3 10:5 17:12 17:18 housekeeping 6:19 Howe 4:16 51:20 human 23:25 24:3,8 I ID 53:25 54:9 identification 31:17 33:8 52:18 60:5 74:19 identified 12:19 14:20 72:16 identifier' 56:18 identify 61:14 identity 74:18 ignorance 20:24 Ill 4:16 Illinois 45:8 46:3 image 24:17 24:25 25:7 29:23 32:21 34:21,24 imager 40:21 images 23:25 24:3,11,14 24:22 25:4 50:6 73:15 imaging 21:3	35:1 37:22 37:24 40:6 45:15,24 47:25 54:15 73:18 important 6:25 73:16 impressive 29:9 30:14 improved 74:10 inaccurate 18:12 include 13:20 27:24 64:24 included 23:23 includes 35:10 including 50:2 incorporate 43:11 Incorporated 42:17 INDEX 4:1 individual 49:2 Industries 50:16 information 11:24 35:4 49:23 51:12 54:24 56:6 57:5 65:13 65:15 75:1 information' 56:20 innovation 31:8 inside 32:21 34:22 institution 10:12,16,19 instruct 9:9,14 intelligence 38:14 interacting	20:21 interaction 23:12 interactions 23:13 interested 77:16 internet 36:11 interpreting 73:15 invalid 65:3 invasive 58:21 invention 37:4 62:11,22 63:3 invoiced 29:1 invoices 27:17 27:19,22,24 28:2,6,9 29:4 involve 52:11 involved 12:13 17:18 30:23 39:14 46:4 47:22,24 48:12 49:5,7 49:18,20 50:5,17,19 50:21 51:7,9 51:11,22,24 52:1 53:25 58:17,19 59:12 63:16 65:19 72:24 73:5,7,15 74:4,17,25 involvement 15:25 involves 45:17 73:2 involving 12:8 24:13,21 25:9,12 31:9 iPhone 75:2 IPR 15:21
---	---	--	---	--

26:12 28:21 IPR2025-001... 1:6 2:5 IPR2025-001... 1:6 2:5 IPR2025-001... 1:7 2:6 IPR2025-001... 1:7 2:6 iProov 10:10 10:11,22 14:9 IPRs 26:15 27:21,22 isolation 36:10 issue 53:16 54:8 issued 30:14 30:18 55:19 issues 33:4 items 6:19 55:6,10	39:1 40:13 43:12,21 44:15 45:22 46:19,23 47:16 50:4 52:8,16,19 56:13 57:24 58:11 60:6 62:2,9 63:21 65:9 66:19 67:2,11 69:9 70:1,16 71:1 71:8,19,22 75:17 joined 42:24 jointly 16:16 judge 4:17 10:13 Jumio 1:5 2:4 3:3 10:6 12:6 12:17 14:12 14:22 26:11 72:6	L labeled 29:22 36:2,3 Lamego 51:6 large 14:19 38:11 60:23 larger 32:15 largest 31:10 laser 45:12,16 law 26:16,18 74:6 lawyers 26:20 26:21,24 left 31:20 33:12 42:24 legal 26:3,5,12 length 13:16 level 66:5,9,20 67:4,5,17 levels 35:10 light 20:19,21 20:23 45:17 68:3,3,4 Lindsay 1:23 2:18 77:4,24 list 18:24 21:10 25:23 25:24 26:3 29:10,11 30:13,20 31:3 33:19 36:21 39:4 42:16 listed 13:16 18:3 29:19 31:24 32:3,6 33:16 55:10 57:1 63:15 65:21,23 little 14:18 21:16 24:20 67:8 liveness 14:4 25:10,13,16	48:5,19 49:11 50:12 51:1,15 54:18 59:4 60:17 lives 14:18 LLC 4:16 LLP 3:4,7,11 3:16 Lobo 49:2 locations 35:22 Lockheed 12:14 13:9 30:6 41:13 long 10:4 19:9 62:16 70:22 look 61:25 looked 19:13 looking 19:5 19:11 25:20 25:21 29:8 30:13 34:25 37:21 40:14 47:10 49:14 Loop 4:13 Los 1:17 2:16 3:9,12 6:1 lot 7:12 16:10 16:24 31:8 34:10 40:5 42:8 69:2 71:12 lots 22:5	manager 67:15 manufacturer 43:11 Mar 4:21 Marjomand... 3:10 mark 6:11 33:6 marked 5:1 12:17 14:22 31:16 33:7 52:17 60:4 market 11:25 Martin 12:15 13:9 41:13 masters' 46:9 material 20:11 30:5 64:10 64:12 matrix 34:2 38:12 matter 15:3 55:22 63:1 matters 26:4,5 26:8,10,12 28:13 mean 9:18 13:17 70:2,8 meaning 56:11 means 32:17 33:3 34:6 36:8 43:4 54:11 58:22 70:4 measure 51:11 medical 21:1 45:24 58:15 58:16 73:15 73:18 meet 6:12 8:20 8:22,24 67:24 meetings 8:19 meets 67:13
J JEAN 3:11 Jnguyen@m... 3:13 Job 1:24 Johns 3:16 4:4 6:7,8 8:7,9 9:12,17,20 10:3 12:16 12:20 14:7 14:17,21,24 17:19 18:5 20:4 21:22 22:13,21 24:9,19 25:2 25:8,19 27:1 29:18 30:7 31:13,18 33:5,9 35:12 35:23 37:7 37:18 38:6	K keep 13:15 key 39:9 kidney 58:23 kind 40:7 kinds 61:5 Kmooney@... 3:6 know 6:23 7:24 8:7 56:4 56:22,25 59:18 knowledge 14:10,13,16 known 42:18 Krohn 27:12 27:18,20 28:6 Kyle 3:4 8:22 72:6	M magnetic 50:21 majority 41:8 73:1 making 43:6,8 43:10 management 44:11		

MEHRAN 3:8	22:17 24:6	32:23 34:12	51:9,18	62:5,12,18
memorandum	24:16,24	need 7:24	58:12,14,17	62:23 63:4
4:17	25:5,14	61:25 62:8	58:19 59:1,4	Oct 4:11,14
memory 64:22	26:23 29:16	62:13,19,24	59:7,16	offer 50:15
mental 33:3	30:3 35:7,17	needing 70:6	60:13 63:15	51:5,19 52:3
mention 57:8	37:2,14 38:3	needs 35:20	63:19,25	58:13 59:8
57:11,14,25	38:23 40:11	62:17	64:1,3,7 65:2	offered 53:8
mentioned	43:16 44:10	neither 77:14	numbered	54:22 55:3
13:8,12 18:9	45:20 46:21	nerves 58:23	30:2	55:12
30:6 41:14	47:15 50:1	network 36:4,6	numbers	offering 56:17
59:25	52:5 56:8	Networks	33:19 37:15	56:23 57:9
Merit 2:19	57:18 58:3	29:23	NW 3:17	57:12,15
methods	61:24 62:6	Neural 29:23	NY 3:5	58:1 63:23
58:21	63:20 65:5	neuromodul...	O	OFFICE 1:2
metrics 50:2	66:11,14,22	32:13	oath 7:17	2:1
micromachi...	67:6 69:7,21	new 3:5,17	object 7:13 9:9	offices 2:15
42:1,6	70:10,21	27:5 57:5,7	22:18 33:2	okay 6:18 7:6
microscope	71:6,17,20	NGUYEN 3:11	43:16	7:8,12,16,19
20:19,22	71:24 72:3,6	nice 6:12	objection 14:5	7:23 8:4 9:1
microscopy	75:16	non-obvious...	17:16 18:4	9:4,7,17 10:4
20:14,18	morning 6:8	60:25 64:9	21:20 22:10	10:6,22 11:6
21:2 45:13	Morrison 2:16	Notice 2:15	22:18,19	11:9,15,20
45:16	3:4,7,11 27:6	November	24:6,16,24	12:1,4,9,16
middle 18:13	29:7	15:17,22	25:5,14	12:25 13:4
21:13	motion 4:19	18:22	26:23 29:16	14:3,8,17
military 12:14	60:13	number 4:8	30:3 35:7,17	15:4,7,25
74:6	move 39:2	5:2 8:18	37:2 38:3,23	16:5,8,13
mind 67:13	multiple 19:21	17:12,25	40:11 44:10	17:11,20,23
73:4	muscle 50:23	21:12 30:8	45:20 47:15	18:2,14,17
minimally	N	30:14 31:23	50:1 52:5	18:20,23
58:21	N 3:1	31:25 32:1,5	56:8 58:3	19:5,14 20:9
minutes 64:16	N.D 4:16	33:15,18	61:24 62:6	21:5,10,16
64:19 71:21	name 6:10	37:11 39:4	63:20 65:5	22:14 23:5,9
mobile 49:8	24:2,13	41:1 47:11	66:11,22	23:15 24:2
moments	25:12 26:18	47:20,22	67:6 69:7,21	24:20 26:3
72:14	27:11 39:18	48:2,5,8,8,11	70:10,21	27:8 28:20
month 18:17	42:21,23	48:12,14,15	71:6	29:19 30:1
months 17:9	67:12 77:21	48:17,19,22	obvious 61:2,7	30:11,21
Mooney 3:4	names 27:10	48:23,25	61:18	32:7,16 33:5
8:5 9:9,14,18	27:13,14	49:1,3,5,7,11	obviously	37:13,20
9:24 14:5	NCRA 2:18	49:14,15,18	67:22	39:2 41:18
17:14,16	near 58:23	49:20 50:8	obviousness	42:11 44:16
18:4 20:1	necessarily	50:11,14,17	61:12,23	44:20 45:7
21:20 22:10		50:19 51:4,7		45:18 55:16

60:1 66:3 72:13 omitted 13:14 oOo-- 3:1 operate 58:23 operation 35:20 36:11 opine 66:5 opinion 4:17 15:21 36:14 51:25 55:7 61:12,17,23 62:1,5,11,15 62:17,20,23 62:25 63:3,6 66:17,25 69:11 opinions 55:2 55:12 56:5 56:17,23 57:1,9,12,15 58:1 61:1,6 65:7 opportunity 63:7 optic 73:4 optical 49:22 49:22 51:11 54:12 73:6,7 optics 67:22 68:1,2,3,6 69:11,24 70:24 71:12 72:19,23 73:3 75:10 ORANGE 77:3 order 4:17 13:15 35:10 35:21 66:23 73:19,20 ordinary 66:5 66:9,18,20 67:4,5,13,17 69:12,19,25	70:20 original 19:3,8 19:12,15 20:7 77:18 originally 26:16 Otsuka 58:16 outcome 77:16 Owner 1:9 2:8 3:15 Owners 2:15 oxygen 50:3 Oy 4:20 59:9 P P 3:1,1 p.m 75:19 package 40:16 page 4:3,8 5:2 13:4 14:23 15:7,8,16 18:3,23 21:5 21:10,18 25:22,23 29:9,22 30:22 31:19 32:8 36:19 41:18 42:16 45:7,10 47:7 52:24 53:4 54:25 55:1 55:11,11 56:9,14 57:2 60:23 63:15 65:22,23 66:4 72:11 pages 1:9 2:8 18:23 29:8 29:19 30:13 30:19 31:2 55:1 paid 28:12,14 paper 29:21	30:2,8 paragraph 28:16 30:22 31:2 33:19 36:1,13,14 36:25 38:9 38:19 39:4 40:19 46:16 53:4 55:11 56:15 57:3 60:24 66:4 69:14 72:11 72:16 paragraphs 16:10,11 36:17 part 9:13 22:7 35:20 42:21 43:10,24 particular 9:21 24:2,13 25:12 47:18 47:25 54:8 particularly 16:9 parties 50:14 51:4,18 55:20 58:13 59:7 party 47:18 63:17,24 77:15 pass 14:18 passed 14:21 patent 1:2,3,9 2:1,2,8,15 3:15 4:10,13 4:18,20 17:24,25 18:7 19:7,11 19:15,17,19 19:21 30:15 30:19 31:3,9 31:12 33:2	34:7,10,25 35:3,8 36:1 37:4,9,21 38:4,9 47:20 49:4 59:10 61:13,22 62:4 63:18 63:19,24 64:4,4,6 patent-related 49:3 patented 62:11,22 63:2 patents 17:21 18:3 19:6 20:6 30:14 30:18 35:18 49:18 50:17 51:7,22 58:17 60:16 60:19 61:2,6 61:18 65:3,7 69:6 pathology 21:1 patient 35:11 36:9 37:25 38:5 Pekarek 27:12 27:18,20 28:6 penalty 76:2 pending 30:14 30:19 people 67:16 67:18,22 74:18 perform 45:18 performed 38:14 period 17:9 perjury 76:2 Perkins 26:19	26:22,25 27:3,8,16 person 8:20 66:17 69:10 69:12,19,24 69:24 70:20 70:22 personally 11:9 14:8 pertain 70:5 pertained 27:22 pertains 68:2 77:17 petition 9:19 Petitioner 1:6 2:5 3:3 PH.D 3:11 Philosophy 20:10 phone 11:13 11:16 75:4 phones 59:13 74:11,20 physician 73:16,20 physics 11:18 68:2,4 69:10 69:19 71:11 73:2 physics-and... 40:7 piezoelectric 32:14 place 77:8 placing 32:17 34:16 plaintiff 4:18 48:24 49:1 64:2,3,5 platform 42:3 please 7:6 53:3,14 56:15 57:23
--	---	--	---	--

72:22 73:12 74:1 point 61:19 69:3 75:3 pointing 57:4 portion 16:13 16:14 38:19 portions 16:16 16:18 36:25 posed 64:16 POSITA 71:16 possible 23:13 62:3,7,13,19 62:24 63:5 possibly 10:1 potential 44:12 45:4 practice 21:11 21:19 36:20 prefers 8:6 premium 40:21 preparation 9:5 16:1 20:7 27:25 29:1,5 prepare 8:14 8:17 26:21 26:22 prepared 6:23 16:15,19,21 16:23 preparing 9:2 15:5 17:6 18:10,20 19:3,7,11,15 19:18 28:3,6 28:10 present 31:13 pretty 30:14 prevent 7:20 previously 5:1 11:25 42:18 62:16 prior 10:1 34:7	61:2,7,18 62:21 privacy 35:11 privilege 9:11 9:15 58:5 probably 22:24 37:14 71:24 probe 32:12 32:13 38:13 Probes 4:10 problems 70:6 proceedings 13:1 15:21 26:12 77:13 77:19 process 67:7 processing 11:19 processor 38:15 produced 34:22,24 producing 32:18 34:17 73:17 product 38:11 43:11 58:5 61:22 62:4 products 14:9 14:11,14 40:10,24 41:23 43:1,8 43:14 44:24 project 12:13 13:9,19,22 22:14,23 23:22 30:5 39:13,16 41:13 74:4 projects 22:4 22:6,9,12 23:1,5,7,9,15 23:20 41:6	41:15 42:15 46:9,13 73:5 propagates 68:3 properly 7:1 proposed 64:19 protect 35:11 protection 35:19 36:8,9 provide 11:2 12:5,11 13:25 14:4 provided 14:9 14:11,14 25:25 26:1 51:25 65:25 providing 6:22 7:20 11:17 56:5,23 57:1 provisional 31:3,23,25 33:15,18 Pty 4:19,20 Pub 4:11,14 publication 35:24 37:11 publications 29:10,12,14 published 4:11,15 pull 30:21 purchased 39:15,19 purpose 25:7 36:17 74:24 purposes 24:11,14,22 25:1,4 33:2 35:6 38:2 50:22 Pursuant 2:15 Putting 68:15	Q Qualcomm 11:7,11,12 12:1,6 22:15 22:20,22 23:12,14,16 23:22 68:16 74:9,20,25 qualified 52:7 71:5,15 qualify 52:9,12 55:16,23 59:16,22 qualifying 70:13 question 7:8 7:10,13,14 7:25 8:1 9:24 9:25 24:20 46:17 55:9 57:22 58:7,9 66:16 questioning 71:23 questions 6:21 7:5 64:15 quite 17:9	realm 22:2 realtime 2:20 2:21 43:20 43:22 reason 13:14 reasonable 13:15 recall 9:8 14:2 17:8,18 19:25 20:8 23:11,19 26:15,17,18 27:9,10,13 27:14 39:21 41:17 42:15 44:16 52:14 54:1,3,5,6,10 54:12,21 59:24 63:14 64:13,25 72:20 73:10 73:24 recalling 42:10 64:11 65:18 67:7 received 39:8 40:15,19 Recess 25:18 46:22 72:1 recognition 30:6 74:5,13 recognize 12:21 14:25 33:10,11 52:20 60:7 recognized 34:11 recollection 44:13 59:21 65:6 reconsider 61:5,12,17 61:22 62:5 62:11,17,23
			R R 3:1 R&D 41:3,7,12 radio 49:8 rate 28:15,18 28:20,25,25 50:3 RDR 1:23 77:4 77:24 read 19:18,21 32:10 33:25 36:13 37:1 38:19 53:3 56:24 57:3 reading 59:24	

63:3 ReCor 58:15 record 6:10 37:17 53:19 53:22 54:2 77:10,20 recorded 53:20 77:11 reducing 50:23 refer 17:24 36:15,25 referred 36:19 49:25 referring 34:11 35:13,14,15 38:20,21,24 67:18 refers 19:5 21:18,21 reflects 15:20 regarding 15:21 Registered 2:19,19 regulations 56:11 relate 41:8 50:5,8,11 55:6,12 60:16,19 74:13,20 related 12:13 13:10 21:1 31:20 33:12 40:5 48:2,5 48:15,17,19 49:9,11 50:24 51:1 51:13,15 53:12,15 54:18 59:1,4 68:12 73:22 74:2 77:15	relates 38:8 relating 23:18 23:21 25:3 27:24 28:9 41:16 46:13 75:7 relevant 10:2 31:7 62:22 remember 18:13,17 remembering 65:12 remotely 8:20 renal 58:22 repeat 57:22 rephrase 47:17 report 65:7,10 65:14 REPORTED 1:23 reporter 2:19 2:20,20,21 6:22 25:17 43:3 77:5 represent 47:14 represented 63:17 representing 72:6 requested/of... 77:20 required 7:14 38:18 research 41:6 45:12,15,18 resource 41:5 respect 69:5 respond 9:10 9:15 57:20 58:6,8 61:9 66:16 rest 16:21	results 62:10 retained 8:19 42:23 47:19 48:10,24 49:16 50:16 51:6,20 58:15 59:9 64:1 retaining 16:12 66:24 67:10 reveal 57:19 58:3 66:14 66:23 revealing 58:9 review 9:7 10:4 15:4 19:2 77:19 reviewed 8:18 9:4,16,23 10:1,19 19:17,24 54:16 64:8 65:4 69:6 reviewing 10:11,16 19:7,15 20:6 revising 17:7 revision 16:25 right 7:3 8:2 9:5 12:18 13:1,10,11 20:11 22:16 25:21 29:24 32:7,22 33:22 35:1 35:22 37:12 37:22 39:10 39:11,13,25 40:24 41:4 41:24 42:9 44:21 48:16 55:24 61:14 61:19 68:18	72:16 right-hand 14:22 River 21:23 22:7 RMR 1:23 77:4 77:24 rounds 16:25 S s 3:1 4:19 Simplify 42:18 42:23,23,25 43:8,13,23 44:3,4,9,11 44:17,17 Simplify's 43:17 saturation 50:3 saw 42:2 64:11,14 65:1,11 says 13:5 36:4 45:23 46:8 56:10,16 scan 56:6 scanner 53:6 scanning 45:12,16 Science 20:11 second 21:6 22:18 38:10 58:12 secondary 60:25 61:10 63:8,11,12 63:15 64:8 64:10,14 65:3,11,13 65:16,19,20 65:25 section 16:9 16:14 52:24	53:4 secure 36:3,5 36:18 secured 35:15 38:18,21 security 11:3,8 11:10,14,16 12:5,8,11 13:25 21:7 21:12,18 22:1,3,5,9,11 23:2,3,6,10 23:18,21 24:18 25:1 30:9 35:6,9 35:10,13,14 35:15,25 36:15,21,24 37:6 38:2,8 38:20,21,24 40:10 41:12 41:16 42:7 42:10,14 44:2,7,9,12 45:1,6,19 46:2,6,14 48:3,16,18 49:9 50:9,24 51:13 52:4 52:10,11,13 53:12,15 55:7,13,15 55:17,24 59:2,13,17 59:23 60:20 67:19,23 74:14,21 see 13:5 15:10 15:16,18,19 16:9,14 18:25 21:6,8 21:14 28:16 30:16,17,25 31:20,22,23
--	---	--	--	--

31:25 32:5,5 32:7,9 33:12 33:21,22,24 36:3,22,23 39:6,7 40:17 40:18 41:20 42:25 45:9 47:12 53:1,2 53:11 54:24 55:4,5 56:9 56:16,21 61:3,4 62:8 62:14,24 66:7,8 69:13 69:24 75:2 seeing 63:6 seen 52:22 56:2 60:9 selection 9:16 semiconduc... 43:2,5,7 send 27:17,19 28:5 sending 29:4 senior 39:9 46:9,13 Sensant 39:20 41:19,22 42:5,12,13 sense 71:24 sensor 42:1,6 54:13 sent 16:19 27:23 28:2,9 sentence 21:18 32:10 33:25 38:10 53:3 separate 17:21 Sept 4:17 September 77:22 set 77:8 settled 26:6	55:20,22 59:20 short 22:17 Shorthand 2:21 77:5 show 35:24 shown 65:13 side 31:21 32:8 33:12 33:22 47:14 48:22 49:14 side-channel 36:10 Siemens 39:10 39:12,15,16 39:19,22,24 40:2,5,9 67:16 signal 11:19 signature 15:9 15:11,13 signed 13:2 significant 69:22 70:2,7 70:12,23 silicon 39:13 39:15 Simplified 4:10 sit 54:3 Sitting 61:14 61:19 size 32:14 skepticism 62:21 skill 66:5,10 66:18,21 67:4,5,13,17 69:12,19,25 70:20 slice 38:13 smaller 13:19 43:20 software 40:16	49:8 69:23 70:23 solutions 11:18 21:24 22:8 solve 70:6 somebody 28:2 67:12 69:17 70:17 71:2 Sonic 21:23 22:7 sorry 9:12 16:13 17:15 20:3 25:23 30:11 37:11 39:3 44:1 54:5 55:8 58:24 60:1 63:22 65:1 sort 11:20 16:8 49:24 53:18 sorts 61:11 sound 20:22 39:22 45:17 spanning 31:2 speak 47:3 specialists 67:23 specific 55:8 61:8,15 62:14,20,25 63:6 specifically 17:8 46:6 68:24 specifics 62:8 speculate 64:23 Speedway 4:16 53:17 Speedway's 56:17 spend 9:1 17:6	spent 13:16,18 19:7,11,14 20:5 73:1,1 split 44:17 spring 18:14 ss 77:2 stand 59:14 standard 28:18 75:1 started 18:15 18:18 39:21 starting 29:8 starts 70:11 startup 39:14 39:15,18 state 2:22 6:10 30:23 60:24 69:14 77:1,5 stated 28:17 statement 66:25 statements 70:13 77:10 STATES 1:2 2:1 statute 56:11 steering 32:12 stenographi... 1:23 77:11 Stoker 1:23 2:18 77:4,24 stopped 34:10 Street 3:5 strike 30:12 46:17 60:1 63:22 65:1 students 46:9 studies 20:13 study 20:25 subject 26:13 32:18 34:17 36:11 56:11 60:13 subjects 38:12	subscribed 77:21 Subsequently 38:13 substance 8:11 substitute 69:15,16 subsystem 45:4 74:24 subsystems 43:9 success 61:21 62:4,8 sufficient 61:1 Summary 21:5 summer 18:14 18:16 superior 11:24 sure 37:9 55:10 67:15 surprised 9:18 65:25 switch 18:23 sworn 6:5 77:9 system 4:9,13 11:14,16 32:12 34:1 35:19 36:5 36:18 38:25 systems 11:3 11:10,21 12:5,11 13:25 14:4 23:24 24:1,2 24:7,10,13 24:21 25:1,3 25:6,9,11,12 25:15 34:24 35:10 40:6 41:12 42:7 42:14 43:1 43:10,14,24 44:1,2,9 45:1
---	--	---	---	---

45:6 49:8,22 49:23 51:11 73:6,7 systems' 53:6	3:9,13,18 template 56:5 56:19 testified 6:5 72:18 73:8 73:21 testify 55:25 testimonial 56:12 testimony 4:19 25:23,25 26:2 47:8,18 48:23 49:15 50:15 51:5 51:19 54:21 55:21 56:10 58:13 59:8 60:12 63:23 76:2 Tex 4:21 text 56:21 tFUS 4:9 32:11 34:6,8,11,15 34:21 Thank 13:4 31:15 theory 45:24 therapeutic 35:21 42:9 thereof 77:13 77:16 theses 46:12 thesis 46:8 thing 13:19 things 6:25 13:16,18 21:12 61:5 61:11,16,16 think 8:6 10:14 13:8 17:5,12 20:19 23:22 25:21 29:10 33:6 34:15 37:3 56:1	58:8 60:3,21 64:23 70:24 71:7,9,15,19 three 31:3,6,9 thrust 35:8 time 9:23 13:18,21 17:6 19:6,9 19:10,14 20:5,8 27:20 39:9 40:16 40:25 41:7 41:11,16,19 41:22 42:12 42:13,25 43:23 52:2 53:16,19,20 53:22 54:1 54:11,13,14 54:23 56:17 63:13 73:1 77:8,9 times 6:16 19:22,24 tissue 20:21 20:25 today 6:21 7:17,21 10:8 28:21 54:3 56:2,25 57:3 today's 15:5 tomosynthe... 48:1 top 37:12 top-level 66:25 topic 47:6 total 9:3 totally 18:8 TRADEMARK 1:2 2:1 transcranial 4:9 32:11,16 32:20,24 33:1 34:1,4	35:1,3 37:22 37:24 transcribed 7:1 77:12 transcript 6:23 77:12,18,20 transducer 32:17 34:2 34:16 transducers 11:18,20,21 11:22 transmitted 11:23 transmitting 50:21 travel 28:19 32:18 treating 33:3 trial 1:3 2:2 55:21,25 true 75:9,12 76:3 77:12 truthful 7:20 try 67:8 turn 13:4 25:22 56:14 72:11 Turning 60:22 66:3 TUS 4:13 34:1 34:9,14,15 34:21,23 36:5,12 two 42:21 59:19 68:5,8 68:11,13,16 68:20,25 69:2,10,17 70:9,18 71:3 71:14 72:19 72:24 73:8 73:21 75:6 75:10,13	type 53:23 54:12 64:13 70:15 types 72:24 typos 15:23
T				U
take 7:23,25 8:2 10:4 46:20 59:14 71:22 73:18 taken 2:14 77:7 talked 44:12 talking 10:7 17:25 69:4 talks 41:18 tamper 36:9 taught 45:23 46:4 teach 46:2,6 technical 11:7 11:17 21:11 21:18 22:2,3 22:8 25:16 36:20 40:15 51:25 67:24 70:5 technique 73:19 Technologies 4:18 technology 41:9 42:1,3,6 47:22,24,25 48:12,14 49:5,7,20,25 50:5,8,11,19 50:21 51:9 51:24 52:1,7 53:7,9,16 58:19,21 59:12 Techs 4:20 Telephone 3:6				U.S 4:10,13 31:20 33:13 Uh-huh 6:25 11:9 UIUC 45:19 ultrasonic 11:22 21:2 32:19 34:12 45:15 54:14 ultrasound 4:9 32:11,16,20 32:25 33:1 34:1,4 35:22 38:13 39:13 39:16 40:3,6 40:21,24 41:1,9,23 42:2,9 43:1,9 43:9,14,18 44:24 54:17 72:25 73:6 undergradu... 45:23 46:9 46:13 understand 6:24 7:5,15 7:16 8:3 9:24 9:25 10:13 16:11 17:24 22:22 39:8 42:18 understandi... 55:18 understood 7:9,9 8:12,13 34:15 unexpected

62:10 Unh-unh 7:1 UNITED 1:2 2:1 University 45:8 46:3 unsolved 62:17 Urbana-Cha... 45:9 use 20:20 33:3 53:10 54:14 useful 37:15 user 75:4 uses 35:3 utilize 35:1 37:22 utilizes 37:24	75:14 visual 54:11 volume 38:11 W W.D 4:21 W.K 3:4 want 9:19 64:22 wars 47:4 Washington 3:17 wasn't 41:1 49:10 waves 11:18 11:23 20:21 20:22,23 32:18,19 34:17 way 10:23 11:24 15:7,8 58:22 74:10 77:15 ways 44:5 45:5 we're 10:7 34:25 37:21 we've 46:18,19 wearable 4:13 34:2 36:12 49:22 wearer 49:23 49:25 51:12 weeks 13:23 went 44:20 West 3:5 whereof 77:21 Whitney 40:15 William 6:11 Wilshire 2:16 3:8,12 witness 4:2 6:4 8:6 9:10 9:14,25 12:7 14:6 17:15	17:17 20:3 21:11,19,21 22:11,20 24:7,17,25 25:6,15 26:24 29:17 30:4 31:15 35:8,18 36:20 37:3 37:15 38:4 38:24 40:12 43:4,17 44:11 45:21 50:2 52:6 56:9 57:18 57:22 58:8 61:25 62:7 65:6 66:12 66:14,17,23 67:7 69:8,22 70:11,22 71:7 77:9,21 WL 4:16 word 53:10 words 16:11 work 10:6,25 11:9 12:10 26:24 27:8 28:12,14,18 30:11,24 31:7 40:2,5,9 41:1,8,12,15 42:6,13 43:1 43:14,15,19 43:22 44:1,2 45:1 58:5 68:5,8,10,13 68:16,16,20 68:23,25 69:11,15,16 69:17,23 70:3,7,9,12 70:15,23 71:12,14	74:3,9,12,19 worked 10:22 11:2 12:1,4,9 12:12 13:9 13:17,21,24 14:1,3 22:14 24:4,5,7,15 24:17,21,23 24:25 25:3,6 25:13,15 26:4,5,8,11 26:20 27:11 27:20 39:12 39:24 40:23 40:25 41:3 41:13,23 45:8 53:5 68:11 74:4 working 11:10 17:9 21:23 22:1,4,8 23:1 23:5,9,15,20 26:21 27:16 39:22 42:5 44:24 67:16 67:22 70:5 71:10 write 16:3 writing 10:14 16:5 written 16:12 wrote 16:2,16 65:7 X X-ray 47:24,25 Y yeah 6:13 7:15 8:3,7 year 17:17 18:10,13 years 13:17 23:13 68:5,8 68:11,13,16	68:20,25 69:11,17 70:9,18 71:3 71:11,14 72:19 75:6 years' 69:2 73:9,22 75:10,13 York 3:5,17 Z 0 1 1 1:9 2:8 47:11 47:20,23 48:2,5,14 1:19-cv-01374 4:16 10 4:21 10:5 13:17 17:5 55:1,11 10,776,471 17:25 1001 19:5 10019-9601 3:5 1003 5:3 14:20 14:22 39:3 60:23 66:4 72:8 1004 5:4 12:17 12:19 39:3 47:7 11 56:10 1139 60:24 12 5:4 12:16 75:19 120 36:12 13 56:14 57:2 130 36:6 131 66:4 69:14 72:11,16 138 36:3
---	---	--	--	--

14 4:14 5:3 6:17,18 30:22 33:19 14373 1:24 2:22 77:25 15 9:3 26:10 39:4 40:19 46:16 17 4:12 18/879,120 4:11 18/879,121 4:14 1990 73:2 2 2 36:2 48:8,8 48:11,13,15 48:17,19 20001-4413 3:17 2005 39:22 2011 39:24 2012 21:24 22:2,9,12,23 23:2,4 2013 23:6,8 2014 23:10,14 23:16 66:6 68:6,9,14,18 68:21 69:1 72:19,23 73:2,9,13,15 73:22 74:2 75:6,9,12 2015 23:21,23 2016 22:24 202 3:18,18 2021 54:24 63:14 2023 4:21 2024 4:11,14 4:16,17 15:17,22	18:22 76:6 2025 1:16 2:18 4:12,15 6:2 77:22 2025/0121215 4:11 2025/0161718 4:14 2032 4:9 31:16 36:25 37:8 37:19 2033 4:13 33:6 33:7 35:25 36:25 2034 4:16 52:17,20 2035 4:18 60:3 60:4 212 3:6 213 3:9,13 215 37:12 22 4:15 18:23 18:24 24 18:24 250 3:5 27 29:10 30:22 31:2 28 31:2 29 1:16 2:18 4:17 6:2 36:1 36:13,17 3 3 29:22 30:2,8 30:13,19 48:22,23,25 49:1,3,6,7,11 30 36:14,17 71:11 31 4:9 33 4:13 38:9 38:20 336-4092 3:6 4	4 16:10,14 29:8,9,19 30:13,19 49:14,15,18 49:21 50:5,8 50:11 408-4155 3:18 408-4400 3:18 471 17:24 19:7 19:11 480 60:23 481 15:8,16 4th 77:22 5 5 29:22 50:14 50:17,20 63:15,19,25 64:1,3,7,14 65:2,11 52 4:16 550 28:18,20 55th 3:5 6 6 4:4 28:16 29:8,20 51:4 51:7,10 6:21-cv-001... 4:20 60 4:18 600 28:24,25 606 18:2 19:15 63/589,928 32:2 63/601,577 33:17 6th 15:17,22 18:22 7 7 21:10,18 36:19 42:16 51:18 707 2:16 3:8	3:12 76 66:4 72:11 77 1:9 2:8 8 8 4:11 13:5 41:18 45:7 58:13,14,17 58:20 59:1,4 892-5295 3:13 892-5630 3:9 9 9 25:22,23 52:24 53:4 54:25 55:1,1 55:11 59:7 59:16 60:13 63:15 65:22 9:04 2:17 6:2 90017-3543 3:9,12 901 3:17 910 18:3 938 18:2	
--	--	--	--	--