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Transcript of Darrin J. Young, Ph.D.

Date: September 5, 2025

Case: Smaxtec Inc., et al. -v- ST Reproductive Technologies, LLC (PTAB)

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WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

ST Reproductive Technologies, LLC EX2008

Smaxtec, Inc. v. ST Reproductive Technologies, LLC; No. IPR2024-01067

Page 1 of 75

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

3 SMAXTEC INC. and)
4 SMAXTEC ANIMAL CARE)
5 GMBH,)
6)
7 Petitioners) CASE IPR2024-01067
8) Patent No. 10,231,644
9 V.)
10)
11 ST REPRODUCTIVE)
12 TECHNOLOGIES, LLC,)
13)
14 Patent Owner)

15 -----
16
17 ORAL, REALTIMED, VIDEOTAPED DEPOSITION OF

18 DARRIN J. YOUNG, P.D.

19 SEPTEMBER 5, 2025

20 TAKEN VIA ZOOM VIDEOCONFERENCE
21 -----

22 JOB NO.: 597434

PAGES: 1 - 59

REPORTED STENOGRAPHICALLY BY:

ANNETTE PELTIER, CSR, CRR

1 ORAL, REALTIMED, VIDEOTAPED DEPOSITION OF
2 DARRIN J. YOUNG, Ph.D., produced as a witness
3 at the instance of the Patent Owner, and duly
4 sworn, was taken in the above-styled and
5 numbered cause on September 5, 2025, from
6 10:06 a.m. to 11:50 a.m., before Annette
7 Peltier, CSR, Texas Certified Realtime
8 Reporter, in and for the State of Texas,
9 reported by machine shorthand pursuant to the
10 PTAB Rules of Civil Procedure and the
11 provisions stated on the record or attached
12 hereto.

A P P E A R A N C E S

ON BEHALF OF THE PETITIONERS:

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Joshua Tubbs, Exhibit Tech

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Exhibits

Number	Description	Page
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Exhibit 1004	WO 2008/108816.....	38
Exhibit 1005	US Patent 2009/0187392...	45
Exhibit 1025	Reply Declaration of Darrin Young.....	13

* * * * *

1 THE COURT REPORTER: David,
2 you're in the realtime. So you want a copy
3 of the deposition, correct?

4 MR. GLANDORF: Yes.

5 * * * * *

6 EXHIBIT TECH: Thank you to
7 everyone for attending this proceeding
8 remotely, which we anticipate will run
9 smoothly.

10 Please remember to speak slowly
11 and do your best not to talk over one
12 another.

13 Please be aware that we are
14 recording this proceeding for backup
15 purposes.

16 Any off-the-record discussions
17 should be had away from the computer.

18 Please remember to mute your
19 mic for those conversations.

20 Please have your video enabled
21 to help the reporter identify who is
22 speaking. If you are unable to connect with

1 video and are connecting via phone, please
2 identify yourself each time before speaking.

3 I apologize in advance for any
4 technical-related interruptions.

5 Thank you.

6 THE VIDEOGRAPHER: Here begins 10:06:33
7 media number one in the videotaped deposition 10:06:33
8 of Dr. Darrin J. Young in the matter of 10:06:36
9 smaXtec, Inc., and smaXtec Animal Care GMBH 10:06:40
10 versus ST Reproductive Technologies, LLC, in 10:06:46
11 the United States Patent and Trademark Office 10:06:51
12 Before the Patent Trial and Appeal Board, 10:06:55
13 case number IPR, 2024-0167. 10:06:58

14 Today's date is September 5th, 10:07:05
15 2025. The time on the video monitor is 10:07:07
16 10:07 a.m. 10:07:11

17 The videographer today is 10:07:13
18 Kollin Casarez, representing Planet Depos. 10:07:14

19 All parties of this videotaped 10:07:17
20 deposition are attending remotely. 10:07:19

21 Would counsel please 10:07:20
22 voice-identify themselves for the record and 10:07:21

1	state whom they represent.	10:07:22
2	MS. MAHONEY: This is Megan	10:07:28
3	Mahoney with the law firm Akin Gump on behalf	10:07:29
4	of the patent owner.	10:07:31
5	MR. GLANDORF: This is David	10:07:34
6	Glandorf from Gibson Dunn on behalf of the	10:07:35
7	petitioners and Dr. Young.	10:07:37
8	And I just want to note quickly	10:07:40
9	for the record, the case number is	10:07:41
10	IPR 2024-01067. I think we left a zero out	10:07:43
11	there.	10:07:50
12	THE VIDEOGRAPHER: I do	10:07:50
13	apologize.	10:07:51
14	The court reporter today is	10:07:51
15	Annette Peltier, representing Planet Depos.	10:07:52
16	The witness will now be sworn.	10:07:55
17	DR. DARRIN J. YOUNG,	
18	Having been first duly sworn, testified upon	
19	his oath as follows:	
20	EXAMINATION	
21	BY MS. MAHONEY:	
22	Q. Dr. Young, good morning.	10:07:57

Transcript of Darrin J. Young, Ph.D.
Conducted on September 5, 2025

8

1	A. Good morning.	10:07:59
2	Q. Dr. Young, can you please state	10:08:17
3	your full name for the record?	10:08:25
4	A. First name Darrin, D-A-R-R-I-N,	10:08:28
5	last name Young, Y-O-U-N-G.	10:08:33
6	Q. And are you the same Darrin Young	10:08:39
7	that has been deposed in this IPR proceeding	10:08:40
8	before?	10:08:42
9	A. Yes.	10:08:44
10	Q. And, Dr. Young, where are you	10:08:47
11	located today?	10:08:48
12	A. I'm located in Denver, Colorado.	10:08:50
13	Q. Do you know the address?	10:08:55
14	A. If I'm not mistaken, it is 1900	10:08:59
15	Lawrence Street, Denver, Colorado.	10:09:06
16	Q. Okay. And is this at the law	10:09:15
17	firm offices of Gibson Dunn?	10:09:17
18	A. That's correct.	10:09:20
19	Q. Okay. And is there anyone else	10:09:22
20	in the room with you today?	10:09:24
21	A. Oh, I have Mr. David Glandorf	10:09:27
22	with me here.	10:09:31

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ST Reproductive Technologies, LLC EX2008

Smartec, Inc. v. ST Reproductive Technologies, LLC; No. IPR2024-01067

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1	Q. Anyone else?	10:09:34
2	A. No, just two of us.	10:09:37
3	Q. So it looks like this recording	10:09:46
4	is happening from a camera on the wall; is	10:09:48
5	that correct?	10:09:50
6	A. I -- I guess. Yeah, I see	10:09:56
7	something in front of me, looks like a	10:09:58
8	camera, but it's a bit further away.	10:10:00
9	Q. But you don't have a laptop or	10:10:03
10	anything in front of you?	10:10:04
11	A. I don't have laptop in front of	10:10:09
12	me, but I got this little monitor -- I don't	10:10:10
13	know what that is. You know, I have to --	10:10:13
14	says "mute," "stop video," "share meeting	10:10:15
15	controls," "end calls" in front of me. It's	10:10:20
16	just a little screen.	10:10:22
17	Q. Okay. And, Dr. Young, I	10:10:26
18	understand that you have a set of paper	10:10:27
19	exhibits with you today; is that correct?	10:10:29
20	A. That's correct.	10:10:33
21	Q. Can you please identify by the	10:10:36
22	already marked exhibit numbers which exhibits	10:10:39

1	you have?	10:10:42
2	A. Yes. Yeah. Let me -- I have	10:10:43
3	Exhibit 1001; I have Exhibit 1002; I have my	10:10:59
4	reply declaration, a copy, clean copy in	10:11:20
5	front of me; and I don't -- I don't have --	10:11:24
6	MR. GLANDORF: I'm sorry, can	10:11:30
7	I -- let me just look at this here. I think	10:11:31
8	that is a -- we did pull one off here.	10:11:32
9	You... yeah that's my mistake. I hadn't,	10:11:35
10	until this morning, pulled off a copy from	10:11:41
11	the PTAB with the exhibit number, but now I	10:11:43
12	do; so I'll take this other copy away.	10:11:45
13	A. So I have Exhibit 1025 with me.	10:11:49
14	I have Exhibit 2006 with me. I have	10:11:59
15	Exhibit 1004 with me. I have Exhibit 1005	10:12:09
16	with me. I have Exhibit 1006 with me. I	10:12:22
17	have Exhibit 1007 with me. That's all I	10:12:33
18	have.	10:12:40
19	(BY MS. MAHONEY)	
20	Q. Thank you, Dr. Young.	10:12:43
21	And do you have any other notes	10:12:44
22	or relevant information related to this	10:12:45

1 matter on the desk in front of you?

10:12:47

2 A. No. I have none of that stuff in
3 front of me.

10:12:50

10:12:55

4 Q. Okay. And is there any reason
5 you cannot give truthful and accurate
6 testimony today?

10:12:55

10:12:56

10:13:07

7 A. No.

10:13:09

8 Q. Okay.

10:13:09

9 MS. MAHONEY: I'm going to ask
10 the technician to go ahead and publish what
11 has already been marked as Exhibit 1002 in
12 this IPR proceeding, Number IPR 2024-01067.
13 That should be titled "Declaration of
14 Professor Darrin J. Young."

10:13:09

10:13:10

10:13:11

10:13:15

10:13:22

10:13:23

15 EXHIBIT TECH: Stand by.

10:13:26

16 (Whereupon Exhibit Number 1002
17 was shown.)

18 EXHIBIT TECH: Exhibit 1002 is
19 on screen and ready, and one moment while I
20 give control to the witness.

10:13:35

10:13:38

10:13:40

21 All right. Dr. Young, if you

10:13:45

22 click the mouse, you will have control of the

10:13:46

1	exhibit.	10:13:48
2	MR. GLANDORF: Okay. We need	10:13:52
3	to -- we need to test this out here. One	10:13:52
4	second.	10:13:57
5	I'm not sure that we do. I	10:14:04
6	think I'd have to bring our tech person back	10:14:06
7	in here. On the Zoom control screen there's	10:14:09
8	no -- there's no -- there's no mouse or	10:14:12
9	similar function.	10:14:14
10	Now, again, he has the paper	10:14:15
11	documents in front of him; so if that works	10:14:16
12	for you to turn to, we can do that, or should	10:14:18
13	I bring my person back and try to figure it	10:14:21
14	out so he can manipulate it?	10:14:23
15	MS. MAHONEY: That works for me	10:14:28
16	if that works for you.	10:14:29
17	MR. GLANDORF: The paper	10:14:32
18	version or --	10:14:32
19	MS. MAHONEY: The paper	10:14:33
20	version, yes.	10:14:33
21	MR. GLANDORF: Okay. Well,	10:14:35
22	let's do that; and then if we run into	10:14:35

1 trouble, we'll just go from there. 10:14:37

2 MS. MAHONEY: Okay. 10:14:43

3 (BY MS. MAHONEY)

4 Q. Then, Dr. Young, can you please 10:14:43
5 pull up what's been already published as 10:14:45
6 Exhibit 1002? 10:14:47

7 A. Yes. I have that hard copy in 10:14:53
8 front of me. 10:14:55

9 Q. Okay. And you -- do you 10:14:58
10 recognize this as a copy of the first 10:14:59
11 declaration that you prepared in this 10:15:01
12 proceeding? 10:15:05

13 A. That's correct. 10:15:06

14 Q. Okay. And throughout the course 10:15:08
15 of today, would you understand it if I refer 10:15:10
16 to this exhibit as your "first declaration"? 10:15:12

17 A. Yes, I do. 10:15:17

18 Q. Okay. Then, Dr. Young, can you 10:15:29
19 please go ahead and take a look at what has 10:15:30
20 already been marked as Exhibit 1025. That 10:15:32
21 should be titled "Reply Declaration." 10:15:37

22 (Whereupon Exhibit Number 1025

1 was shown.)

2 A. I have a hard copy of that

10:15:45

3 exhibit in my hand.

10:15:46

4 (BY MS. MAHONEY)

5 Q. And, Dr. Young, you recognize

10:15:55

6 this as a copy of the reply declaration that

10:15:56

7 you prepared in this proceeding?

10:15:58

8 A. That's correct.

10:16:04

9 Q. So throughout the course of

10:16:09

10 today, you would understand if I referred to

10:16:10

11 this declaration as your "reply declaration"?

10:16:12

12 A. Yes, I do.

10:16:16

13 Q. And both of these declarations

10:16:21

14 pertain to U.S. Patent Number 10,231,644,

10:16:23

15 correct?

10:16:27

16 A. That's correct.

10:16:32

17 Q. Okay. So throughout the course

10:16:34

18 of today, if I refer to this patent as the

10:16:35

19 "'644 patent," you'll know what I'm talking

10:16:37

20 about, right?

10:16:39

21 A. That's right.

10:16:41

22 Q. Okay. Focusing on your reply

10:16:47

1 declaration, can you please describe your
2 process for preparing this reply declaration?

3 MR. GLANDORF: Object to the
4 form.

5 A. Yeah. I worked with counsel, you
6 know, David Glandorf, closely to develop this
7 declaration.

8 (BY MS. MAHONEY)

9 Q. Was anyone else involved in
10 preparing this declaration?

11 A. Just me and the counsel, no one
12 else.

13 Q. So just Mr. Glandorf?

14 A. And I.

15 Q. And how did you work with
16 Mr. Glandorf to prepare this reply

17 declaration?

18 MR. GLANDORF: Object to the
19 form of the question.

20 And I would caution the witness
21 not to disclose any conversations that he had
22 with counsel.

1	A. Yeah. We communicate through	10:17:56
2	e-mails. We talk through Zooms. That's how	10:17:58
3	I work with him.	10:18:03
4	(BY MS. MAHONEY)	
5	Q. And what steps did you take to	10:18:18
6	prepare for today's deposition?	10:18:19
7	A. You know, I reviewed my reply	10:18:25
8	declaration. I also reviewed my first	10:18:29
9	declaration. I reviewed the '644 patent. I	10:18:34
10	reviewed the prior art reference that I cite	10:18:42
11	in my declarations. I reviewed Dr. Kan's	10:18:45
12	reply declaration. That's what I can	10:18:54
13	remember.	10:18:58
14	Q. Did you meet with anyone to	10:19:04
15	prepare for today's deposition?	10:19:06
16	A. Oh, I met with Mr. Glandorf.	10:19:09
17	Q. Anyone else?	10:19:13
18	A. No one else.	10:19:15
19	Q. And how many times did you meet	10:19:18
20	with Mr. Glandorf?	10:19:19
21	A. We met through Zoom maybe four or	10:19:26
22	five times. Then I met him in person once.	10:19:29

1	That was yesterday.	10:19:35
2	Q. And about how long were you	10:19:41
3	prepping with Mr. Glandorf in person	10:19:42
4	yesterday?	10:19:44
5	A. About four or five hours.	10:19:48
6	Q. So, Dr. Young, your last	10:20:01
7	deposition in this proceeding was in April of	10:20:03
8	this year in Austin, Texas.	10:20:07
9	Do you recall that?	10:20:08
10	A. I recall it was in Austin, Texas,	10:20:13
11	but I do not remember the exact date.	10:20:17
12	Q. But you do recall that your last	10:20:25
13	-- that you've been previously deposed in	10:20:28
14	this matter, correct?	10:20:29
15	A. Yeah. I think it was with you,	10:20:33
16	right?	10:20:34
17	Q. Correct.	10:20:35
18	And so just to -- just to confirm	10:20:37
19	again, you are familiar with animal	10:20:39
20	monitoring devices, right?	10:20:41
21	A. That's correct.	10:20:45
22	Q. And you would agree that an	10:20:49

1	animal monitoring device can be configured to	10:20:50
2	be implantable such that it operates from	10:20:53
3	within the inside of an animal's body, right?	10:20:56
4	A. That's correct.	10:21:02
5	Q. And you would also agree that an	10:21:05
6	animal monitoring device could be configured	10:21:07
7	to be worn externally, right?	10:21:10
8	A. I think that's correct.	10:21:15
9	Q. And again, you would agree that	10:21:23
10	there are different design considerations	10:21:26
11	when designing an external monitoring device	10:21:28
12	versus an implantable monitoring device,	10:21:31
13	right?	10:21:34
14	MR. GLANDORF: Object to the	10:21:36
15	form.	10:21:37
16	A. Yeah, there would be certain	10:21:42
17	design consideration, right, for building	10:21:43
18	something that goes inside the body, you	10:21:46
19	know, versus building something that is	10:21:49
20	outside the body.	10:21:52
21	(BY MS. MAHONEY)	
22	Q. Okay. So starting with sensors,	10:22:09

1	you would agree that an animal monitoring	10:22:13
2	device that is capable of measuring	10:22:16
3	physiological parameters would include a	10:22:18
4	sensor, right?	10:22:21
5	MR. GLANDORF: Object to the	10:22:23
6	form.	10:22:24
7	A. I mean, if you want to sense	10:22:29
8	something, right, you know, or monitoring	10:22:31
9	something, you know, a -- you know, I or	10:22:33
10	maybe even a person of ordinary skill in the	10:22:37
11	art would agree that you need a certain form	10:22:39
12	of sensors, right, to -- to monitor or sense	10:22:42
13	something.	10:22:46
14	(BY MS. MAHONEY)	
15	Q. So, for example, if you wanted to	10:22:50
16	monitor the animal's temperature, you would	10:22:52
17	include a sensor capable of measuring	10:22:54
18	temperature, right?	10:22:57
19	A. I think that's fair to say.	10:23:02
20	Q. And you would also agree that a	10:23:08
21	POSA would know which sensors are capable of	10:23:10
22	measuring which physiological parameters,	10:23:14

1	right?	10:23:16
2	A. I think that would be correct to	10:23:21
3	say.	10:23:22
4	Q. There are certain sensors that	10:23:33
5	would only work in an external monitoring	10:23:35
6	device, right?	10:23:38
7	MR. GLANDORF: Object to the	10:23:40
8	form.	10:23:46
9	A. You asked me a very general	10:23:47
10	question.	10:23:49
11	You know, if you could maybe	10:23:50
12	narrow it down to a specific type of sensor,	10:23:52
13	you know, then my response maybe would be	10:23:56
14	more focused, right, to your question.	10:23:59
15	(BY MS. MAHONEY)	
16	Q. So, for example, an	10:24:03
17	electrocardiogram or ECG sensor would only	10:24:05
18	work in an external monitoring device, right?	10:24:10
19	A. That is not true.	10:24:14
20	An ECG sensor can be used for	10:24:16
21	both internal measurement of the ECG signal,	10:24:18
22	as well as measure the ECG signal outside the	10:24:23

1 body.

10:24:27

2 Q. Are you aware of any sensors that
3 would only work in an external monitoring
4 device?

10:24:30

10:24:33

10:24:35

5 A. I guess that was the question I
6 was asking you earlier, right? If you could
7 provide me with a specific example, then my
8 response would be more focused.

10:24:44

10:24:46

10:24:48

10:24:51

9 Q. Are you aware of any examples of
10 a sensor that can be only used in an external
11 monitoring device?

10:24:57

10:24:59

10:25:02

12 A. I cannot think of an example at
13 this moment.

10:25:14

10:25:16

14 Q. So sitting here today, you're not
15 aware of any sensors that can only work in an
16 external monitoring device?

10:25:29

10:25:31

10:25:33

17 A. You know, what I said was I'm
18 not -- I cannot think of an example at this
19 moment.

10:25:39

10:25:41

10:25:43

20 Q. But you would agree that a sensor
21 exists that would only work in an external
22 monitoring device, right?

10:25:49

10:25:51

10:25:54

1	MR. GLANDORF: Object to the	10:25:56
2	form.	10:25:57
3	A. I need to think about it.	10:26:06
4	(BY MS. MAHONEY)	
5	Q. You would agree that a POSA would	10:26:15
6	be familiar with which sensors can only be	10:26:17
7	used externally, right?	10:26:19
8	A. I think that's fair to say.	10:26:26
9	Q. And so with that knowledge, you	10:26:34
10	would agree that a POSA would also be able to	10:26:35
11	choose a suitable sensor based on whether the	10:26:38
12	monitoring device is being used externally or	10:26:41
13	internally, right?	10:26:44
14	A. I think that's correct.	10:26:48
15	Q. So now focusing on transponders,	10:27:07
16	you would agree that an animal monitoring	10:27:11
17	device with a sensor for measuring	10:27:14
18	physiological parameters could utilize a	10:27:16
19	transponder to wirelessly communicate those	10:27:19
20	measurements, right?	10:27:23
21	A. That's fair to say.	10:27:29
22	Q. And there are different ways to	10:27:34

1 design a transponder, right?

10:27:35

2 MR. GLANDORF: Object to the
3 form.

10:27:38

10:27:39

4 A. Yeah, I think that's fair to say.
5 (BY MS. MAHONEY)

10:27:50

6 Q. And when designing a transponder
7 for use in an animal monitoring device, a
8 POSA would consider the environment that the
9 transponder has to work in, right?

10:28:03

10:28:05

10:28:08

10:28:12

10 A. I think this would be a -- a fair
11 consideration and for a POSA to think during
12 the design of -- of a transponder.

10:28:19

10:28:21

10:28:25

13 Q. So, for example, a POSA would
14 consider what medium a transponder needs to
15 transmit through when designing the
16 transponder, right?

10:28:39

10:28:41

10:28:44

10:28:50

17 A. Yeah, I would say that's fair to
18 say.

10:28:52

10:28:53

19 Q. So there would be different
20 design considerations for designing a
21 transponder that needs to transmit through
22 water and tissue compared to a transponder

10:28:53

10:29:19

10:29:22

10:29:24

1	that only needs to transmit through air,	10:29:28
2	right?	10:29:30
3	MR. GLANDORF: Object to the	10:29:32
4	form.	10:29:32
5	A. Yeah, there would be design	10:29:36
6	considerations when it comes to designing	10:29:37
7	something like what you just described.	10:29:40
8	(BY MS. MAHONEY)	
9	Q. So there are transponder designs	10:29:47
10	that would work better in an external	10:29:48
11	environment as compared to inside the body,	10:29:50
12	right?	10:29:55
13	MR. GLANDORF: Object to the	10:29:55
14	form.	10:29:56
15	A. What do you mean by "better"?	10:29:57
16	(BY MS. MAHONEY)	
17	Q. More efficiently.	10:30:00
18	MR. GLANDORF: Object to the	10:30:03
19	form.	10:30:04
20	A. I have to look at a specific	10:30:21
21	design in order to kind of give you a more	10:30:23
22	concrete answer in terms of, you know, what	10:30:25

1 you just described as "more efficiently."

10:30:29

2 (BY MS. MAHONEY)

3 Q. There are transponder designs
4 that might work differently in an external
5 environment as compared to inside the body,
6 right?

10:30:41

10:30:42

10:30:45

10:30:47

7 A. I think the operating principle
8 should be the same when you're designing a
9 transponder, whether it's outside the body
10 versus inside the body.

10:30:57

10:31:00

10:31:02

10:31:04

11 Q. So for a transponder designed for
12 internal use, a POSA would have to
13 accommodate for size restrictions, right?

10:31:27

10:31:30

10:31:32

14 A. I think it is generally true that
15 a POSA would consider designing something
16 small, something lightweight, when a -- when
17 the device is put inside the body.

10:31:47

10:31:51

10:31:56

10:32:00

18 Q. And again, for a transponder
19 designed for internal use, the transponder
20 would have to be capable of functioning from
21 within bio-compatible materials, right?

10:32:15

10:32:17

10:32:20

10:32:22

22 MR. GLANDORF: Object to the

10:32:26

1	form.	10:32:33
2	A. The transponder would need to	10:32:34
3	work inside the body.	10:32:35
4	(BY MS. MAHONEY)	
5	Q. And for the transponder to work	10:32:46
6	from inside the body, it would also need to	10:32:48
7	work from within bio-compatible materials,	10:32:50
8	right?	10:32:54
9	MR. GLANDORF: Object to the	10:32:55
10	form.	10:32:56
11	A. If you look at the body, there's	10:33:00
12	a -- tissues or material structures inside	10:33:03
13	the body. I would say that is considered a,	10:33:06
14	you know, a biological environment, right?	10:33:10
15	And if you design a transponder	10:33:13
16	that needs to work inside the body, then that	10:33:16
17	transponder need to work with the biological,	10:33:19
18	or I think you used the word	10:33:25
19	"bio-compatible," material around the	10:33:26
20	transponder.	10:33:29
21	(BY MS. MAHONEY)	
22	Q. And a POSA designing a	10:33:36

1 transponder for internal use would also need 10:33:38
2 to consider the lifespan of the transponder's 10:33:41
3 power source, right? 10:33:44

4 A. I think that is a general 10:33:52
5 consideration, regardless whether it is 10:33:54
6 inside the body or outside the body in terms 10:33:57
7 of the lifespan of a -- of a device or a 10:33:59
8 system. 10:34:37

9 Q. So a POSA would also consider 10:34:38
10 what types of sensors are being used when 10:34:39
11 designing a suitable transponder, right? 10:34:42

12 A. I heard what you said, but I -- 10:34:45
13 I'm trying to make the connection. 10:34:59

14 Could you repeat that question 10:35:03
15 again? 10:35:08

16 Q. Of course. 10:35:09

17 A POSA would also consider what 10:35:09
18 types of sensors are being used when 10:35:10
19 designing a suitable transponder, right? 10:35:13

20 A. When you say "a suitable 10:35:24
21 transponder" -- I just want to make sure that 10:35:26
22 I understand what you mean by "a suitable 10:35:34

1 transponder."

10:35:37

2 If you refer a [sic] suitable
3 transponder as a transponder suitable for
4 certain specific application, specific
5 sensing, then a POSA would need to consider,
6 you know, the appropriate sensor that would
7 go along with that transponder.

10:35:39

10:35:41

10:35:45

10:35:49

10:35:54

10:35:56

8 Q. Okay. And, Dr. Young, you would
9 agree that an animal monitoring device with a
10 sensor for measuring physiological parameters
11 would utilize an antenna to wirelessly
12 communicate those measurements, right?

10:36:35

10:36:38

10:36:42

10:36:45

10:36:48

13 A. I think that's fair to say.

10:36:56

14 Q. And there are different types of
15 antennas, right?

10:37:02

10:37:03

16 A. I think that's a fair statement.

10:37:03

17 Q. And there are different places
18 you can locate an antenna within a monitoring
19 device, right?

10:37:16

10:37:18

10:37:21

20 MR. GLANDORF: Object to the
21 form.

10:37:21

10:37:24

22 A. Yeah, I think that's -- that's

10:37:40

1	fair to say.	10:37:41
2	(BY MS. MAHONEY)	
3	Q. And you can also design a	10:37:46
4	monitoring device with multiple antennas,	10:37:48
5	right?	10:37:50
6	A. I think that's fair to say.	10:38:03
7	Q. Or you can design a monitoring	10:38:07
8	device to use a single antenna, right?	10:38:09
9	A. That's fair to say.	10:38:15
10	Q. And you would agree that a POSA	10:38:30
11	would consider what medium the antenna needs	10:38:32
12	to transmit through when designing the	10:38:35
13	antenna configuration, right?	10:38:38
14	A. I am not sure what you mean by	10:38:59
15	"the antenna configuration."	10:39:02
16	Q. So when a POSA is deciding what	10:39:19
17	type of antenna to use, how many antennas to	10:39:24
18	use, or where to locate those antennas in the	10:39:27
19	monitoring device, you would agree that a	10:39:30
20	POSA would take into consideration the medium	10:39:33
21	that the antenna needs to transmit through?	10:39:36
22	MR. GLANDORF: Object to the	10:39:40

1 form.

10:39:40

2 A. Yeah, I think that's fair to say.

10:39:51

3 (BY MS. MAHONEY)

4 Q. Dr. Young, you are familiar with

10:40:21

5 different wireless communication protocols,

10:40:23

6 right?

10:40:26

7 A. That's correct.

10:40:29

8 Q. And you are familiar with the

10:40:32

9 concept of collision avoidance in wireless

10:40:33

10 communication, right?

10:40:36

11 A. I think that's fair to say.

10:40:39

12 Q. What does "collision avoidance"

10:40:48

13 mean in the context of wireless

10:40:50

14 communication?

10:40:52

15 A. If you have -- for example, you

10:41:01

16 know, if you have multiple wireless devices

10:41:08

17 trying to communicate with another device --

10:41:16

18 so it could be -- you know, we call it

10:41:21

19 collision, right, taking place, you know,

10:41:24

20 within that communication process.

10:41:28

21 Q. So in other words, the collision

10:41:30

22 occurs when multiple devices or transponders

10:41:50

1	are transmitting a signal and those signals	10:41:53
2	collide, right?	10:41:56
3	A. Yeah, those signals collide,	10:42:04
4	those signals interfere each other.	10:42:05
5	Q. And when this signal collision	10:42:13
6	happens, any information that is carried by	10:42:16
7	those signals would be lost, right?	10:42:18
8	MR. GLANDORF: Object to the	10:42:24
9	form.	10:42:25
10	A. I think it boils down to	10:42:41
11	signal-to-noise ratio, signal-to-interference	10:42:43
12	ratio at the receiver side.	10:42:47
13	(BY MS. MAHONEY)	
14	Q. And when there is signal noise or	10:43:04
15	interference at the receiver side, there is a	10:43:07
16	risk that the information carried by those	10:43:10
17	signals would be lost, right?	10:43:12
18	A. I think that's fair to say.	10:43:20
19	Q. And just to confirm, losing the	10:43:30
20	information carried by a signal would be a	10:43:33
21	bad thing, right?	10:43:35
22	MR. GLANDORF: Object to the	10:43:36

1	form.	10:43:38
2	A. Yeah, it would not be desirable.	10:43:47
3	(BY MS. MAHONEY)	
4	Q. So the purpose of using -- the	10:43:56
5	purpose of incorporating collision avoidance	10:44:01
6	in a wireless communication protocol would be	10:44:04
7	to avoid the potential loss of information	10:44:07
8	that occurs when these transmitted signals	10:44:09
9	collide, right?	10:44:12
10	A. To minimize that.	10:44:16
11	Q. To minimize the risk of potential	10:44:22
12	loss from colliding signals?	10:44:23
13	A. That's correct.	10:44:26
14	Q. And a POSA would agree with this,	10:44:30
15	right?	10:44:31
16	MR. GLANDORF: Object to the	10:44:33
17	form.	10:44:34
18	A. I think the POSA would agree with	10:44:38
19	the things that we just discussed by -- with	10:44:40
20	respect to the collision avoidance protocol.	10:44:42
21	(BY MS. MAHONEY)	
22	Q. And, Dr. Young, you are familiar	10:44:54

1	with how a wireless communication protocol	10:44:56
2	can avoid a collision of signals, right?	10:44:58
3	MR. GLANDORF: Object to the	10:45:08
4	form.	10:45:08
5	A. That's correct.	10:45:10
6	(BY MS. MAHONEY)	
7	Q. So, for example, a transponder	10:45:14
8	could send a first transmission to confirm	10:45:17
9	that the channel is clear, right?	10:45:19
10	A. I heard what you said, but I'm	10:45:42
11	not sure if I fully understand it.	10:45:43
12	You said something about the	10:45:45
13	transponder transmitting something?	10:45:48
14	Q. Correct.	10:45:53
15	A. I mean, typically there would be	10:46:11
16	communication between the transponder and	10:46:13
17	another receiving device, right, to	10:46:20
18	communicate each other.	10:46:24
19	Q. And the purpose of this	10:46:32
20	communication between the transponder and the	10:46:33
21	other receiving device would be to confirm	10:46:36
22	that the channel between them is clear,	10:46:38

1	right?	10:46:41
2	MR. GLANDORF: Object to the	10:46:42
3	form.	10:46:44
4	A. Yeah, I think that's one of the	10:46:54
5	objectives, per se.	10:46:56
6	(BY MS. MAHONEY)	
7	Q. And if this channel is not clear,	10:47:08
8	then the transmission from the transponder to	10:47:13
9	the receiving device would be lost, right?	10:47:16
10	MR. GLANDORF: Object to the	10:47:21
11	form.	10:47:21
12	A. I am not -- I wouldn't say it	10:47:36
13	would be lost.	10:47:42
14	You know, typically when you	10:47:50
15	transmit information, right, and -- there	10:47:52
16	would be some sort of handshaking signal, you	10:47:57
17	know, coming back from the receiver side	10:48:02
18	indicate whether or not the receiver has	10:48:06
19	received the intended message, per se.	10:48:11
20	So if the receiver -- it depends	10:48:17
21	on how you design the system. You know, if	10:48:29
22	you transmit something, if you do not get an	10:48:33

1	acknowledgment signal and you -- the system	10:48:37
2	can transmit again.	10:48:39
3	(BY MS. MAHONEY)	
4	Q. So once the transponder receives	10:48:59
5	an acknowledgment that the channel is clear,	10:49:01
6	it is safe for the transponder to transmit a	10:49:05
7	signal without any sort of risk of collision,	10:49:08
8	right?	10:49:12
9	A. You always have certain risk of	10:49:22
10	collision. That's just, you know, the	10:49:24
11	reality, right?	10:49:27
12	And you -- you may minimize the	10:49:29
13	chances of collision, or you may minimize	10:49:36
14	degradation of signal-to-noise ratio or	10:49:40
15	signal-to-interference ratio at the receiver	10:49:46
16	side.	10:49:50
17	Q. Okay. Just to make sure I'm	10:50:14
18	understanding this the right way, when a	10:50:15
19	signal collides or experiences degradation at	10:50:25
20	the receiver side, any information carried by	10:50:28
21	that signal could be lost, right?	10:50:32
22	MR. GLANDORF: Object to the	10:50:37

1 form.

10:50:38

2 A. I wouldn't go that far, say any
3 signal would be lost. It really depends on
4 the specific situation, right? And -- yeah,
5 it really depends on the specific situation,
6 the specific design.

10:50:42

10:50:46

10:50:46

10:50:57

10:50:58

7 You know, I'm not -- I don't want
8 to offer you an opinion sort of at the very
9 general level that, you know, anything would
10 be lost or nothing would be lost. It really
11 depends on specific design situation, design
12 consideration, specific application
13 scenarios.

10:51:00

10:51:04

10:51:07

10:51:09

10:51:12

10:51:14

10:51:18

14 (BY MS. MAHONEY)

15 Q. But you would agree that if there
16 is a collision or signal degradation at the
17 receiver side, there is a risk that
18 information carried by that signal could be
19 lost?

10:51:25

10:51:26

10:51:29

10:51:32

10:51:34

20 A. I think that's fair to say.

10:51:38

21 Q. You would agree that transmitting
22 a signal requires power, right?

10:51:50

10:51:52

1	A. In general that's the case.	10:52:04
2	Q. So the more frequently	10:52:05
3	transmissions are sent, the more power would	10:52:13
4	be consumed, right?	10:52:15
5	A. I think that's -- technically,	10:52:39
6	that's fair to say.	10:52:41
7	Q. And you would also agree that it	10:52:47
8	requires more power to transmit a signal that	10:52:48
9	is carrying, for example, a temperature	10:52:51
10	measurement than it does to transmit a ping,	10:52:53
11	right?	10:52:57
12	MR. GLANDORF: Object to the	10:52:59
13	form.	10:53:00
14	A. Depends on the design.	10:53:12
15	(BY MS. MAHONEY)	
16	Q. So in the context of an animal	10:53:44
17	monitoring device, a collision avoidance	10:53:46
18	communication protocol would help to avoid	10:53:49
19	signal collisions where there are multiple	10:53:53
20	animals or multiple monitoring devices in	10:53:55
21	range of the same receiver, right?	10:53:59
22	A. I would say it's fair to say that	10:54:09

1	trying to -- trying to minimize the	10:54:10
2	collision. You may not be able to fully	10:54:13
3	avoid it.	10:54:15
4	Q. But you agree that in this	10:54:29
5	scenario, there would be a risk of collision	10:54:31
6	because there would be multiple animals or	10:54:33
7	multiple monitoring devices all within range	10:54:36
8	of the same receiver, right?	10:54:39
9	A. I think that's fair to say.	10:54:40
10	Q. And you would agree that a POSA	10:54:49
11	designing a system of animal monitoring	10:54:50
12	devices would want to avoid this risk of	10:54:53
13	transmission collisions, right?	10:54:57
14	MR. GLANDORF: Object to the	10:55:01
15	form of the question.	10:55:02
16	A. It would be a design	10:55:05
17	consideration a POSA would consider.	10:55:06
18	(BY MS. MAHONEY)	
19	Q. Okay. Dr. Young, I'm going to	10:55:39
20	ask you to turn to what's already been marked	10:55:40
21	as Exhibit 1004 in this proceeding.	10:55:43
22	(Whereupon Exhibit Number 1004	

1 was shown.)

2 | A. I have that exhibit, 1004, in

10:56:03

3 front of me.

10:56:08

4 (BY MS. MAHONEY)

5 Q. And, Dr. Young, do you recognize

10:56:13

6 Exhibit 1004 as a copy of the Harvey

10:56:15

7 reference that you cite in your declaration?

10:56:18

8 A. That's correct.

10:56:22

9 Q. Dr. Young, can you please turn to

10:56:34

10 numbered paragraph 69, which is at the bottom

10:56:37

11 of Page 25 of the Harvey reference?

10:56:40

12 A. (Complying.)

13	I am at Page 25.
----	------------------

10:56:54

14 Q. And do you see paragraph 69

10:56:58

15 | starting towards the bottom of that page?

10:57:00

16 A. You mean, like 0069, right?

10:57:04

17 Q. I do.

10:57:07

18 A. Yeah, that -- yeah, I see that.

10:57:09

19 Q. Okay. And at the top of

10:57:15

20 paragraph 0069, Harvey states: "With

10:57:16

21 reference to Fig. 1, monitored region 1100

10:57:22

22 | may represent an interrogation field disposed

10:57:27

1	with multiple monitored subjects, 1010	10:57:30
2	through 1013, having respective transponders,	10:57:33
3	such as IAT 1110 to 1113. In such an	10:57:37
4	interrogation field, communication collision	10:57:43
5	may occur where two or more transponders	10:57:46
6	initiate a transmit operation at	10:57:49
7	approximately the same time, where	10:57:52
8	information can be lost."	10:57:55
9	Do you see that?	10:57:56
10	A. Yeah, that's what the passage	10:57:59
11	says.	10:58:01
12	Q. Now, when Harvey says	10:58:08
13	"information can be lost," this is including	10:58:09
14	any information that would be carried by the	10:58:14
15	transmitted signal, right?	10:58:16
16	A. I think that's correct.	10:58:26
17	Q. So, for example, if the	10:58:31
18	transmitted signal included a temperature	10:58:33
19	measurement from the animal and a collision	10:58:35
20	occurred, that temperature measurement would	10:58:38
21	be lost, right?	10:58:40
22	MR. GLANDORF: Object to the	10:58:43

1	form.	10:58:44
2	A. It may be lost.	10:58:49
3	(BY MS. MAHONEY)	
4	Q. Well, if the signal is lost, then	10:58:58
5	the temperature measurement would be lost,	10:58:59
6	right?	10:59:02
7	MR. GLANDORF: Object to the	10:59:05
8	form.	10:59:05
9	A. I would say the temperature	10:59:14
10	information may not be received by the	10:59:15
11	receiver.	10:59:19
12	(BY MS. MAHONEY)	
13	Q. Okay. Dr. Young, can you please	10:59:37
14	turn now to Figure 1 of Harvey? This is	10:59:39
15	going to be on Page 78.	10:59:41
16	A. Yeah, I'm looking at Figure 1 on	10:59:57
17	Page 78.	11:00:00
18	Q. You would agree with Harvey's	11:00:06
19	description of Figure 1 in that it depicts	11:00:08
20	multiple monitored subjects, right?	11:00:11
21	A. Yeah, it shows a number of	11:00:18
22	animals, right, within that monitoring	11:00:19

1	environment.	11:00:25
2	Q. And each monitored subject in	11:00:27
3	Figure 1 appears to have its own monitoring	11:00:28
4	device with a transponder, right?	11:00:31
5	A. I think that's correct.	11:01:00
6	Q. So Figure 1 is showing what	11:01:10
7	Harvey calls an interrogation field with	11:01:14
8	multiple monitored subjects and multiple	11:01:16
9	transponders all potentially within range of	11:01:19
10	the same receiver, right?	11:01:23
11	MR. GLANDORF: Object to the	11:01:25
12	form.	11:01:26
13	A. I see a number of animals, right,	11:01:37
14	or, you know, monitored subject within that	11:01:40
15	field. That's what the picture shows.	11:01:43
16	If you -- if you ask me are they	11:01:45
17	within the range of the receiver, I cannot	11:01:51
18	tell just by looking at the Figure 1. I	11:01:57
19	probably have to look at maybe the	11:01:59
20	specification, the writing, right, the text	11:02:02
21	to make sure that that's the case.	11:02:04
22	(BY MS. MAHONEY)	

1	Q. You would agree that in Figure 1	11:02:23
2	of Harvey the monitoring devices with	11:02:25
3	transponders are depicted as ear tags, right?	11:02:28
4	MR. GLANDORF: Object to the	11:02:36
5	form.	11:02:37
6	A. Yeah. I think in specification	11:02:44
7	it talks about an ear tag, just as an	11:02:46
8	example, right, in this Figure 1, which is a	11:02:49
9	kind of system-level picture describing the	11:02:52
10	monitoring field, right, or the monitoring	11:02:58
11	setup.	11:03:22
12	(BY MS. MAHONEY)	
13	Q. So just to confirm, in Figure 1,	11:03:23
14	the monitoring devices here are ear tags,	11:03:25
15	right?	11:03:28
16	MR. GLANDORF: Object to the	11:03:29
17	form.	11:03:30
18	A. I think in the drawing -- if I	11:03:38
19	recall correctly, in the drawing, maybe in	11:03:41
20	the specification, certain part of the	11:03:43
21	specification, refer to that tag as an ear	11:03:45
22	tag; but I just also want to be clear that	11:03:48

1	the specification also teaches, right, that	11:03:54
2	the tag, the IAT, can be in the form of a	11:03:58
3	bolus. You know, it may not be drawn in that	11:04:00
4	figure. I think, you know, just maybe for	11:04:03
5	the -- for the animal, right, showing --	11:04:07
6	showing black color, right? It may not be	11:04:11
7	that easy to draw something like a bolus in	11:04:15
8	the animal body, at least for that figure.	11:04:19
9	So to answer your question, you	11:04:22
10	know, when you look at the drawing, it shows	11:04:23
11	a ear tag, but that -- that's just an	11:04:27
12	example.	11:04:30
13	MS. MAHONEY: It looks like	11:04:49
14	we've been going just about an hour, if now	11:04:49
15	is a good time to take a short break.	11:04:52
16	MR. GLANDORF: That's fine.	11:04:55
17	THE WITNESS: Works for me,	11:04:57
18	thank you.	11:04:59
19	THE VIDEOGRAPHER: We're going	11:04:59
20	off the record. The time is 11:05.	11:05:00
21	(Break taken from 11:05 a.m. to	
22	11:17 a.m.)	

1	THE VIDEOGRAPHER: We are now	11:17:32
2	back on the record. The time is 11:17.	11:17:32
3	(BY MS. MAHONEY)	
4	Q. Dr. Young, can I please ask you	11:17:42
5	to go ahead and turn to what has already been	11:17:44
6	marked as Exhibit 1005 in this proceeding?	11:17:46
7	(Whereupon Exhibit Number 1005	
8	was shown.)	
9	(BY MS. MAHONEY)	
10	Q. This should be a copy of the	11:17:51
11	Risky reference.	11:17:53
12	A. Okay. Thank you.	11:17:55
13	I have the Exhibit 1005 with me.	11:18:06
14	Q. And you recognize Exhibit 1005 as	11:18:13
15	a copy of the Risky reference that you cite	11:18:15
16	in your declaration?	11:18:17
17	A. That's correct.	11:18:20
18	Q. Can you please turn to Page 13 of	11:18:23
19	Exhibit 1005, which should be Page 5 of the	11:18:28
20	Risky reference.	11:18:31
21	A. (Complying.)	
22	I am at that page.	11:18:32

1	Q. Okay. And, Dr. Young, you're	11:18:48
2	familiar with Risky's description of the	11:18:50
3	online and offline operational mode, right?	11:18:54
4	MR. GLANDORF: Object to the	11:18:58
5	form.	11:18:59
6	A. I read about it.	11:19:00
7	(BY MS. MAHONEY)	
8	Q. So would you agree that when	11:19:08
9	Risky's bolus is within wireless range of a	11:19:10
10	base station or a receiver, then the bolus is	11:19:13
11	considered to be in online mode, right?	11:19:17
12	MR. GLANDORF: Object to the	11:19:20
13	form.	11:19:31
14	A. I think something like that is	11:19:32
15	being discussed on that page; but if you	11:19:33
16	don't mind, you know, I can maybe just read	11:19:36
17	the paragraph so that we -- we'll be talking	11:19:40
18	about the same thing, or you can direct me to	11:19:42
19	a specific paragraph where, you know, it's	11:19:45
20	more related to what you just described.	11:19:49
21	(BY MS. MAHONEY)	
22	Q. Sure.	11:19:52

1	So, Dr. Young, why don't you take	11:19:53
2	a quick look at paragraphs 53 through 56 at	11:19:54
3	-- 0053 to 0056 and just let me know when	11:19:59
4	you're done reviewing.	11:20:02
5	A. Okay. Thank you.	11:20:05
6	Yeah, I'm done reading with the	11:24:25
7	passages.	11:24:27
8	Q. Okay. So based on Risky's	11:24:33
9	description here, when the bolus is within	11:24:34
10	wireless range of a base station or	11:24:38
11	transceiver, then the bolus is in online	11:24:40
12	mode, right?	11:24:44
13	MR. GLANDORF: Object to the	11:24:47
14	form.	11:24:48
15	A. Just one of the scenarios that I	11:24:50
16	talk about in the passage.	11:24:52
17	(BY MS. MAHONEY)	
18	Q. And so when the bolus is not	11:25:00
19	within wireless range of a base station or a	11:25:02
20	transceiver, then the bolus is in offline	11:25:04
21	mode, right?	11:25:07
22	MR. GLANDORF: Object to the	11:25:12

1	form.	11:25:12
2	A. You know, I've read these	11:25:40
3	paragraphs, but, you know, I -- I -- I may	11:25:42
4	not be able to kind of recite what --	11:25:46
5	accurately without reading it, but I think it	11:25:49
6	talks about -- you know, there are scenarios	11:25:52
7	where if you do not receive a -- a message	11:25:55
8	from the interrogator, you know, over a	11:26:03
9	certain period of time at the -- it talks	11:26:08
10	about, like, a threshold, right? So if	11:26:09
11	it's -- you know, if something takes longer,	11:26:12
12	then it redefine the threshold, for example;	11:26:14
13	and it will get -- it will operate in the --	11:26:18
14	in the offline mode.	11:26:23
15	So that is another situation	11:26:25
16	where the bolus can operate itself in the	11:26:27
17	offline mode. That's my understanding, you	11:26:31
18	know, reading -- reading the passage.	11:26:37
19	(BY MS. MAHONEY)	
20	Q. So it would be fair to say that	11:26:41
21	when Risky's bolus is in offline mode, it's	11:26:43
22	not also in online mode, right?	11:26:46

1	A. I heard what you said, but I just	11:26:56
2	want to make sure I understand your question.	11:26:58
3	My understanding is if it's in	11:27:04
4	online mode, then it's not in offline mode,	11:27:06
5	right?	11:27:09
6	If it's in offline mode, it is	11:27:09
7	not in online mode simultaneously, per se.	11:27:12
8	Q. So take a look at numbered	11:27:15
9	paragraph 55 on the same page. At the top of	11:27:27
10	paragraph 55, Risky says, "In 'online' mode,	11:27:34
11	bolus 210 may transmit animal characteristics	11:27:41
12	messages at the 'online' transmission	11:27:45
13	frequency specified by machine readable	11:27:49
14	instructions 252."	11:27:52
15	Did I read that correctly?	11:27:55
16	A. I believe you read that	11:27:59
17	correctly.	11:28:00
18	Q. So you would agree, then, that	11:28:05
19	when Risky's bolus is in online mode, its	11:28:07
20	transmission frequency is specified by	11:28:11
21	machine readable instructions 252, right?	11:28:13
22	A. That's what that passage says.	11:28:19

1	Q. So just to be clear, in other	11:28:19
2	words, machine readable instructions 252	11:28:31
3	specify the transmission frequency when the	11:28:36
4	bolus is in online mode, right?	11:28:39
5	A. That's what that passage says.	11:28:44
6	Q. Okay. Take a look, please, at	11:28:45
7	paragraph Number 56. The first line of	11:28:55
8	paragraph 56 says, "In 'offline' mode, bolus	11:29:06
9	210 may decrease transmission frequency of	11:29:11
10	messages according to machine readable	11:29:15
11	instructions 252."	11:29:18
12	Do you see that?	11:29:21
13	A. I see that.	11:29:24
14	Q. So you would agree that when	11:29:32
15	Riskey's bolus is in offline mode, the	11:29:33
16	transmission frequency decreases according to	11:29:37
17	machine readable instructions 252, right?	11:29:40
18	MR. GLANDORF: Object to the	11:29:45
19	form.	11:29:45
20	A. I think what you read is what	11:29:48
21	that statement says, right, in paragraph	11:29:49
22	0056.	11:29:51

1 (BY MS. MAHONEY)

2 Q. So in other words, machine 11:30:04
3 readable instructions 252 specify the 11:30:06
4 decreased transmission frequency for when the 11:30:10
5 bolus is in offline mode, right? 11:30:13

6 A. That's what the passage says. 11:30:20

7 Q. Okay. And just to be clear, when 11:30:36
8 machine readable instructions 252 decrease 11:30:39
9 the transmission frequency of the bolus in 11:30:43
10 offline mode, the bolus is therefore 11:30:46
11 transmitting at a lesser frequency than it 11:30:50
12 does when in online mode, right? 11:30:53

13 MR. GLANDORF: Object to the 11:30:55
14 form. 11:31:04

15 A. I think that's what the passage 11:31:05
16 says, right? 11:31:07

17 (BY MS. MAHONEY)

18 Q. Okay. Dr. Young, can you please 11:31:29
19 turn to paragraph 49 of Risky? That's going 11:31:30
20 to be on Page 12 of Exhibit 1005 or Page 4 of 11:31:34
21 the Risky reference. 11:31:39

22 A. (Complying.)

1	Q. And you can take a minute and	11:31:43
2	just review paragraph 49.	11:31:43
3	A. Okay. Yeah, I'm done with	11:31:51
4	reading that passage.	11:33:14
5	Q. Okay. I want to direct your	11:33:17
6	attention to about two-thirds of the way	11:33:19
7	down, paragraph 49, there is a sentence that	11:33:22
8	starts with "in this mode."	11:33:26
9	Do you see where I am?	11:33:34
10	A. I'll look for it.	11:33:35
11	I see something starts with "in	11:33:43
12	this mode."	11:33:46
13	Q. Okay. And if you follow along	11:33:48
14	the sentence, it says, "In this mode, machine	11:33:50
15	readable instructions 252 may specify a	11:33:54
16	transmission interval," which I think we can	11:33:57
17	all agree means interval, "wherein processor	11:34:01
18	240 may transmit an animal characteristics	11:34:05
19	message comprising some or all of the	11:34:08
20	measurements stored in memory unit 250 at	11:34:11
21	each transmission interval."	11:34:15
22	Do you see that?	11:34:17

1	A. I do see that.	11:34:18
2	Q. And you would agree that Risky	11:34:20
3	here is describing the operational mode it	11:34:22
4	refers to as "burst mode," right?	11:34:24
5	A. Yeah. The very next sentence	11:34:35
6	reads as (as read) This operation mode may be	11:34:36
7	referred to as burst mode.	11:34:38
8	Q. Okay. And you would agree that	11:34:44
9	in burst mode, the machine readable	11:34:46
10	instructions 252 specify the transmission	11:34:49
11	interval, right?	11:34:52
12	A. That's what the passage says.	11:34:56
13	Q. Okay. Dr. Young, can you please	11:35:15
14	turn to what's already been marked as	11:35:18
15	Exhibit 1025 in this proceeding? This is the	11:35:20
16	copy of your reply declaration.	11:35:24
17	(Whereupon Exhibit Number 1025	
18	was shown.)	
19	A. I have that exhibit with me.	11:35:36
20	(BY MS. MAHONEY)	
21	Q. And can you please turn to	11:35:42
22	paragraph 33 of your reply declaration?	11:35:43

1	A. (Complying.)	
2	I am at that paragraph.	11:36:00
3	Q. Okay. So in paragraph 33, you	11:36:07
4	state, "The Rettedal reference likewise	11:36:10
5	teaches using matching elements to adjust the	11:36:13
6	frequency of the generated radio signal, for	11:36:17
7	the same purpose."	11:36:21
8	Do you see that?	11:36:22
9	A. I do see that.	11:36:25
10	Q. So when you are referring to	11:36:29
11	"matching elements" here, you are referring	11:36:32
12	to electronic components such as capacitors	11:36:35
13	and resistors; is that right?	11:36:38
14	A. I think that's what that	11:36:45
15	reference Rettedal discloses.	11:36:47
16	Q. And again, in paragraph 33, you	11:36:54
17	reference the "generated radio signal."	11:37:00
18	Where is that signal coming from?	11:37:05
19	A. That signal is coming from the	11:37:10
20	radio signal generator.	11:37:14
21	Q. So the generated radio signal	11:37:21
22	comes directly from the radio signal	11:37:23

1	generator; is that right?	11:37:26
2	MR. GLANDORF: Object to the	11:37:27
3	form.	11:37:29
4	A. I'm not sure what you mean by	11:37:34
5	"directly from the radio signal generator,"	11:37:36
6	right?	11:37:39
7	What I said was that signal that	11:37:39
8	you were referring to was generated or -- was	11:37:41
9	generated from the radio signal generator.	11:37:46
10	(BY MS. MAHONEY)	
11	Q. Based on your statement in	11:38:01
12	paragraph 33, is a local oscillator required	11:38:02
13	for the generated radio signal?	11:38:07
14	A. A local oscillator can be used as	11:38:15
15	a radio signal generator.	11:38:18
16	Q. Okay.	11:38:19
17	MS. MAHONEY: I am just about	11:38:57
18	wrapping up here, if now is another time that	11:38:59
19	you want to take a quick break, Dr. Young.	11:39:01
20	THE WITNESS: Okay.	11:39:03
21	MR. GLANDORF: Sounds good,	11:39:07
22	thank you.	11:39:08

1	THE WITNESS: Yeah, that will	11:39:08
2	work.	11:39:09
3	THE VIDEOGRAPHER: Perfect.	11:39:09
4	Please stand by. We're going off the record.	11:39:09
5	The time is 11:39.	11:39:11
6	(Break taken from 11:39 a.m. to	
7	11:49 a.m.)	
8	THE VIDEOGRAPHER: We are back	11:49:29
9	on the record. The time is 11:49.	11:49:30
10	(BY MS. MAHONEY)	
11	Q. Okay. Thank you, Dr. Young. I	11:49:39
12	have no further questions at this time,	11:49:42
13	subject to any redirect.	11:49:44
14	MR. GLANDORF: No redirect from	11:49:48
15	us at this time. I don't have any further	11:49:49
16	questions, so I think we are finished.	11:49:50
17	THE VIDEOGRAPHER: Perfect. If	11:49:54
18	there's nothing further, let me take us off	11:49:54
19	the video record.	11:49:56
20	This marks the end of the	11:49:57
21	deposition of Dr. Darrin J. Young. We are	11:49:58
22	going off the record. The time is 11:50.	11:50:01

1 THE COURT REPORTER: I have
2 been told same day rough draft and two
3 business day delivery of the final. Is that
4 correct, Ms. Mahoney?

5 MS. MAHONEY: Yes, thank you.

6 THE COURT REPORTER: And,
7 David, did you want the same thing?

8 MR. GLANDORF: Yes, that's
9 fine. I'll take the same.

10 I was going to note there's
11 nothing -- I think nothing confidential here,
12 right? This doesn't need to be marked
13 confidential, in my opinion. You agree,
14 Megan?

15 MS. MAHONEY: Yeah, I agree,
16 thank you.

17 (Deposition concluded.)
18
19
20
21
22

1 Certificate of Shorthand Reporter

2
3 I, Annette Peltier, CSR, Texas
4 Certified Realtime Reporter in and for the
5 State of Texas do hereby certify:

6 That Dr. Darrin J. Young, the witness
7 whose deposition is herein before set forth,
8 was duly sworn before the commencement of
9 such deposition and that such deposition was
10 taken before me and is a true record of the
11 testimony given by such witness.

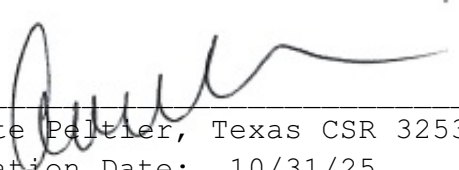
12 I further certify that the adverse
13 party, Petitioner, was represented by counsel
14 at the deposition.

15 I further certify that the deposition
16 of Dr. Darrin J. Young occurred via Zoom
17 videoconference on September 5, 2025,
18 commencing at 10:05 a.m. to 11:50 a.m.

19 I further certify that I am not related
20 to any of the parties to this action by blood
21 or marriage, I am not employed by or an
22 attorney to any of the parties to this

1 action, and that I am in no way interested,
2 financially or otherwise, in the outcome of
3 this matter.

4 IN WITNESS WHEREOF, I have hereunto set
5 my hand this 8th day of September, 2025.

6
7 
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A			
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