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Transcript of Thomas D. Vander Veen, Ph.D.

Date: July 29, 2025

Case: Biofrontera, Inc., et al. -v- Sun Pharmaceutical Industries, Inc. (PTAB)

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WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

BIOFRONTERA EXHIBIT 1029

1 UNITED STATES PATENT AND TRADEMARK OFFICE

2
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD
4

5 BIOFRONTERA INC., BIOFRONTERA BIOSCIENCE GMBH,
6 BIOFRONTERA PHARMA GMBH, and BIOFRONTERA AG,

7 Petitioner

8 v.

9 SUN PHARMACEUTICAL INDUSTRIES, INC.,

10 Patent Owner
11

12 Case IPR2024-01312

13 Patent No. 11,697,028
14

15
16 REMOTE ORAL DEPOSITION OF
17 THOMAS D. VANDER VEEN, Ph.D.

18 Chicago, Illinois

19 July 29, 2025 - 9:33 a.m.
20

21 Reported by:
22 Micheal A. Johnson, RDR, CRR
Job No. 593418

1 REMOTE ORAL DEPOSITION OF THOMAS D. VANDER
2 VEEN, Ph.D., produced at the instance of the
3 Petitioner, in the above-styled and numbered cause
4 on the 29th day of July, 2025, at 9:33 a.m.,
5 before Micheal A. Johnson, RDR, CRR, Notary Public
6 in and for the State of Texas, reported by
7 realtime stenographic means remotely at the
8 location of the witness, Chicago, Illinois,
9 pursuant to Notice of Oral Deposition, and in
10 accordance with 37 C.F.R., Section 42.53.

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Maddie Reif
Kathleen Akers

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DEPOSITION EXHIBITS
THOMAS D. VANDER VEEN, Ph.D.
July 29, 2025

NUMBER	DESCRIPTION	MARKED
Exhibit 1001		32
Exhibit 2045		42
Exhibit 2048		7

1 PROCEEDINGS

2 MR. MURPHY: And I'll just start the
3 appearances then. This is James Murphy with
4 Polsinelli PC and I'm here on behalf of the
5 Biofrontera petitioners.

6 MS. HIGGINS: Good morning, this is
7 Gabrielle Higgins and Bridget Belcher of the
8 Desmarais law firm here on behalf of the patent
9 owners, Sun Pharma.

10 THOMAS D. VANDER VEEN, Ph.D.,
11 called as a witness, having been duly sworn, was
12 examined and testified as follows:

13 EXAMINATION

14 BY MR. MURPHY:

15 Q. Good morning, Dr. Vander Veen. We haven't
16 had the privilege to meet yet, although I know
17 you've been involved with some of my colleagues.

18 So my understanding is you've been deposed
19 before, right?

20 A. That's correct.

21 Q. And so I'm not going to go over all the
22 rules. If you have any questions, just let me

1 know, but today you're going to be answering the
2 questions just as if you were under oath. Do you
3 understand?

4 A. Yes.

5 Q. And is there anything that would prevent
6 you from providing full, complete, true answers
7 today such as medication or health issues?

8 A. Nothing that I'm aware of.

9 Q. And is there anyone in the room with you
10 today?

11 A. There is not.

12 Q. Do you have any printed materials in front
13 of you today?

14 A. I have a printed copy of my declaration.
15 Or just the text portion of it.

16 Q. And at the bottom of that, is it marked
17 Exhibit 2048?

18 A. Mine doesn't have an exhibit number on it.
19 It's in the 1312 case.

20 Q. Okay. So there's nothing at the bottom of
21 your document with a marking, you're just reading
22 off the cover of the document?

1 A. Yeah. Yeah.

2 Q. If you go to the end of the document, does
3 it have your signature on it?

4 A. Yes, it does.

5 Q. So as far as you know, this is your final
6 declaration you submitted in this case?

7 A. Yes.

8 Q. You don't have any other written materials
9 in front of you?

10 A. I do not. Just -- I realize my e-mail is
11 still open. Let me close that so it doesn't go
12 off. Sorry. I had it open so I could log into
13 this -- this proceeding and then I meant to close
14 it. Okay. I'm ready. Sorry.

15 Q. No worries. That sort of leads to my next
16 question. Other than the video software going for
17 this deposition, do you have any programs open on
18 your computer?

19 A. I do not.

20 Q. Okay. And so you understand that you're
21 here to testify with regards to your declaration
22 in IPR2024-01312 related to US Patent 11,697,028;

1 is that right?

2 A. That's my understanding.

3 Q. Is it okay if I refer to that as the '028
4 patent today?

5 A. That's fine.

6 Q. And you don't have a copy of the '028
7 patent in front of you?

8 A. I do not.

9 Q. Did you review the '028 patent when
10 preparing your declaration in this case?

11 A. I had reviewed the patent, certainly as an
12 economist, not as a technical expert.

13 Q. Yeah. So in preparing your declaration
14 for this case, did you communicate with anyone
15 other than attorneys at the Desmarais law firm?

16 A. Well, as indicated in the declaration, I
17 had a conversation with Dr. Jokerst.

18 Q. Do you recall how long you talked to
19 Dr. Jokerst?

20 A. It was a relatively short conversation.
21 Thirty, 45 minutes, probably.

22 Q. And did you ask all the questions on that

1 conversation or did she ask questions as well?

2 A. I certainly asked questions. I don't
3 recall if she did or not. I had a few
4 conversations with her over the course of various
5 proceedings here. And so parsing out exactly
6 which conversation was in the context of this
7 declaration is difficult to do. I certainly asked
8 her questions. She may have asked me some as
9 well.

10 Q. Was there anyone else on the call you had
11 with Dr. Jokerst, the call that relates to your
12 declaration here?

13 A. One of my colleagues, Kathleen Akers from
14 Epsilon was on the call. Counsel was on the call.

15 Q. And did anyone other than you or
16 Dr. Jokerst speak on that call?

17 A. In terms of substance, no, I don't think
18 so. There was probably some logistical questions,
19 but not in terms of the substance.

20 Q. What about Dr. Heather Roberts, did you
21 talk to her in preparing for your declaration for
22 this IPR?

1 A. I don't recall a conversation with her. I
2 saw her declaration. Or declarations I think
3 there were.

4 Q. And how did you prepare for today's
5 deposition?

6 A. Really in a very similar way as I do for
7 depositions. Obviously all the work I have done
8 in this matter in preparing the declaration
9 informed my knowledge base, but specifically in
10 preparing for the deposition I reviewed my
11 declaration, I reviewed the documents cited in the
12 declaration, I had some conversations with my
13 team, had a meeting with counsel, those sorts of
14 things.

15 Q. When you say reviewed the documents in
16 your declaration, are those all the documents you
17 listed in Appendix B of your declaration?

18 A. Yes, that's correct.

19 Q. So you reviewed each of those in preparing
20 for today?

21 A. Generally, yes. I don't know that I
22 looked at every one of the documents in the list

1 of materials considered, but certainly reviewed
2 documents that are cited in the declaration
3 itself. But that would be the universe of
4 documents.

5 Q. And how long did you meet with counsel in
6 preparing for today?

7 A. Couple hours.

8 Q. And did you meet with anyone other than
9 counsel at the Desmarais law firm in preparing for
10 the deposition today?

11 A. My colleague from Epsilon was on the call
12 as well.

13 Q. And did your colleague participate in the
14 substance of the discussions at all?

15 A. I don't know how you define that. I mean,
16 certainly she was on the call and if there was a
17 question that I had, she might have provided some
18 input.

19 Q. What type of questions would you have had
20 for your colleague?

21 MS. HIGGINS: Objection. I instruct the
22 witness not to answer to the extent that that

1 conversation was privileged.

2 BY MR. MURPHY:

3 Q. You can answer the question if you can,
4 Dr. Vander Veen.

5 A. I'll be honest. Defining what privilege
6 is, is outside of my expertise, so I don't know if
7 I can answer that question, knowing what's
8 privileged and what's not.

9 Q. Your colleague is not an attorney, is she?

10 A. No.

11 Q. Okay. So I'm going ask the question
12 again, then. What questions did you ask of your
13 colleague during that conversation?

14 A. I don't recall --

15 THE WITNESS: Sorry.

16 MS. HIGGINS: I make my objection. Sounds
17 like you're talking about the conversation where
18 counsel was present in preparation for the
19 deposition, so I made my objection privilege and
20 the witness answered.

21 MR. MURPHY: Just to be clear, are you
22 preventing the witness from answering the

1 question, Ms. Higgins?

2 MS. HIGGINS: I made my objection and the
3 witness answered the question.

4 BY MR. MURPHY:

5 Q. So, Dr. Vander Veen, I don't see an answer
6 to the question, so I'm going to try and ask it
7 again.

8 What questions did you ask your colleague
9 during the conversation you had in preparing for
10 today's deposition?

11 MS. HIGGINS: And, Dr. Vander Veen, to the
12 extent that that involved a discussion with
13 counsel and you were preparing for your deposition
14 during a meeting and discussion with counsel, I
15 instruct you not to answer the question with
16 respect to those discussions with counsel.

17 A. I don't actually recall any specific
18 questions I asked my colleague.

19 BY MR. MURPHY:

20 Q. Did you rely on any information you
21 received from your colleague in preparing your
22 declaration in this IPR?

1 A. No. It would be, I relied upon the
2 information in my declaration and the exhibits
3 cited therein.

4 Q. Did you obtain the information in your
5 declaration from your colleague?

6 A. No. She assisted me in preparing the
7 declaration, but everything would be based on
8 information cited in the exhibits.

9 Q. When you reviewed your declaration in
10 preparing for today, did you see any statements
11 that were not correct, in your mind?

12 A. I don't recall anything in the declaration
13 that struck me as incorrect or requiring a change.

14 Q. Let me ask you about paragraph 19 in your
15 declaration. I can put it up on the screen if it
16 would be helpful or you can just read off your
17 paper copy, whichever you prefer.

18 A. You can put it up on the screen.

19 MR. MURPHY: Can the technician put up
20 Exhibit 2048.

21 MS. REIF: Stand by.

22 MR. MURPHY: And you can give the witness

1 control of the document.

2 MS. REIF: Sir, just click anywhere on the
3 screen and you'll be able to move the mouse.

4 A. So you said paragraph 19?

5 BY MR. MURPHY:

6 Q. Yes. Let me know when you're there.

7 A. A little delay in the reaction time here.
8 Okay.

9 Q. So in paragraph 19 you provide a list of
10 factors you considered when determining if the
11 claims of the patent are obvious; is that right?

12 A. Paragraph 19 lays out my understanding of
13 elements that are part of the determination of
14 obviousness or nonobviousness.

15 Q. But you're not opining as an expert on the
16 technical subject matter of the '028 patent, are
17 you?

18 A. I am not. And if -- by technical, I
19 assume you mean in terms of evaluating claims of
20 patents or how they read. To the extent that you
21 mean economic analysis as technical, then it is,
22 but I don't think that's what you meant by

1 technical.

2 Q. Let's just start with the first bullet
3 point. The first factor, first bullet you list
4 here is the level of ordinary skill in the
5 pertinent art, right?

6 A. That's the first bullet.

7 Q. You didn't determine the level of ordinary
8 skill in the pertinent art, did you?

9 A. I don't believe any of my opinions relate
10 to determining the level of ordinary skill in the
11 art.

12 Q. Are you aware of what Dr. Jokerst opines
13 as the level of ordinary skill in the pertinent
14 art in this matter?

15 A. I did not describe what that is. It's not
16 something that's within my expertise. I certainly
17 reviewed her declaration, but I don't -- I
18 couldn't repeat it.

19 Q. And did any of the opinions you provided
20 in your declaration require a certain level of
21 ordinary skill in the pertinent art?

22 A. I don't know that there are analyses or

1 opinions in my declaration that would depend upon
2 the level of ordinary skill in the art. I would
3 have to think through that, but it's not clear
4 sitting here right now how that would impact the
5 analysis of commercial success related to the
6 claims of the patent.

7 Q. And in preparing the opinions in your
8 declaration, you didn't have any particular level
9 of ordinary skill in the art in mind, did you?

10 A. I'm sorry, you faded out on the first part
11 of the question. In preparing?

12 Q. In preparing your opinions in your
13 declaration, you didn't have any particular level
14 of ordinary skill in the art in mind, did you?

15 A. Not -- not specifically, no.

16 Q. And then the next bullet in paragraph 19
17 of your declaration is the scope and content of
18 the prior art.

19 Do you see that?

20 A. I do.

21 Q. And you didn't analyze the scope and
22 content of the prior art, did you?

1 A. I did not.

2 Q. Did you review any of the prior art in
3 preparing your declaration?

4 A. Not in the context of evaluating prior
5 art.

6 Q. Did you review the prior art for any
7 context in preparing your declaration?

8 A. Not that I'm aware of, but if there are --
9 if there's overlap of the documents that I
10 reviewed, then potentially, yes, but I wasn't
11 assessing prior art.

12 Q. And then the next bullet is the
13 differences between the prior art and the claims
14 at issue.

15 Do you see that?

16 A. I do. I see the third bullet point.

17 Q. You didn't evaluate any differences
18 between the prior around and the claims at issue,
19 did you?

20 A. I did not. In my mind and understanding,
21 that's a technical analysis. That's not something
22 that I do.

1 Q. And then the last bullet point is
2 secondary considerations such as commercial
3 success, long felt but unsolved needs, and
4 failures of others.

5 Do you see that?

6 A. I do.

7 Q. And your declaration addresses commercial
8 success, right?

9 A. I think that's fair.

10 Q. But you don't address long felt but
11 unsolved needs or failure of others, do you?

12 A. I don't believe I address those directly.
13 Certainly the focus of my analysis is on
14 commercial success, the topic of commercial
15 success.

16 Q. Let me ask you about the next paragraph,
17 paragraph 20. And in paragraph 20 you emphasize
18 the word "nexus."

19 Do you see that?

20 A. I do.

21 Q. What is your understanding of what is
22 required to show a nexus between the claims of the

1 '028 patent and commercial success of a product?

2 MS. HIGGINS: Object to the extent it
3 calls for a legal conclusion.

4 You can answer.

5 A. Certainly I have an understanding of nexus
6 in terms of an economist showing that there is a
7 relationship between the claims of the patent and
8 commercial success. I think the following
9 paragraphs of this section lay out the economic
10 indicia of commercial success and a nexus, as I
11 understand it.

12 BY MR. MURPHY:

13 Q. So in your declaration -- it's your
14 understanding that you applied the facts to show a
15 nexus between the claims of the '028 patent and
16 the success of a product?

17 A. Yes. That's -- that's what I set out in
18 the declaration in the analysis that I performed.

19 Q. So to do that, you would have to
20 understand what a nexus means, correct?

21 A. Yes. At least as an economist.

22 Q. Then the last sentence of paragraph 20 you

1 state that: I understand that when a product is
2 coextensive with the patented invention, nexus is
3 presumed.

4 Do you see that?

5 A. I see the sentence.

6 Q. What is your understanding of what it
7 means for a product to be coextensive with the
8 patented invention?

9 MS. HIGGINS: Again, object to the extent
10 it calls for legal conclusion, but you can answer.

11 A. As an economist and having worked in this
12 area, my understanding is that it's when the
13 patent -- I'm sorry, the claims of the patent sort
14 of are one to one with the product, where the
15 product as a whole or -- practice the patents
16 that -- or the claims, that that combination of
17 features is tied to the patent.

18 So in other words, it's not claims that
19 pertain to an element of the product or a
20 subcomponent of the product, but really cover the
21 whole product.

22

1 BY MR. MURPHY:

2 Q. And that's the understanding you used when
3 preparing your declaration, right?

4 A. That is the understanding that I used.
5 Certainly I don't provide an opinion on if the
6 product is coextensive with the patented
7 invention. That's a technical analysis.

8 Q. Let me ask you about paragraph 26 of your
9 declaration. Just let me know when you get there.

10 A. Okay.

11 Q. So in paragraph 26 you list three features
12 that Sun Pharma's technical expert believes are
13 enabled by the '028 patent; is that right?

14 A. I believe that's correct.

15 Q. And the Sun Pharma technical expert you're
16 referring to there is Dr. Jokerst, I presume?

17 A. That's correct. I believe that's cited in
18 the footnotes here. Let me just look down. Oops,
19 went too far. You can see that in, for example,
20 footnote 39.

21 Q. And did you independently determine these
22 three features are enabled by the '028 patent or

1 do you rely entirely on Dr. Jokerst's discussion
2 with you?

3 MS. HIGGINS: Objection, form.

4 You can answer.

5 A. The determination of what features are
6 enabled by the patent would be coming from
7 Dr. Jokerst.

8 BY MR. MURPHY:

9 Q. And did you make any independent
10 determination that these three features are
11 enabled by the '028 patent?

12 A. I did not. That's a technical analysis as
13 far as I'm concerned.

14 Q. Is it your understanding that these are
15 the only features enabled by the '028 patent?

16 A. I'm not sure that I can answer that
17 completely. It's certainly, from what Dr. Jokerst
18 told me, that these are features -- that the
19 features enabled by the '028 patent include these
20 features, so there may be others. But these are
21 the ones that she discussed with me and indicated
22 and discussed, as I understand, in her

1 declaration.

2 Q. Did Dr. Jokerst discuss any other features
3 of the '028 patent with you?

4 MS. HIGGINS: Once again, I want to make
5 sure that we're talking about the discussion that
6 Dr. Vander Veen had in connection with this IPR.
7 Can you make that clear, Counsel? Because there
8 have been other discussions that are privileged.

9 MR. MURPHY: Sure. Let me rephrase that
10 question, then.

11 BY MR. MURPHY:

12 Q. In discussion you had with Dr. Jokerst for
13 your declaration in this IPR, is it your -- sorry.
14 Let me start again.

15 In discussion you had with Dr. Jokerst
16 that you had with her for this IPR, did she
17 discuss any features of the '028 patent other than
18 these three?

19 A. I don't recall other features. This
20 paragraph lays out my understanding of her opinion
21 regarding features that are enabled by the '028
22 patent and the benefits that are enabled by these

1 patents.

2 Q. Okay. So she may have -- sorry, I didn't
3 mean to talk over you. Go ahead and finish,
4 Dr. Vander Veen.

5 A. I just said by these claims. I said
6 patents, but I mean these claims.

7 Q. So is it fair to say, then, that she could
8 have discussed other features with you in this
9 conversation on the IPR or you just don't recall?

10 A. These are the -- these are the features
11 that were the focus of our conversation, the ones
12 that I recall. Certainly I don't have a
13 photographic memory or a transcript -- a memory
14 that mimics a transcript. So could there have
15 been other elements that were discussed? It's
16 possible. But these are the factors or the
17 features that we discussed in the relationship of
18 our conversation for this case.

19 Q. And did you record or take any written
20 notes of your conversation with Dr. Jokerst that
21 you had with respect to the IPR?

22 A. I did not.

1 Q. So when you wrote paragraph 26 in your
2 declaration, you were doing so based purely off
3 the memory of your conversation with Dr. Jokerst;
4 is that right?

5 A. Primarily that's correct, yes. So the --
6 it was based on the conversation.

7 Q. Do you recall how much time elapsed from
8 when you had your conversation with Dr. Jokerst to
9 when you wrote paragraph 26 in your declaration?

10 A. We would have been -- I would have been
11 working simultaneously as I spoke with her and
12 took down the words that she gave me.

13 Q. So if you were writing contemporaneous
14 with your conversation, then, paragraph 26 would
15 recite all the features she told you about; is
16 that right?

17 A. These were the features that she
18 identified as being the ones that were pertinent
19 to the analysis.

20 Q. And the first feature here is an
21 adjustable five-panel design; is that right?

22 A. I see that listed there, yes.

1 Q. In preparing your declaration, did you
2 consider if an adjustable five-panel design was
3 known in the prior art?

4 A. That would not be part of the analysis
5 that I was doing in terms of assessing elements
6 that are or are not in the prior art.

7 Q. Did Dr. Jokerst inform you if an
8 adjustable five-panel design was known in the
9 prior art?

10 A. I'm not sure that we discussed the
11 specific elements in relationship to what is or is
12 not in the prior art.

13 Q. As far as you're aware, she did not inform
14 you, then, if an adjustable five-panel design was
15 known in the prior art; is that correct?

16 A. I don't recall specific features that she
17 indicated were -- were or were not in the prior
18 art. Certainly it's my understanding that her
19 opinion is that the combination of the features
20 is -- is the -- what's relevant here, what's
21 important here.

22 Q. So if we look at the second feature you

1 list, it's a uniform illumination of the treatment
2 surface of a patient, correct?

3 A. That's indicated as point 2 in
4 paragraph 26.

5 Q. And did you consider when preparing your
6 declaration if the uniform illumination of the
7 treatment surface of a patient was known in the
8 prior art?

9 A. I did not evaluate prior art.

10 Q. So the answer would be no to that
11 question; is that correct?

12 A. That's generally correct. I'm not
13 evaluating what's in or is not in the prior art.

14 Q. And the same for the third feature you
15 list there, did you consider if that feature was
16 in the prior art?

17 A. Again, I did not analyze particular
18 features and if they're in the prior art or not.

19 Q. If you scroll down past paragraph 26 to
20 subheading B.

21 Do you see that?

22 A. I do, yes, at the bottom.

1 Q. And this subheading states: A nexus
2 exists between the '028 patent claims and the
3 commercial success of the RhodoLED XL products; is
4 that right?

5 A. I believe you read that correctly.

6 Q. What claim numbers of the '028 patent do
7 you believe have a nexus to the commercial success
8 of the RhodoLED XL products?

9 MS. HIGGINS: Objection, form.

10 A. I don't recall the specific claim numbers
11 that are at issue here. I'm relying upon the
12 technical expert to provide for me what are the
13 features of the product that are enabled by the
14 patented claims -- or the claims of the patent,
15 and my analysis proceeds from that.

16 BY MR. MURPHY:

17 Q. So you don't know what claim numbers of
18 the '028 patent have a nexus to the commercial
19 success of the RhodoLED XL products?

20 A. Again, in terms of analyzing the
21 individual patent claims, I'm not analyzing the
22 patent claims. Certainly paragraph 5 provides my

1 understanding of what claims are at issue in this
2 matter. But I'm looking at what are the features
3 of the product that are enabled by the claims and
4 my analysis proceeds from that point.

5 Q. Is it your opinion that claim 1 of the
6 '028 patent has a nexus to the commercial success
7 of the RhodoLED XL product?

8 A. I have not analyzed -- I have not analyzed
9 the commercial success and the nexus on a
10 claim-by-claim basis. Again, I'm looking at my
11 understanding -- I'm starting from my
12 understanding of what patented features are
13 enabled by the claims and as informed by
14 Dr. Jokerst.

15 Q. Did Dr. Jokerst inform you if there was a
16 nexus between claim 1 of the '028 patent and the
17 commercial success of the RhodoLED XL product?

18 A. Again, I don't believe we discussed claim
19 by claim the patents.

20 Q. So your discussion with Dr. Jokerst was
21 about features, not claims; is that right?

22 A. My discussion --

1 MS. HIGGINS: Objection, form.

2 You can answer.

3 A. My discussion related to what features of
4 the product were enabled by the '028 patent.

5 BY MR. MURPHY:

6 Q. When you say "enabled by the '028 patent,"
7 what do you mean?

8 A. Well, to the extent that's a technical
9 determination, you'll have to ask Dr. Jokerst, but
10 she informed me of what features of the RhodoLED
11 products were enabled by -- or not by the -- by
12 the '028 patent.

13 Q. Let me have you look at the '028 patent
14 for a minute, then.

15 MR. MURPHY: The technician can put up
16 Exhibit 1001. You can give control to
17 Dr. Vander Veen again.

18 MS. REIF: He has it.

19 BY MR. MURPHY:

20 Q. Dr. Vander Veen, if you can go towards the
21 end of that patent to claim 1, which starts at
22 column 10, line 24.

1 A. Okay.

2 Q. And the first limitation of that patent
3 starts on line 26 and it recites: An illuminator
4 comprising five panels connected by hinged
5 structures on inner side surfaces of adjacent
6 panels.

7 Do you see that?

8 A. I see the lines that you just read.

9 Q. Did you ever consider if that limitation
10 that I just read was embodied by the RhodoLED XL
11 products?

12 A. That would be a technical analysis and I'm
13 not assessing or opining on the extent to which
14 claims are or are not practiced by a product.

15 Q. Did your declaration ever consider that
16 this limitation was part of the commercial success
17 of the RhodoLED XL products?

18 A. Again, as I stated, my analysis relies
19 upon Dr. Jokerst to -- to determine what features
20 of the product are enabled by the patent. I've
21 laid out those features in a number of places in
22 my declaration and my analysis then proceeds using

1 that understanding.

2 Q. Did you read the '028 patent before you
3 spoke to Dr. Jokerst, the conversation about this
4 IPR?

5 A. I did.

6 Q. Did you ever ask Dr. Jokerst about this
7 limitation in claim 1 that I read to you?

8 A. Not specifically, no. Again, that's the
9 analysis that she's doing and I'm not providing --
10 I'm not providing an opinion on assessing how
11 particular claims or limitations relate to
12 products.

13 Q. Let me have you look at your paragraph 26
14 of your declaration again, but keep claim 1 of the
15 '028 patent up if you can.

16 A. Paragraph 26?

17 Q. Yes. In your declaration.

18 A. Okay.

19 Q. In paragraph 26 is where you list the
20 three features enabled by the '028 patent; do you
21 recall?

22 A. They're included --

1 MS. HIGGINS: Objection, form.

2 You can answer.

3 A. There are features of the product enabled
4 by the patent listed in paragraph 26.

5 BY MR. MURPHY:

6 Q. So in the limitation of claim 1 that we
7 just looked at a second ago it talks about a
8 hinged structure, correct?

9 A. I see those words.

10 Q. And there's no mention of a hinged
11 structure at all in paragraph 26, is there, in
12 your declaration?

13 MS. HIGGINS: Objection, form.

14 You can answer.

15 A. I would say that the words "hinged
16 structure" do not appear in paragraph 26.

17 BY MR. MURPHY:

18 Q. Is there a reason you didn't ask
19 Dr. Jokerst about a hinged structure since you
20 were aware of it when talking to her?

21 MS. HIGGINS: Objection, form.

22 A. No. Again, that's a technical analysis

1 that she's doing. I'm relying on her to indicate
2 what are the features that are enabled by the
3 patent. How that relates to limitations and so
4 forth is the analysis that she does.

5 BY MR. MURPHY:

6 Q. If you go back to the '028 patent, claim 5
7 which starts at column 10, line 54. Let me know
8 when you're there.

9 A. My windows switched. Can I switch that?
10 Okay. Claim 5. Okay.

11 Q. And starting at line 56, the limitation
12 there says: Administering 5-aminolevulinic acid
13 (ALA) to the patient.

14 Do you see that?

15 A. I see the line you're referring to.

16 Q. And did you ask Dr. Jokerst about that
17 limitation of claim 5 of the '028 patent when you
18 had your conversation with her about this IPR?

19 A. I did not ask her about specific
20 limitations in the claims.

21 Q. And the features in paragraph 26 don't
22 reference administering 5-aminolevulinic acid to

1 the patient, do they?

2 A. I don't see those words in paragraph 26 of
3 my declaration.

4 Q. Do you see anything that would relate to
5 the administration --

6 MS. HIGGINS: Objection, form.

7 BY MR. MURPHY:

8 Q. -- of the ALA to a patient,
9 Dr. Vander Veen?

10 A. Not in paragraph 26. Paragraph 26 is --
11 lays out features of the product that are enabled
12 by the patent as opined on by Dr. Jokerst.

13 Q. You would agree that claim 5 discusses,
14 quote, administering 5-aminolevulinic acid (ALA)
15 to the patient, right?

16 A. I see those words on the page.

17 Q. So you don't have an opinion if that's a
18 feature of the '028 patent, then?

19 A. No. As I said a number of times, I don't
20 analyze what is claimed in the patent and
21 corresponding to the product. That's analysis
22 that Dr. Jokerst provides.

1 Q. And it sounds like you didn't request any
2 of Dr. Jokerst's analysis; is that right?

3 A. I would say that my understanding of her
4 analysis certainly appeared consistent with how I
5 saw the product portrayed in the marketplace. And
6 so looking at economic analysis, what she provided
7 to me seemed consistent with what I saw, but I
8 don't provide any opinion on what is claimed in
9 the patent or how it relates to products. That's
10 simply outside of my expertise.

11 Q. Go back to your declaration and look at
12 paragraph 27. Let me know when you're there.

13 A. I'm there, at least for the first part of
14 it.

15 Q. In that first sentence you state that:
16 Biofrontera's sales of the RhodoLED XL evidence
17 the commercial success of the product as a result
18 of the patented features, correct?

19 A. I see the sentence, the first sentence, of
20 paragraph 27.

21 Q. What do you mean by "the patented
22 features" in that sentence?

1 A. The patented features that were identified
2 by Dr. Jokerst, for example, that we talked about
3 in paragraph 26.

4 Q. So the patented features you reference
5 here in paragraph 27 is the three features you
6 discuss in paragraph 26?

7 A. Well, certainly the three features in
8 paragraph 26 are the features of the product that
9 are enabled by the patent. As paragraph 26
10 indicates, I also state that I understand that
11 these features allow for illumination over a
12 larger treatment area and enhanced adjustability
13 of the device. So that's a part of the product
14 features that are enabled by the patent.

15 Q. And when you prepared your declaration,
16 did you consider the hinged structures of claim 1
17 to be a patented feature?

18 MS. HIGGINS: Objection, form.

19 A. Paragraph 26 lays out my understanding --
20 in other places as well -- my understanding of the
21 features that are enabled by the '028 patent. It
22 states that these features that are enabled

1 include the ones that are listed, but those are
2 the factors that I'm looking at when I perform my
3 analysis of the nexus between commercial success
4 and the features enabled by the '028 patent.

5 BY MR. MURPHY:

6 Q. And when you performed your analysis, did
7 you consider the hinged structure you recite in
8 claim 1 as a patented feature?

9 A. My analysis was based on the features that
10 are described in paragraph 26 and how we see that
11 in the economic evidence regarding the sales of
12 the product. You'll have to ask Dr. Jokerst how
13 the hinged structure fits into her analysis of
14 the -- of the claimed features.

15 What I'm looking for is economic evidence
16 that are consistent with the features enabled by
17 the patent as described by Dr. Jokerst and
18 repeated in paragraph \$26 of my declaration.

19 Q. And to be clear, I'm asking about your
20 analysis, not Dr. Jokerst's. And in your
21 analysis, did you ever consider the hinged
22 structure as a patented feature?

1 MS. HIGGINS: Objection, form, asked and
2 answered.

3 A. As I said a number of times, the features
4 that are enabled by the RhodoLED XL that are the
5 basis -- or the starting point in my analysis of
6 the nexus between commercial success and the
7 patent are those that are laid out in
8 paragraph 26, among other places in the
9 declaration.

10 BY MR. MURPHY:

11 Q. Did your analysis of commercial success in
12 your declaration ever consider the impact of the
13 hinged structure on commercial success?

14 A. Well, again, in terms of that particular
15 use of the word "hinged structure," I don't think
16 that's in my declaration. But again, a hinged
17 structure may be a part of the adjustability of
18 the five panels, for example. And so you'll have
19 to ask Dr. Jokerst how individual or specific
20 limitations relate to the features that are listed
21 in paragraph 26.

22 Q. And you don't provide any analysis

1 comparing the RhodoLED XL to individual claims of
2 the '028 patent, do you?

3 MS. HIGGINS: Objection, form.

4 A. I'm sorry, could you repeat the question?

5 BY MR. MURPHY:

6 Q. In your declaration you do not provide any
7 analysis that compares the RhodoD -- or sorry. In
8 your declaration you do not provide any analysis
9 that compares the RhodoLED XL to individual claims
10 of the '028 patent, do you?

11 A. I think that's correct. I'm not providing
12 an analysis of the claims of the patent and how
13 those claims are or are not practiced by a
14 particular product.

15 MR. MURPHY: Can the technician provide
16 Exhibit 2045 to Dr. Vander Veen.

17 BY MR. MURPHY:

18 Q. Dr. Vander Veen, Exhibit 2045, which is on
19 the screen, is a press release that you rely on --
20 that you rely on in your declaration, correct?

21 A. So this is Exhibit 2045. It is a press
22 release. It's certainly cited in my declaration.

1 Q. And in your opinion, this press release
2 highlights, quote, innovative features of the
3 RhodoLED XL, correct?

4 A. As I read this press release, I think that
5 they are pointing to or describing innovative
6 features of the RhodoLED XL.

7 Q. And one of the features pointed in that
8 press release is the robust but sleek
9 construction; is that right?

10 A. I recall that phraseology in one of the
11 documents. If you can point me to it in this
12 document, that would be helpful.

13 Q. Yeah. Might help to actually just look at
14 your declaration in paragraph 27. I think you
15 quote from this portion of the press release.

16 A. Yes, there is a quote from the press
17 release in paragraph 27 of my declaration.

18 Q. And based on that quote, one of the
19 innovative features is the robust but sleek
20 construction of the RhodoLED XL, correct?

21 MS. HIGGINS: Objection, form.

22 A. Well, I don't know if the quote/unquote

1 robust but sleek construction is an innovation of
2 the device. It says that the innovative device
3 represents a significant advancement in the
4 treatment of PDT with state-of-the-art
5 engineering, robust but sleek construction and an
6 intuitive user interface.

7 So those are descriptors of the product,
8 but I'm not sure that it's saying that that's
9 what's innovative about it.

10 BY MR. MURPHY:

11 Q. You believe one of the innovative features
12 is the fact that it has five panels; is that
13 right?

14 A. Well, I think that's consistent with the
15 evidence I have seen. I think that's what's
16 stated in this press release as well.

17 Q. In the press release, can you point to me
18 where it says five panels is an innovation?

19 A. Sure. If you look down -- let's see. How
20 can I -- well, there is a -- there's a graphic in
21 the page here, on the first page that's labeled
22 Biofrontera RhodoLED XL. It's a photograph. If

1 you go below that, there's one, two, three --
2 fourth paragraph down it says: In comparison to
3 Biofrontera's existing lamp. So here they're
4 comparing the new lamp to the old lamp. And the
5 reason for doing that is to show what's different
6 or innovative as I read this. So they say: The
7 RhodoLED XL offers a larger illumination area,
8 with five panels compared to one, and additional
9 features such as positioning sensors to ensure the
10 patient receives the optimal energy delivery from
11 the LED array.

12 So there's the reference to the five
13 panels compared to one.

14 Q. So is it your opinion that any difference
15 from the RhodoLED XL to the original RhodoLED is
16 an innovation?

17 A. I don't know that -- I've not tried to
18 parse out a feature that would be an innovation
19 versus one that's not an innovation. Certainly I
20 think comparing the two products is a useful
21 exercise to do, and how the market perceives those
22 differences. Clearly five panels is something

1 that repeatedly is shown as a distinguishing and
2 important difference between the RhodoLED and the
3 RhodoLED XL.

4 Q. I guess what makes that difference between
5 the RhodoLED XL and the RhodoLED an innovation
6 compared to other differences that may not be
7 innovations?

8 A. Well, I think you look at what we see, you
9 know, sort of across the board in terms of what is
10 identified as the important feature or features of
11 the product. We certainly see many references to
12 a larger treatment area that is coming from the
13 fact that you have these adjustable five panels
14 over -- against one panel. So you repeatedly see
15 that the five-panel element of the XL product is
16 what is focused on. And so the economic evidence
17 would indicate that that's a feature that is
18 important to how it's being marketed and sold as
19 well as the reason for people that are purchasing
20 it. And that would be consistent with it being an
21 innovative feature.

22 Q. But the marketing also talks about its

1 sleek construction, right?

2 A. Well, it does have those phrases. But
3 again, that sleek construction is something that I
4 think could also be describing the five-panel
5 design, right. So when you're looking at why
6 people are purchasing the product, we often see
7 them pointing to the utility, right, how the
8 product is used and how it helps dermatologists
9 perform the procedures they're performing and how
10 it impacts the economics of their -- of their --
11 of their work. And so it certainly -- we often
12 see references to the benefits of the adjustable
13 five-panel design. But there are -- of course
14 there are many features of the product.

15 Q. Another marketed feature is the intuitive
16 user interface of the RhodoLED XL, right?

17 A. It indicates that there is a user
18 interface. Now, again, that user interface
19 relates to the five panels, right, because that
20 user interface is part of how one uses the five
21 panels.

22 Q. Did you ever do a comparison of the user

1 interface of the RhodoLED XL to the original
2 RhodoLED?

3 A. I did not do a technical comparison of the
4 product in terms of how one would compare the user
5 interface on the XL versus the original product.
6 Certainly I note that they both have touchscreen
7 interfaces. They're both described that way.
8 It's consistent also, in my understanding, that
9 the user interface on the XL device may be -- may
10 have greater functionality or have more complexity
11 at some level. I put that in quotes. Because,
12 again, the XL is a five-panel device versus the
13 RhodoLED is the one-panel device. And so it would
14 make sense that there's more required to -- or
15 more controls that are needed with the five-panel
16 device than what there would be with the one-panel
17 device. But certainly I understand they both have
18 touchscreen user interface.

19 Q. Would the RhodoLED XL user interface have
20 controls that don't exist in the Rhodo -- the
21 original RhodoLED?

22 A. I don't know technically or from an

1 engineering standpoint if there are additional
2 electronic components or elements that are in the
3 XL user interface that are not in the RhodoLED
4 user interface. So from a technical standpoint, I
5 don't know the answer to that. Certainly I would
6 expect that there are more options, for example,
7 on the XL version because the XL has five panels
8 and the RhodoLED has only one. And so there could
9 be different functionality. Whether there is more
10 control from an electronic standpoint, I don't
11 know.

12 Q. Press release also talks about additional
13 features such as positioning sensors, right?

14 A. It does indicate that, yes.

15 Q. And would you agree that that's an
16 innovative feature of the RhodoLED XL?

17 A. I don't have an opinion on whether that's
18 an innovative feature. Again, it's mentioned
19 here. Does it -- how does it compare to the prior
20 version is less clear. Certainly I understand
21 that the RhodoLED also has a distance -- distance
22 indicators. And so there is, as I understand it,

1 a functionality on the Rhodo X -- on the RhodoLED
2 related to positioning as well.

3 Q. Anywhere in your declaration do you ever
4 consider the impact of the positioning sensor of
5 the RhodoLED XL on its commercial success?

6 A. I don't parse out any commercial success
7 resulting from the positioning sensors per se.
8 Now, I've also not seen any evidence that
9 consumers are purchasing the product because of
10 the positioning sensor on the product. It
11 certainly is referenced in some documents and I've
12 factored that into my analysis relative to the
13 other features of the product.

14 Q. In your analysis, did you conclude that
15 the positioning sensor contributed to the
16 commercial success of the RhodoLED XL?

17 A. I did not express that opinion. Certainly
18 what I do show in my declaration is that there is
19 a nexus between the features of the product that
20 are enabled by the '028 patent and its commercial
21 success.

22 Q. Another feature mentioned in the press

1 release is that the RhodoLED XL is simple to
2 maneuver.

3 Do you see that?

4 A. I believe you're referring to a statement
5 that is in the first paragraph under the
6 photograph of the RhodoLED XL.

7 Q. Taking a look at the statement that says:
8 It is designed to be simple to maneuver, dot, dot,
9 dot?

10 A. I see the sentence you're referring to.

11 Q. Simple to maneuver would also be an
12 important feature of the RhodoLED XL since it's in
13 the marketing materials, right?

14 MS. HIGGINS: Objection, form.

15 A. Well, it's certainly in -- it's certainly
16 a description that's included here. It's designed
17 to be simple to maneuver and able to accommodate
18 various patient treatment positions in order to
19 optimize ease of use.

20 As I understand it, that appears to be
21 consistent with the benefit of the adjustable five
22 panels in the uniform illumination of the

1 treatment of a patient and the arrangement of
2 LEDs. So I think that maneuverability and
3 accessibility is something that's flowing from the
4 patented features. It's consistent with it, at
5 least as I read it.

6 BY MR. MURPHY:

7 Q. And how did you determine that simple to
8 maneuver relates to the adjustability of the five
9 panels?

10 A. Well, I determined it by reading the
11 document here. And it's talking about the
12 maneuverability and the ability to accommodate
13 patient treatment positions. And that seems to me
14 to be consistent with adjustability of the product
15 for the treatment. So it appears to me to be
16 consistent with adjustability of the panels in
17 one -- as one is, you know, treating a patient.

18 Q. So are you performing a technical analysis
19 of the subject matter of the '028 patent to do
20 that analysis?

21 A. No, not at all. I'm doing the same
22 analysis that I've done throughout, which is to

1 start with the features of the product that are
2 enabled by the '028 patent and to see to what
3 extent that I see those features described or a
4 part of, for example, marketing or other
5 documents. And here there's a feature that is
6 certainly consistent with the product features.
7 And that's all I'm saying.

8 Q. The simple to maneuver doesn't reference
9 the five panels of the RhodoLED XL, does it?

10 A. Well, when I read "maneuver," that you
11 can -- it's simple to maneuver and to accommodate
12 treatment positions, that to me seems consistent
13 with adjustable five panels for treatment of
14 patients. So to me that phrase is certainly not
15 inconsistent with the features of -- the patented
16 features of the product as identified by
17 Dr. Jokerst.

18 Q. But to make that leap you have to do some
19 sort of analysis, don't you, some technical
20 analysis?

21 A. No different than the analysis that I'm
22 doing in terms of looking at what is portrayed in

1 the documents and looking at to what extent it
2 appears to be consistent with the product
3 features. And this seems to be adjustability,
4 maneuverability for treatment purposes, that
5 seems -- you certainly can't rule it out. I don't
6 think you can say that it doesn't refer to it. It
7 doesn't contribute to -- the adjustability of the
8 panels do not contribute to the maneuverability of
9 the product to provide for patient -- patient
10 treatment.

11 MS. HIGGINS: Mr. Murphy, I see that I
12 believe the court reporter's asking for a break.
13 So if there's a time in the near future, I would
14 suggest we try to accommodate that.

15 MR. MURPHY: Appreciate that. Yep, I
16 think I can put in a break here in just a minute
17 or two.

18 MS. HIGGINS: And I will say we have been
19 going for over an hour.

20 MR. MURPHY: Yeah. I'm almost done. So
21 I've just got like another question or two, then I
22 think I can wrap up my cross. So let's just go

1 ahead and do that.

2 BY MR. MURPHY:

3 Q. In paragraph 46 of your declaration,
4 Mr. Vander Veen, if you can go there, it's right
5 at the end.

6 A. Sorry, it's a little bit delayed. Okay.

7 Q. Paragraph 46, the end of the first
8 sentence, you conclude with the phrase "the
9 features claimed in the claims of the '028
10 patent."

11 Do you see that?

12 A. Yes, I see the end of the -- or a portion
13 of the first sentence.

14 Q. And then the features claimed in the
15 claims of the '028 patent that you reference here,
16 are those the same features that we looked at in
17 paragraph 26?

18 A. Yes. So, again, when I'm talking about
19 the features of the product enabled by the '028
20 patent in my declaration, it's referring to the --
21 for example, what's described in paragraph 26.

22 MR. MURPHY: Those are all the questions I

1 have for you, Dr. Vander Veen. I appreciate your
2 time. I know we'll take a break, but I'll pass
3 you to counsel in case she has any additional
4 questions for you.

5 MS. HIGGINS: Okay. How long do we want
6 to take a break for? Five minutes is good for me.
7 Court reporter, Dr. Vander Veen, everybody, is
8 that good for everybody?

9 THE WITNESS: Five minutes is good for me.

10 MR. MURPHY: Five is good for me.

11 MS. HIGGINS: We'll be back in five.

12 THE REPORTER: We're off the record.

13 (Recess taken from 10:46 a.m. to
14 10:50 a.m.)

15 MS. HIGGINS: Patent owner has no
16 questions for this witness at this time.

17 MR. MURPHY: Thank you very much,
18 Dr. Vander Veen. Appreciate your time today.

19 THE WITNESS: Thank you.

20 MS. HIGGINS: Let's go off the record.

21 (Deposition concluded at 10:51 a.m.)
22

CERTIFICATE OF SHORTHAND REPORTER

I, Micheal A. Johnson, Certified Reporter
and Notary Public within and for the State of
Texas do hereby certify:

That THOMAS D. VANDER VEEN, Ph.D., with
witness whose deposition is hereinbefore set
forth, was duly sworn by me before the
commencement of such deposition and that such
deposition was taken before me and is a true
record of the testimony given by such witness.

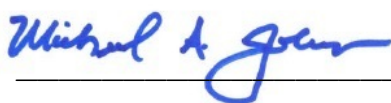
I further certify that the adverse party,
Patent Owner, was represented by counsel at the
deposition.

I further certify that the deposition of
THOMAS D. VANDER VEEN, Ph.D. occurred at the
location of the witness on Tuesday, July 29, 2025,
commencing at 9:33 a.m. to 10:51 a.m.

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

1 in no way interested, financially or otherwise, in
2 the outcome of this matter.

3 IN WITNESS WHEREOF, I have hereunto set my
4 hand this 29th day of July, 2025.

5
6
7 

8 MICHEAL A. JOHNSON, RDR, CRR

9 NOTARY PUBLIC IN AND FOR

10 THE STATE OF TEXAS
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Conducted on July 29, 2025

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