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

OPTICIS CO., LTD, Petitioner,	)	
vs.	)	No. IPR2023-01256
	)	US Patent
INNEOS LLC, Patent Owner.	)	No. 7,198,416

VIDEOTAPED DEPOSITION OF ALAN E. WILLNER, Ph.D.

Via Zoom Videoconference
Thursday, August 29, 2024

Reported Stenographically by:
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Inneos, LLC
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	)	US Patent
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Videotaped Deposition of ALAN E. WILLNER, Ph.D., pages 1 through 68, taken on behalf of Petitioner via Zoom videoconference, beginning at 9:32 a.m. and ending at 12:09 p.m. on Thursday, August 29, 2024, reported stenographically by LAURIE HELD-BIEHL, California Certified Shorthand Reporter No. 6781, Illinois Certified Shorthand Reporter No. 084002860, New Jersey Certified Court Reporter No. 30XI00239100, Texas Certified Shorthand Reporter No. 8555, Washington Certified Court Reporter No. 21020748 and Registered

Professional Reporter, Certified Realtime Reporter, Registered Merit Reporter No. 32836.

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Via Zoom Videoconference

Thursday, August 29, 2024

9:32 a.m. - 12:09 p.m.

THE VIDEOGRAPHER: Good morning. We are going on the record at 9:32 a.m. on August 29, 2024. 09:32

Please note that this deposition is being conducted virtually. The quality of recording depends on the quality of camera and internet connection of participants. What is seen from the witness and heard on the screen is what will be recorded. 09:32

Audio- and video-recording will continue to take place unless all parties agree to go off the record. 09:33

This is media unit 1 of the video-recorded deposition of Dr. Alan E. Willner taken on behalf of the patent owner in the matter of Opticis Co., Ltd, versus Inneos, LLC, filed in the United States Patent and Trademark Office before the Patent Trial Appeal Board, case number IPR2023-01256, and US Patent Number 7,198,416. 09:33

The deposition is being conducted remotely using virtual technology.

The videographer is Brittany Rohan and the 09:33

court reporter is Laurie Biehl, both appearing on behalf of Veritext Legal Solutions.

I am not related to any party in this action, nor am I financially interested in the outcome. 09:34

If there are any objections to proceeding, please state them at the time of your appearance.

Counsel and all present in the remote room will now state their appearances and affiliations for the record, beginning with the noticing attorney. 09:34

DR. MAMMEN: Good morning. I'm Chris Mammen of Womble Bond Dickinson representing Inneos. I'm joined by Carrie Richey, who is in the room with me, but is not otherwise appearing.

MR. JONES: Michael Jones for petitioner Opticis 09:34 from the law firm Rothwell, Figg.

THE VIDEOGRAPHER: Thank you.

Will the court reporter please swear in the witness.

(Witness sworn.) 09:34

THE WITNESS: I do.

THE REPORTER: Thank you very much. You can put your hand down.

I am going off camera.

/

ALAN E. WILLNER, Ph.D.,

having been first duly sworn

and administered an oath

was examined and testified as follows:

EXAMINATION

BY DR. MAMMEN:

Q Good morning, Dr. Willner.

A Good morning.

Q We had a chance to -- to be introduced before we went on the record but I'll say it again. I'm Chris Mammen, one of the lawyers representing Inneos in this case. 09:34

I understand you're familiar with the ground rules for -- for the deposition so I'll just -- I'll just ask briefly, is there any reason, any concerns about proceeding with your deposition today? 09:35

A No.

Q And for the record, it's my understanding that Opticis' counsel is in the room with you and off camera, I'm relying on the audio pickup from -- from your microphone in the event of any objections or any statements that Mr. -- that Mr. Jones needs to make; is that correct? 09:35

A Yes. 09:35

MR. JONES: Chris, this is Michael Jones.

I can turn my camera on if you refer. But that is correct that we're in the room together and sharing the audio feed.

DR. MAMMEN: No, it's fine. We can proceed on that basis. I just wanted to make sure the record was clear on that. 09:36

Q Dr. Willner, what did you do to prepare for today's deposition?

A I reviewed my declarations, the opening declaration and supplemental declaration in this case. 09:36

Q The opening declaration is the one that's been marked as Exhibit 1003 in this matter.

A I believe that's correct. 09:36

Q And your supplemental declaration is the one that's been marked as Exhibit 1016 in this matter; is that correct?

A Correct.

Q It looks like you've got some papers there with you in the room. 09:37

Could you please let us know what papers you have in front of you?

A I have the two documents that we just mentioned. I have the declaration that was 09:37

submitted -- my declaration in the district court case and that's related.

I also have several exhibits. That would be the -- the decision granting institution by the board. 09:37

Exhibit 1001, the 416 Patent.

Exhibit 1004, the Kurita reference.

Exhibit 1005, the LaMarche reference.

Exhibit 1006, the Lemoff reference.

And Exhibit 1013, the Bhandarkar reference. 09:38

Q And have you made any notes on any of those documents?

A To my knowledge, I don't recall ever doing so.

Q Okay. So we'll proceed on the basis of an understanding that those are all clean copies as submitted to the board. If you become aware of any comments or notations or -- or markings on the papers if you review them during the deposition, please bring those markings to my attention. Okay? 09:38 09:39

A I will, thank you.

Dr. Mammen --

Q Yes.

A -- is -- in terms of take a -- a break, as long as there's not a pending question, am I able 09:39

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to -- to ask for a break?

Q Of course. I mean, we'll try and take a break about every hour or so. If you need to take a break at some different interval, please let us know and we'll do our best to accommodate as promptly as we can. 09:39

A Thank you.

Q Okay. Let's see, besides reviewing your two declarations, did you do anything else to prepare for your deposition today? 09:40

MR. JONES: Objection.

And I'll just caution the witness not to reveal the contents of any discussions with counsel.

But you -- you can answer.

THE WITNESS: I had some discussions, meetings with -- with counsel, both remote and -- and in person. 09:40

BY DR. MAMMEN:

Q When were those meetings?

A They ranged over -- over the last two weeks. 09:40

Q Approximately how many hours in total did you meet with counsel over the last two weeks?

A I don't -- I don't remember.

Q More than five hours?

A That's -- that's a fair statement. 09:41

Q More than ten hours?
A Probably.
Q More than 15 hours?
A I'm not sure.
Q Besides Exhibits 1003 and 1016, did you review any other documents in preparation for your deposition? 09:41
A Well, I reviewed the exhibits that were referenced within -- you know, various references that were referenced within those declarations. 09:41
Q All of them?
A I don't remember.
Q Besides the exhibits that you mentioned as having in paper copy with you in the deposition room, are there any exhibits that come to mind that you reviewed that are cited in your exhibit -- in your declarations? 09:42
A I'm not sure I understand the question.
Q So you've listed a number of exhibits that you brought paper copies with you to the deposition. 09:42
Are there any other exhibits that come to mind that you reviewed other than the ones that you have in the stack in front of you?
A I -- I don't remember.
Q Did you review any documents that are not 09:43

marked as exhibits in this proceeding?

A I don't remember.

Q All right. Well, let's -- let's turn to your supplemental declaration.

And it sounds like you have a paper copy of it there in front of you. I've also emailed a copy of it to Mr. Jones in case you need an electronic copy. But for the purposes of reference, I'm happy to have you look at the paper copy in front of you. 09:43

And this is for Exhibit 1016. 09:43

If you could please turn to paragraph 114 and in particular on page 62, it's the second part of paragraph 114.

Let me know when you're there.

A Yeah, I'm on page 62, which is the -- mostly consists of paragraph 114. 09:44

Q Okay. Great.

About one, two, three, four -- five lines down, right after the parenthetical reference to Exhibit 2003, paragraph 233, paragraph 114 states "Lemoff actually discloses that," quote, "'the optical fiber used in some embodiments has a core diameter that is lot less than 100 micrometers," or microns. 09:44

Do you see that? 09:45

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A Yes.

Q Okay. And you interpreted that language to mean that Lemoff teaches that the core diameter can be smaller than 100 microns; is that correct?

MR. JONES: Objection. Form. 09:45

THE WITNESS: I'd like to --

Since I didn't memorize my report, I'd like to read the paragraph and familiarize myself with it --

BY DR. MAMMEN: 09:45

Q Please do.

A -- if that's all right.

Thank you.

Dr. Mammen, please repeat the question.

Q Sure. 09:48

With reference to that passage quoted at the top of page -- or near the top of page 62 from Lemoff, you interpreted that language to mean that Lemoff teaches that the fiber core diameter can be smaller than the 100 microns, correct? 09:48

MR. JONES: Objection. Form.

THE WITNESS: So I think Lemoff is --

I'm using the teachings of Lemoff in terms of its combination. The teachings of Lemoff is seat and ferrule, or -- to be combined with to teach and 09:48

inform and make obvious the -- the -- certain parts of Kurita in -- in Ground -- in Ground 2.

In terms of this passage, Lemoff contemplates that the fiber core can be different sizes. And that's -- that's all that this is saying is that -- that the fiber core, it's noted. 09:49

And I'll just, you know, go back and just say Lemoff's teachings that the connector is pre-aligned and integrated into the housing would have been easy for a person of ordinary skill to apply to Kurita, regardless of the size differences. 09:49

And, you know, this issue about the sizes that Dr. Lebby may have talked about, Lemoff is not limited in -- in terms of particular sizes; so I'm using this just to -- to help illustrate, confirm, support, that Lemoff is not limited and can be different sizes. 09:50

BY DR. MAMMEN:

Q And, in particular, you're using this language to interpret Lemoff as not limited to core fibers or fibers with a core diameter that is larger than 100 microns; in other words, you're reading Lemoff to say that it can be less than 100 microns, correct? 09:50

MR. JONES: Objection. Form. 09:50

THE WITNESS: So I think the -- I'm only --

As I'll -- I think I've answered the question about what I -- what I understood this to be, which is that Lemoff is teaching that the connector is pre-aligned and integrated into a housing, and that a person of ordinary skill would have known how to apply that to Kurita, regardless of any -- any sizing -- perceived size issues. 09:51

And Dr. Lebby had noted that Lemoff -- the core diameter in Lemoff is 100 microns and I'm only using this to say that Lemoff is saying that the -- that it can deal with core sizes that are -- that are different. 09:51

BY DR. MAMMEN:

Q That are less than 100 microns? 09:52

MR. JONES: Objection. Form.

THE WITNESS: Well, that it can deal with --

BY DR. MAMMEN:

Q Would you identify what you're looking at?

Are you pulling up a copy of Exhibit 1006, Lemoff? 09:52

A Yeah, I was about to mention that.

Q I just wanted to make sure the record reflects --

A Sure. 09:52

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Q -- what you're looking at.
A I -- I have in front of me Exhibit 1006.
Q Okay.
A The reference is Lemoff.
Q Okay. 09:53
MR. JONES: If I may just interject for a second, Chris, Dr. Willner, you guys are sort of speaking over each other a little bit and I'm watching the -- the realtime and it's getting a little bit broken up; so maybe, Dr. Willner, if you 09:53
could wait until Chris is finished and maybe vice versa, we might get a clean record.
DR. MAMMEN: All right, Mr. Jones.
Thank you.
THE WITNESS: So I'll -- 09:54
I think I've answered the question but I'll say that Lemoff is teaching that the connector is pre-aligned and integrated into the housing and it would have been easy for a person of ordinary skill to apply Kurita, regardless of any perceived relative 09:54
size difference; that Dr. Lebby notes that the minimum core diameter in Lemoff is 100 microns.
And that I'm pointing out that I don't -- that -- that statement, Lemoff is really disclosing that in some embodiments that the optical fiber 09:55

has -- can have a core size that is less than 100 microns; so I believe I've now answered the question.

BY DR. MAMMEN:

Q Okay. Thank you. 09:55

In coming to that interpretation of that particular passage of Exhibit 1006, which, for the record, appears in Column 3 -- Column 3, lines 35 to 37, did you look at the prosecution history of the Lemoff patent? 09:56

A So I believe --

I don't -- I don't remember.

DR. MAMMEN: Okay. I would like to ask the court reporter to mark as the next exhibit in sequence, which I believe is Exhibit 2054, a copy of 09:56 the application. And I'm going to email that now to Mr. Jones and Madam Court Reporter.

Okay. I have hit "Send" on that. Based on our pre-deposition testing, it may take a minute or two for that to arrive. 09:57

(Petitioner's Exhibit 2054 was marked for identification and is attached hereto.)

DR. MAMMEN: So while -- while we're waiting for the email to show up, let me just note for the record 09:57

what I've asked the court reporter to mark as Exhibit 2054 is a multipage document consisting of the patent application bearing number 10/370853, which represents a portion of the prosecution history of -- of the patent -- the Lemoff patent that has been marked as Exhibit 1006. 09:58

MR. JONES: And I'll just object regarding scope, object to the use of a partial document.

And I'll object to the introduction of new evidence at this stage of the IPR. 09:58

DR. MAMMEN: Well, Mr. Jones, please have a look at what I've marked as 2054. I'm happy to mark the entire file history if you believe that the entire file history is necessary in order to be a complete document. I am happy to mark that. I was -- 09:58

For the purposes of -- of streamlining the record, I -- I was -- I've marked just the application. But if you -- if you object to that, I'm happy to additionally mark the full file history.

Please let me know. 09:58

MR. JONES: Let's see where it goes and we'll address that as necessary.

DR. MAMMEN: Okay.

MR. JONES: And then I just forwarded that on to Dr. Willner. He should now have it to download. 09:59

DR. MAMMEN: Okay.
Q Dr. Willner, do you have Exhibit 2054?
A Not yet.
I'm refreshing, it hasn't come in yet.
Q It hasn't come through. 10:00
Mr. Jones, do you have it on your laptop?
MR. JONES: I could.
If you want to put it up on your share screen, Chris, to save time, just go ahead.
DR. MAMMEN: Okay. All right. So I am going to 10:00 share on my screen Exhibit 2054.
All right.
Q So are you able to see the -- what appears as the top half of the page of a patent application?
A Yes, I can see something. 10:00
Q Okay. And can you see over the right-hand margin there's a barcode and it's marked with a number just above the barcode "10/370853"?
A Yes.
Q Okay. And what I'd like to do is turn in 10:01 this document, I'm going to scroll through it to page 5, bottom of page 5. That's page 5 of the application.
I'm going to paragraph 21.
All right. So you can see now on your 10:01

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screen paragraph number 21.

Can you see the second sentence of paragraph 21 says "The optical fiber used in some embodiments has a core diameter that is not less than 100 microns"? 10:02

Can you see that?

MR. JONES: I'll just object --

I'll just renew my objections regarding this document.

THE WITNESS: So I can see that the second sentence says "The optical fiber used in some embodiments has a core diameter that is not less than 100 microns." 10:02

BY DR. MAMMEN:

Q And you did not review this document in preparing your supplemental report, correct? 10:02

A I don't re- --

I believe I answered I don't remember.

DR. MAMMEN: Okay. All right. I'd now like to also mark Exhibit 2055, and I'm going to do the email first and then I will discuss it on the record. 10:02

(Petitioner's Exhibit 2055 was marked for identification and is attached hereto.)

DR. MAMMEN: Okay. So I have just emailed to 10:03

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Mr. Jones and Madam Court Reporter a multipage document that I ask be marked as Exhibit 2055. It is a -- a copy of the European Patent Specification Number EP 1 450 453, claiming priority from the date 21.02.2003 US 370853. 10:03

And, sorry; I shared my screen while I was doing that sending.

Let me now go back to the email.

MR. JONES: And, Chris, I'm going to object to scope. And likewise object to the introduction of any new evidence at this stage of the IPR. 10:04

BY DR. MAMMEN:

Q I've placed on the screen the first page of the document I've asked to mark as Exhibit 2055.

Do you see that, Dr. Willner? 10:04

A Yes.

Q And you see it -- it indicates just below the barcode in the top right-hand corner "EP 145 0453 B1"?

A Yes. 10:04

Q Okay. And about midway down on the left-hand column it says, item 30, "Priority," and then it was as I read it, "21.02.2003 US 370853."

A Yes.

Q I'll represent this is a -- a copy of the 10:05

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European publication that's the counterpart to the Lemoff patent.

I'm going to turn now to page 3 of the application, and in particular paragraph 17, which is up -- up on the screen. 10:05

Did you review Exhibit 2055 in preparation of your supplemental report or in rendering any of your opinions for this matter?

A I don't remember.

Q Please take a look at the second sentence of paragraph 17. It says "The optical fiber used in some embodiments has a core diameter that is not less than 100 microns." 10:06

Do you see that?

A I see that the second sentence of paragraph 17 states "The optical fiber used in some embodiments has a core diameter that is not less than 100 micrometers." 10:06

Q Great. Thank you. You can set that aside.

I'll stop my screen share. 10:06

Let's turn back to your supplemental report, Exhibit 1016.

And you have a copy of that in front of you, correct?

A Yes. 10:07

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I would like to state that even though you've now pointed me to sentences that talk about -- that Lemoff says that the core diameter is not less than 100 microns, that wouldn't change my opinion at all. The -- the whole point is -- is that size -- 10:07

First of all, size is not the key issue here. The -- I bring that one sentence just as one of several things to support.

What you showed me wouldn't change my opinion at all. A person of ordinary skill would still understand completely that Lemoff and -- and -- and Kurita would be able to -- the teachings could be combined. 10:07

DR. MAMMEN: Motion to strike as nonresponsive. There was no question pending. 10:08

Q Dr. Willner, please look at paragraph 66 of your supplemental report.

A Please repeat the -- the location.

Q Paragraph 66. It's about two-thirds of the way down on page 37. Let me know when you're there. 10:08

A I'm here.

Q I'd like to draw your attention to the first full sentence of paragraph 66 which states "While a POSITA may look at Figure 3 of Kurita and understand how to implement the conceptual diagram on an optical 10:09

bench, there is no reason why a POSITA would not also understand how to implement the conceptual diagram in a packaged, integrated device," paren, "(e.g., with a housing)," close paren.

Do you see that? 10:09

A Yes.

Q In making that assertion, did you rely on any printed materials, publications or other documents?

A So I think that it would be obvious to a person of ordinary skill that -- that what I say is true. And I think there is support in -- support abounds in my report -- in my declaration that even Dr. Lebby never argues otherwise. And he just says that an "optical bench is one way to do it." 10:10

The diagrams in Kurita are conceptual. A person of ordinary skill would certainly know how to implement the conceptual diagram in a packaged, integrated device. And I --

At various places in the report there are many examples of -- that support why that would be something that a person of ordinary skill would -- would understand from Kurita. 10:11

DR. MAMMEN: Motion to strike as nonresponsive.

Q Did you rely on any documents, publications, 10:11

etcetera, in -- in making the assertion that I've just read from paragraph 66?

MR. JONES: Objection. Asked and answered -- asked and answered.

And I disagree that it was nonresponsive. 10:11

THE WITNESS: Yeah.

I believe I did answer the question, that there are many documents that I believe are referenced as well when I talk about -- and I -- I -- I imagine you don't want me to go through it but 10:12 there are -- the support for -- for this would be in various -- in many places. And I believe Lebby -- Dr. Lebby, you know, doesn't even contradict that; so --

He says that it's merely "one way to do it." 10:12

There are several documents that are cited when I discuss, you know, why a person of ordinary skill would know. And I could go to that section if you wish.

BY DR. MAMMEN: 10:12

Q If you can point me to at least one document that shows why there is no reason why a POSITA would not understand how to implement a conceptual diagram in a packaged, integrated device with a housing.

A So I think -- and this -- 10:14

My answer will have a few parts to it if that's all right.

Q Please answer my question.

A Sure.

So, first of all, as I -- as I stated already, that a person of ordinary skill, that would -- would know. And that Kurita states that the presented invention relates to a -- various parts. And that a person of ordinary skill would understand -- 10:14 10:15

Even with the applications that are -- that are described in terms of optical communications as being one of the applications, a person would know -- given the disclosure, would know that housing of optical components would be needed in a commercially viable product. 10:15

So number one is that's the -- that's the patent itself, the Kurita reference itself.

A person of ordinary skill would also know that there are various advantages to having an integrated -- to being able to integrate Kurita. 10:15

I use as some support that a person of ordinary skill would -- would have known of Lemoff and have -- have -- would have known of Bhandarkar and those -- those references would have taught 10:16

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the -- the integrated -- that one could do integration -- that one could do inte- -- have integration for Kurita.

And the other document that I also bring down is the Kurita, who's -- the technologies of Kurita match to the 416 as -- as I had gone through; that the inventors of the 416, they had used a preexisting mechanical housing unit; so that knowledge was there when looking at those kinds of -- of technologies and components. 10:17 10:18

Q For clarifying your last comment, are you referring to the Grand patents that you discussed in your supplemental declaration?

A Well, I'm -- I'm describing the -- that the inventors utilized -- the inventors of -- of the 416 utilized a preexisting mechanical housing unit, including an integrated ferrule that was available in the prior art. And that, I believe, is in Exhibit 2045. And that refers back -- and that also refers back to Exhibit 1017 and also 1020 and 2018; so there are several documents that support the idea that a -- that this was not -- this was -- this was obvious. 10:18 10:19

Q Okay.

A And the components that are in Kurita, 10:19

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that -- you know, everything that I described would have been obvious to a person of ordinary skill.

Q Anything else?

A Well, you --

As I mentioned before, Dr. Lebby had said various things but he also had said pretty clearly that, you know, issues of integration were -- were -- were tools known to people in the field. 10:20

There may be other things but those are the ones that come to my mind. 10:21

Q Okay. In your testimony just now and also in paragraph 67 of your supplemental declaration, towards the end of that paragraph you refer to a, quote, "commercially viable product." It's on the next to the last line of paragraph 67 on page 39. 10:21

And I just want to ask, what do you mean by that phrase?

A When --

That there are various advantages that are achieved when utilizing a housing and those advantages would be clearly advantageous for a commercially viable product. 10:22

Q And my question is what do you mean by "commercially viable product"? Your answer just now repeated the phrase but didn't provide your 10:23

understanding or definition of that phrase.

MR. JONES: Objection. Form.

Sir, do you want to re-ask your question?

BY DR. MAMMEN:

Q What is your understanding of the term "commercially viable product" as you have used it in your supplemental declaration? 10:23

A The --

A person of ordinary skill would understand that utilizing a housing would have various advantages. And those advantages would have typically value when trying to sell a product. 10:23

And I believe I've answered your question.

Q Do you have in mind any particular criteria or threshold that make a product commercially viable versus not commercially viable? 10:24

MR. JONES: Objection. Form.

THE WITNESS: I believe in my answer before I was saying that utilizing a housing has advantages and would provide, typically, value. And in terms of selling of a product, that would be -- that those advantages and -- and value would be obvious to a person of ordinary skill in the art to -- to be able to use that. 10:25

BY DR. MAMMEN: 10:25

Q So is it your testimony that anything that has advantages that are of value is a commercially viable product?

MR. JONES: Objection. Form, misstates testimony. 10:25

THE WITNESS: I don't believe I said that.

BY DR. MAMMEN:

Q Okay. Well, I've asked you to identify what it is in your mind that -- that allows you to identify what a commercially viable product is and 10:25 the only thing you've identified so far is advantages that have value; so if there's a different working definition that you're using or a different understanding of that term that you're using of "commercially viable product," please supply that 10:26 definition.

MR. JONES: Same objection.

THE WITNESS: So a person of ordinary skill would have understood that Kurita does teach integrated devices where the optical components 10:26 are -- are housed or packaged together. And they would have understood the pre-alignment of the components would have been useful in the disclosed applications of Kurita because, just as examples, and these are the examples that I give, that having such 10:26

a housing is typically less costly and labor intensive compared to active alignment, can be valuable in commercial implementations. It could protect -- help protect from the environment.

And so there are various advantages, some of which I've mentioned. And that's the understanding that I'm using for -- that this housing, a person of ordinary skill would have been motivated to say, yeah, this is obvious, this is an obvious thing to do. 10:27

BY DR. MAMMEN:

Q So the advantages you've enumerated are necessary conditions in order to be a commercially viable product?

MR. JONES: Objection. Misstates testimony, form. 10:28

THE WITNESS: I don't believe I said that.

BY DR. MAMMEN:

Q Well, I'm asking you if it -- if it is your testimony that the advantages that you enumerated are necessary conditions to be a commercially viable product. 10:28

A So "advantages" can have broad def- -- broadly defined.

When people in the -- in industry, when 10:28

they're selling products, there are various issues that they keep in mind. And for certain applications and certain customers, certain things are more important than others.

And so I believe you may have used a word "threshold" in a previous question. I'm not dealing with thresholds here because I don't think that's -- that has any relevance. 10:28

There is a motivation that -- that one would understand, a person of ordinary skill. 10:29

So I don't talk about a threshold here, I'm not talking about -- that if -- in any way if -- that these are all necessary for a viable product, that you -- you have to have all of them or -- if you don't have one and what levels and thresholds, that's not -- I don't think that's what I'm describing there. 10:29

I'm describing the other advantages that someone of ordinary skill would -- would understand and appreciate and then it would be obvious then to -- to utilize them. 10:29

Q And what documents are you relying on to identify those advantages for incorporating things like a housing or passive alignment into the Kurita conceptual design? 10:30

MR. JONES: Objection. Form.

THE WITNESS: So I --

A person of ordinary skill would certainly know this, I don't think that there's a question.

In terms of -- there are various sections of my -- in the report, in the declaration, that bring support for this. 10:30

And Kurita itself, you know, describes that -- various applications that would be used, or a person of ordinary skill would -- would understand that these advantages would -- would help motivate them. And there are various advantages; so Kurita, you know, itself by giving the applications, that -- that's a -- that's a good thing. 10:31

And there are various other of the references I have in the various paragraphs that -- that -- that describe what advantages such -- such a -- a housing would have. And I believe -- I can go through it again. We -- 10:31

I believe we talked earlier a little bit about this but I can go into more detail. There's, you know, several paragraphs that describe various places where it's pretty clear that there are -- there are -- there are advantages. 10:32

BY DR. MAMMEN: 10:32

Q Which paragraphs do you have in mind?

A Well, I think there are various examples of -- of what I was saying. This is an example in --

There's one example in 67 that passive alignment is "typically less costly and labor intensive compared to active alignment, and can be valuable in commercial implementations." This would motivate a person. 10:34

And then this is also further confirmed by the packaged, integrated devices taught in both Lemoff and Bhandarkar. And the reasons noted by Dr. Lebby in his deposition that I had referred to. 10:34

Q I'm sorry, which paragraph were you referring to?

A I was referring to paragraph 68. 10:35

I may have misspoken and said "67." I apologize if I did.

Q All right. And --

A Oh, I'm not done.

Q Okay. 10:35

A And the -- I think paragraph 70 also, that was 69, 70.

So 70 I'm describing that -- again, that the -- the idea of the advantages would have -- it's supported by Exhibits 2045, 1017, 978 -- I'm sorry, 10:36

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I'm sorry. 20- -- 1020 and 2018.

All of those, taken together, support that -- that there are advantages which would -- which would be known by a person of ordinary skill and that person of ordinary skill would have been motivated to -- to use that knowledge to implement Kurita. 10:36

Q Anything else in response to that?

And if not, I note we've been going about an hour so I'm happy to take a break. 10:37

A Sure.

So I'll just finish my previous answer by saying there could -- there could be other places, other --

You asked me for some examples. I gave some examples and there could be others that -- in some of the other paragraphs as well. But it's laid out fairly extensively in my -- in my declaration. 10:37

DR. MAMMEN: Okay. Thank you.

Why don't we go ahead and take a ten-minute break, go off the record and we'll reconvene at a little after a quarter till. 10:37

MR. JONES: Sounds good.

THE VIDEOGRAPHER: We're going off the record.

The time is 10:37 a.m.

(Off the record.)
THE VIDEOGRAPHER: We're back on the record. The time is 10:48 a.m.
BY DR. MAMMEN:
Q Dr. Willner, I'd like to now ask some -- some general questions about your supplemental report which we've marked as Exhibit 1016.
Did you draft everything in Exhibit 1016?
MR. JONES: Objection.
I think that Federal Rule 26 protects against questions regarding drafting of reports by experts.
Do you want to rephrase your question, Chris?
DR. MAMMEN: I'll come back to that particular question.
Q Dr. Willner, how much time did you spend working on your supplemental report?
A I don't remember.
Q Was it more than ten hours?
A Yes.
Q More than 100 hours?
A I don't remember.
Q More than 50 hours?
A I don't remember.

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Q Do you recall how you chose which topics to cover?

A Are you --

Is -- is your question only in reference to the supplemental declaration? 10:50

Q Yes.

A The topics?

There were discussions between me and counsel and the topics were chosen.

Q Is it your understanding that everything in your supplemental report is incorporated by reference as part of Opticis' reply? 10:51

MR. JONES: Objection. Form.

Objection. Scope.

THE WITNESS: I don't remember the details. 10:51

BY DR. MAMMEN:

Q Do you have any understanding as to whether there's any parts of your supplemental report that are not cited in Opticis' reply?

MR. JONES: Objection. Form. 10:52

THE WITNESS: I -- I don't remember.

BY DR. MAMMEN:

Q Have you reviewed Opticis' reply submission?

MR. JONES: Objection.

Chris, can you just clarify what you mean by 10:52

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"Opticis' reply"?

Dr. Willner may not be as familiar with the terminology as we are.

BY DR. MAMMEN:

Q Are you aware that Opticis has submitted a reply brief in response to patent owner's response in this proceeding? 10:52

A I --

That's -- that's my understanding.

Q Did you review that document? 10:52

A I don't remember.

Q All right. Let's turn to paragraph 120 in your report -- your supplemental report, Exhibit 1016. Paragraph 120 is on pages 64 to 65.

A Yes. 10:54

Q All right. At the end of paragraph 120 you see you're -- you're quoting your original declaration where it says ""Lemoff teaches that the receptacle 260 and ferrule 255 constitute a connector 'by means of which various fiber" -- excuse me, 10:54 "'by means of which optical fibers may be plugged into or removed from optical signal emitter 200 when the emitter is initially installed in an optical communication system or when maintenance is performed'"? 10:54

A I see that.

Q Are you aware of anywhere in Kurita that there is any discussion of a need to be able to plug in or/and remove optical fibers in the manner described in that paragraph? 10:55

MR. JONES: Objection. Form.

THE WITNESS: If it's all right, I'm going to now look at Kurita if that's all right.

BY DR. MAMMEN:

Q Certainly. It's Exhibit 1004. 10:55

A Please repeat the question.

Q Certainly.

So we were just talking about a passage in paragraph 120 of your supplemental declaration where you quoted your original declaration about how Lemoff 10:58 teaches the connector by means of which various -- various optical fibers may be plugged into or removed from the optical signal emitter.

And my question was where in Kurita does it say that there's any need to plug and remove the 10:58 optical fibers in the manner you describe?

A So Kurita is conceptual diagrams of course.

The passage that -- that you quoted, the --

I would want to state clearly that the -- the receptacle that forms the connector, this 10:59

receptacle that forms the connector, together with ferrule, is not removable from the optical signal emitter 200 of -- of Lemoff. And so the fiber is not -- the fiber is not part of the optical combiner insofar as what I'm -- what I'm trying to understand here.

This issue of remove and not remove is -- does not relate to the optical combiner, which is the lasers, the collimating lenses and the focusing lens; so I want to make that clear that that's a -- that's a -- that there's a difference there. 11:00

In terms of Kurita, I think that benefits of having a fiber connector that can be removed is something that a person of ordinary skill in the art would know that there are advantages to -- to doing so. 11:01

But I'll state again that, you know, the issue that -- the ferrule being removable -- plugable and removable is not -- is not -- I believe should be distinguished from the -- that the receptacle 260 is not removable from the signal emitter 200. 11:01

Q Where in Kurita does it discuss any benefits of having a fiber that can be removed from the conceptual setup?

MR. JONES: Chris, can you repeat the question? 11:04

DR. MAMMEN: Madam Court Reporter, can I ask you to read the question back.

(Whereupon the record was read as follows:

"QUESTION: Where in Kurita does it discuss any benefits of having a fiber that can be removed from the conceptual setup?")

THE VIDEOGRAPHER: And Dr. Willner, do you mind tilting your screen down a little bit, please? 11:05

THE WITNESS: Okay. So a person of ordinary skill would -- would know that given the applications, given -- reading Kurita in its entirety, that being removable has some advantages in -- in certain scenarios. And there -- when one has connectors, it enables the replacement of -- of parts, as an example. 11:07

And a person of ordinary skill would -- would understand that being plugable and removable does have certain advantages in certain scenarios. 11:07

BY DR. MAMMEN:

Q But you weren't able to identify any text in Kurita itself that says that, correct?

A Oh, I think I was -- there -- there is text. When one reads the Kurita -- 11:07

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I think a person reading Kurita where it talks about the -- where it talks about applications, the problems to be solved, would understand that the advantages that would be present in the ability to have something removable would play a role here. 11:09

And I believe I've answered the question.

Q All right. I'd like to shift gears a little bit and talk about Exhibit 1019.

Did you happen to bring a copy of that with you today? If not, I can email a copy over. 11:10

A I don't --

Q Okay.

A What -- what is 1019?

Q It is a two-page document with a Photonics Dictionary discussion of optical combiner. 11:10

A I don't have it printed out.

Q Okay. Stand by, I'll email it to you.

THE VIDEOGRAPHER: And Dr. Willner, do you mind tilting your screen down just a little bit so there's less -- 11:11

Thank you.

DR. MAMMEN: Okay. While we're waiting for that to be delivered, let me just note for the record that I have marked as the next exhibit an Exhibit Number 1019, which has been previously marked in this 11:11

action. It's a two-page document bearing a date of July 3, 2024, in the bottom right-hand corner. And appears to indicate "Photonics Dictionary" and then the major heading says "Optical Combiner."

Mr. Jones, has that document come through? 11:12

MR. JONES: It has. And I'm just now sending it to Dr. Willner.

DR. MAMMEN: Okay. Let me know when you've got it.

MR. JONES: And just to be clear, Chris, I may have misheard earlier; you weren't sending 1009 also, were you, only 1019? 11:13

DR. MAMMEN: That's correct.

MR. JONES: Okay.

DR. MAMMEN: Did I -- did my email have a typo in the "Subject" line? 11:13

MR. JONES: No. I think I may have misheard you earlier when you said what you were going to send.

DR. MAMMEN: Okay.

MR. JONES: I just wanted to make sure I hadn't missed any emails. 11:13

THE WITNESS: I'm refreshing my -- my mail but it hasn't come in yet.

DR. MAMMEN: Okay.

MR. JONES: Chris, this is a relatively short 11:13

document, do you want to screen share to --

DR. MAMMEN: Yeah. Why don't I throw it up on the screen here.

MR. JONES: Yeah.

BY DR. MAMMEN: 11:13

Q All right. Dr. Willner, do you see the screen share?

A Not well but yes.

Q Okay. Is it -- is it too small or what's the concern? 11:14

A It's a little small but that's okay. I'm -- I'm okay now. I resized things.

Q Okay. Are you familiar with Exhibit 1019?

A Yes.

Q What is the Photonics Dictionary? 11:14

A The Photonics Dictionary is something that is a part of the photonics.com website.

Q So it's available online?

A I believe so.

Q Do you have any understanding as to what the 11:14 date of this page in particular is?

MR. JONES: Objection.

Maybe we should wait until Dr. Willner has the full document to look at in his email.

THE WITNESS: It just came in. 11:15

DR. MAMMEN: Okay. So I can remove the screen share?

MR. JONES: Were you able to download the exhibit, Dr. Willner?

THE WITNESS: Yes, I'm just opening it now. 11:15

Please repeat the question.

BY DR. MAMMEN:

Q Do you have any understanding as to when the Photonics Dictionary was published?

A I don't -- I don't remember. 11:16

Q Was it published as of the date of the invention of the 416 Patent?

A I don't remember.

And I will say that my opinion is that the plain and ordinary meaning of "optical combiner" is 11:16 what I had stated it was and I bring this just as -- just as -- as helpful support. But my opinion goes back to before the invention.

Q Looking at the first line of the text paragraph on the first page of Exhibit 1019, it says 11:17 "An optical combiner, in the context of optics and display technologies."

What are "display technologies"?

A So the --

You read that in the context of optics and 11:17

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display technologies that -- my understanding is that it -- it's in the context of optics which is -- incorporates the -- the relevant reference -- references that are in my declarations. And it also mentions "display technologies"; so display technologies has issues related to -- to displays. 11:18

Q What do you mean by "displays," like computer screens?

A Well, it's -- it gives as an example "head-mounted displays"; that's one example it gives. 11:18

Q Okay. And tell me more about your understanding of what a "head-mounted display" is.

A Sure.

So it's -- it talks about applications -- various applications here that are -- in terms of merging different information sources; so that -- that would be something that corresponds, you know, very well to -- to the relevant art. 11:19

It also gives something that's a -- a heads-up -- "head-up display systems"; that would correspond to something that's display technologies. 11:20

Q Are head-up display technologies and head-mounted display technologies the same thing?

A So there is some -- there is some -- some similarities but there are also some -- there could 11:20

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be some differences. I'd have to look -- I'd have to think more deeply about that.

And if it's in my report, please -- please point me to it.

Q When did you first know about Exhibit 1019? 11:20

A Well, 1019, the -- what it's -- in terms of how it characterizes an optical combiner, I've been aware of that for decades. And it's consistent with my -- my understanding of -- of optical combiner; so in terms of what's in there, it's very consistent 11:21 with things I've known for a very long time.

In terms of the actual exhibit, this would have been some time after the case started.

Q Was it --

Was your first awareness on or around the 11:22 date listed in the bottom right-hand corner, July 3, 2024?

A I don't remember.

Q Were you aware of Exhibit 1019 around the time that your initial declaration was filed, 11:22 Exhibit 1003?

A So what you -- you used the -- the phrase was I "aware."

So the -- the understanding of what is an optical combiner I was aware of for decades. 11:22

Q I'm not asking about the term "optical combiner" --

MR. JONES: Chris, you're --

BY DR. MAMMEN:

Q -- I'm asking about your awareness of the exhibit. 11:23

MR. JONES: Objection.

Let him finish his answer and then you can ask a new question.

Court Reporter, can you please -- 11:23

Madam Court Reporter, can you please repeat the question?

(Whereupon the record was read as follows:

"QUESTION: Were you aware of Exhibit 1019 around the time that your initial declaration was filed, Exhibit 1003?") 11:23

(Discussion off the record.)

MR. JONES: Chris, do you want to re-ask your question? 11:23

DR. MAMMEN: Sure.

Q Dr. Willner, with reference to the Photonics Dictionary page that has been printed out as Exhibit 1019, were you aware of the Photonics 11:23

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Dictionary page at or around the time you prepared your initial declaration in this matter which has been marked as Exhibit 1003?

A So although the contents was familiar to me and consistent with my opinion for decades, and although I may have seen this page before, so I may have been aware of it. 11:24

But in terms of the actual exhibit, a printout where I have a direct recollection of this page, I -- I may have become aware of it after the submission of my -- of my opening declaration in the IPR case. 11:24

Q Do you recall particularly when?

A I don't remember.

Q Did you find this page on photonics.com? 11:25

A So although the --

There were discussions with -- between me and counsel.

MR. JONES: Objection.

I'm sorry, I'm just going to step in and caution the witness, please don't disclose the substance of any conversations you had with counsel. 11:25

But you can answer to the extent you're able to.

I'm sorry for interjecting. Do you want to 11:26

repeat the question, Chris?
BY DR. MAMMEN:
Q Did you find Exhibit 1019 on the photonics.com website?
A As an outgrowth of discussions with -- with counsel, counsel had found this specific page and it clearly is consistent with the opinion I had had in terms of the plain and ordinary meaning of "optical combiner." 11:26
Q The first sentence of the text on Exhibit 1019 ends "into a single output." 11:27
Do you see that wording?
A Yes.
Q And I believe your proposed construction of optical combiner was "into an output." 11:27
Do you recall that?
A Yes.
Q And in your view, are those two phrases synonymous?
MR. JONES: Objection. Form. 11:27
THE WITNESS: So I believe that this is in agreement with what I provided; that it is consistent generally with how the term is used in the field and how it was used by a person of ordinary skill as of the 416. 11:28

In terms of the -- "an output" versus "single output," I believe mine is the one that I stand by. In terms of this document, it -- it is consistent with that.

My -- in terms of the -- the 416, in terms of the relevant prior art, I do not think there is a distinction between the two that you have -- have read. 11:28

BY DR. MAMMEN:

Q All right. Going a little farther down in the exhibit you see there's a boldface text that says "Beamsplitter combiners"? 11:29

A Uh-huh.

Q What are "beamsplitter combiners"?

A "Beamsplitter combiners use dichroic mirrors or beamsplitters to combine separate optical paths." 11:29

Q So you're just reading the next sentence of Exhibit 1019?

A I just read that first sentence of -- on page 1 of Exhibit 1019 under the heading "Beamsplitter combiners." 11:30

Q What are "dichroic mirrors"?

A Dichroic mirrors --

Did I put that into my report? I'm not sure I did. 11:30

Q No, but it's in --
A Yeah.
Q Sorry. It's in the sentence you just read.
A Sure.
Well, I can -- beamsplitters are -- tend to be --
One can use as an example a beamsplitter would -- could be a piece of optical element in which light partially is transmitted through the element and partially reflected at some angle off of the element.
Q Do you have an understanding as to what "dichroic mirrors" are?
A I'd want to think more clearly about the corners of dichroic mirrors, what they do and do not include.
Q And do you have an understanding as to what "head-mounted displays for augmented reality" are?
A I have some -- some notion of them.
Q What are "waveguide combiners"?
A Waveguide combiners are waveguide-based optical combiners using technology to guide and mix light from different sources.
Q What is a "waveguide"?
A A waveguide, as an example, could be a -- a

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material section on a semiconductor chip in which the index of refraction of the section of a -- of a piece of the semiconductor would be different than -- and typically higher than the surrounding index of refraction of the semiconductor. Light propagates -- can propagate in such a waveguide and be guided.

Q What are "compact and lightweight AR glasses"?

A I have a general understanding of augmented reality glasses but -- 11:35

Q What are "micro displays"?

A I have a general understanding of micro displays.

Q What's your general understanding?

A These are display technologies that are generally thought of as smaller in size or smaller in the image that's produced. But I have a general understanding of them. 11:35

Q What are "prism combiners"?

A Prism combiners -- prism combiners -- prism-based combiners use prisms to combine and direct light paths. 11:36

Q Do you have an understanding of what is meant by "seamless integration of (sic) virtual and real-world content"? 11:37

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A I have a general understanding.

Q What's your general understanding?

A So this paragraph here I don't believe is limiting; so, you know, it's --

I don't believe that the goal of all optical combiners would necessarily fall under this. But -- and I think the operative text is the -- is the first paragraph which talks about how it's -- the context is much broader; so -- you know, and this more narrower goal is to combine different content. 11:37 11:38

Q And your -- your comment referring to a paragraph, just for -- for clarity on the record, you're referring to the last full text of -- the last full paragraph of text on page 2 of Exhibit 1019 that says "The goal of optical combiners is to seamlessly integrate virtual and real-world content, providing users with an enhanced and immersive visual experience," correct? 11:38

MR. JONES: Objection. Objection. Form, misstates testimony. 11:38

THE WITNESS: Yep.

I don't believe a person of ordinary skill would be reading this last paragraph and understanding that the goal of all combiners is this.

I think the operative understanding is 11:39

the -- is the -- is the first paragraph of this exhibit, that it's in the context of optics and display technologies. And it refers to devices, components, that "combines multiple optical signals or images into a single output." It can be information sources; so it doesn't need to be limited in -- in this way, although it is -- you know, these are -- these are potential uses.

BY DR. MAMMEN:

Q Do the challenged claims of the 416 Patent involve beamsplitter combiners? 11:40

MR. JONES: Objection. Form.

THE WITNESS: I'm going to --

I'm now going to look at the Exhibit 1001 --

BY DR. MAMMEN: 11:40

Q All right.

A -- which is the 416 Patent.

Q Okay.

A Dr. Mammen, please repeat the question.

Q Do the challenged claims of the 416 Patent involve beamsplitter combiners? 11:42

A So I think even Exhibit 10- -- 1019 gives two -- gives various possibilities for beamsplitter combiners; so I'll answer the question that the optical combiner of -- of the claims -- 11:42

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Did you mention the "claims" or the "416"?

Q I said the "challenged claims."

A So the optical combiner of the challenged claims, a key issue is that "optical combiner," as a term, would be understood by a person of ordinary skill in the art as combining multiple inputs into an output. And that does not also include the requirement -- it does not include the issue of multiplexing wavelengths. The issue of multiplexing wavelengths appears elsewhere in the claim. 11:42 11:43

And a person of ordinary skill would have no problem understanding what an optical combiner is, that it combines multiple inputs into an output and is not limited as its term, as its broader term, to necessarily being -- requiring wavelength -- 11:43

THE REPORTER: "Requiring" what?

I'm sorry. You dropped off.

THE WITNESS: "Wavelength multiplexing."

THE REPORTER: Thank you.

BY DR. MAMMEN: 11:44

Q Do the challenged claims of the 416 Patent involve dichroic mirrors?

A So to the extent that your question -- which you had asked earlier about dichroic.

If "dichroic" is referring to wavelength 11:44

selectivity, I do not believe that the Photonics Dictionary --

Although beamsplitter combiners includes the possibility of dichroic mirrors, I don't believe that it's -- it's utilizing wavelength selectivity as part of that definition. It's just that beamsplitters and dichroic mirrors combine wavelength -- combine beams from different inputs into an output. 11:45

Now, I'll say again that the "optical combiner" as a term is -- would be understood by a person of ordinary skill that -- would understand that to be a -- something that combines multiple inputs into an output and does not require that term -- optical combiner does not require wavelength multiplexing. 11:45 11:46

But I'm -- to more fully answer your question, I'm going to take a -- a look further into the 416 if I may.

Q Okay.

A So I -- I believe I may have answered your question. 11:47

Q Okay. Do the challenged claims of the 416 Patent involve head-mounted displays for augmented reality?

A So I think the -- I'm not quite sure -- 11:47

The question is very broad. I'm not sure what the question really is.

Q You don't feel like you're able to answer that question?

A I -- 11:47

MR. JONES: Objection. Form.

THE WITNESS: I think the question is unclear to me.

BY DR. MAMMEN:

Q Is there any mention of "wavelength division multiplexing" in Exhibit 1019? 11:48

A I think a person of ordinary skill would -- would read 1019 and understand that there's -- this is a -- you know, trying to give some teaching about optical combiners. 11:48

And could optical combiners incorporate various other types? I think that's -- I think that a person of ordinary skill would -- would be -- would readily understand that, that there are different types of optical combiners. And there are various 11:48 examples of optical combiners, one of which can be an optical -- a wavelength multiplexer is -- so that would be an optical combiner that wavelength multiplexes.

But "optical combiner" by itself is broader, 11:49

it's not limited.

DR. MAMMEN: I see we've been going about an hour again; why don't we go ahead and take -- take another break and come back at noon.

MR. JONES: So, Chris, we're relatively close for a normal lunchtime. 11:49

Does it make sense to try to go a little longer if we can and have lunch or --

THE VIDEOGRAPHER: Do you want me to take us off the record? 11:49

THE WITNESS: So Mr. -- Mr. Mammen, I actually -- I still --

I am not finished --

I still am thinking about your question, if it's okay. 11:50

DR. MAMMEN: Okay. I'm sorry. I -- I had understood from the pause that you had completed your answer.

THE WITNESS: No. Thank you.

No. So, you know, I -- I think I -- you know, the issue of the optical combiner, you know, what it requires, what it doesn't require, in terms of its -- its -- its construction, and, you know, it -- I'm pretty clear that it -- it does not have to multiplex light at different wavelengths. I think 11:50 11:50

it's been -- it's pretty clear, I think that's supported, because the patent itself --

You -- you've asked me about the claims and you've asked me about the patent.

Lee -- I mentioned this in my -- in the reports and I think it may have come up in the first depo (sic) was Lee itself is called an "optical combiner." There's no -- it's not wavelength multiplexed; like multiplexing is not -- is not necessarily there. 11:51

And I believe that just because Exhibit 1019 may be giving various examples, that doesn't mean that all of them are -- they're just examples of optical combiners.

But the understanding of a person of ordinary skill in the art is that -- is what it says right away, which is that multiple inputs are combined into an output, or they use the word "single output," nothing -- nothing more than that. And that's a very common understanding of a person of ordinary skill in the art. 11:51 11:52

And there are more specific flavors of that, of course.

BY DR. MAMMEN:

Q Have you now completed your answer? I don't 11:52

want to -- I don't want to cut you off again.
A Thank you.
I believe I have, yes.
DR. MAMMEN: Okay. Why don't we go off the record for a moment and we can talk about logistics. 11:52
THE VIDEOGRAPHER: Okay. We're going off the record. The time is 11:52 a.m.
(Off the record.)
THE VIDEOGRAPHER: We're back on the record at 12:00 p.m. 12:00

THE WITNESS: Dr. Mammen?

BY DR. MAMMEN:

Q Yes.

A So before we broke I -- there was a discussion about Exhibit 1019. And I want to just -- 12:00 I want to clarify one issue, that there's -- there's two things that were discussed and I want to be very clear.

One is the construction of optical combiner; another is what the claim itself requires in its 12:00 totality.

So a person of ordinary skill would understand -- would read the claim and understand the -- the term "optical combiner" in terms of its -- if it's -- if the -- if the preamble is limiting in 12:01

the claims, would understand "optical combiner" with its plain and ordinary meaning, which I've given as "multiple inputs combined into an output," and then Exhibit 1019 helps to inform on that.

My opinion is that the term -- the claim term, if it's limiting, the claim term itself doesn't require wavelength multiplexing. But the claim itself in its totality talks about other issues. 12:01

But a person of ordinary skill, just understanding if -- if the -- if the preamble is limiting, just that term, "optical combiner," would not -- would not ascribe wavelength multiplexing to the term itself, but then there are other things in the claim that discuss issues about wavelength multiplexing. 12:02

Q All right. Dr. Willner, you've offered this -- this commentary, these clarifying remarks immediately after we came off of a break.

During the break did you have a conversation with Mr. Jones concerning the substance of -- of what you've just said? 12:02

A Absolutely not.

Q Did you discuss that in general terms?

A Absolutely not.

Q Okay. 12:02

A I think --

I was just reflecting on the questions and that -- how we sort of went from the term and then there was a -- there seemed to have been some questions that then went to the claims as opposed to the term; so I -- I wanted just to make sure it's very clear. 12:03

Q Okay. Thank you.

A And that if I gave the impression that somehow wavelength multiplexing isn't part of the entire claim, if that's what may have come out, I -- that's not what I was trying to say in any way. 12:03

DR. MAMMEN: All right. With that, I believe we are done.

I don't have any further follow-up questions on that. 12:03

MR. JONES: I don't think I'm going to have any redirect but if you could just give us three minutes, I'll think about that.

DR. MAMMEN: Okay. Should we go back off the record? 12:04

MR. JONES: Sure.

I'll be back shortly.

DR. MAMMEN: All right.

THE VIDEOGRAPHER: We're going off the record. 12:04

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The time is 12:04 p.m.

(Off the record.)

THE VIDEOGRAPHER: We're back on the record at 12:09 p.m.

MR. JONES: So nothing further from petitioner offices. 12:09

And we'll want to reserve the right to review and sign, if I didn't say that earlier.

THE VIDEOGRAPHER: Okay. Anything else to put on the record before I close it out? 12:09

DR. MAMMEN: No, that's -- that's all from Opticis as well.

THE VIDEOGRAPHER: This marks the end of the video-recorded deposition of Dr. Alan E. Willner.

We're going off the record. The time is 12:09 p.m. 12:09

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REPORTER'S DEPOSITION TIME LOG:

REPORTER - LAURIE HELD-BIEHL

DATE - Thursday, August 29, 2024

WITNESS - ALAN E. WILLNER, Ph.D.

ATTORNEY	ON RECORD	OFF RECORD	TOTAL
MAMMEN	9:32 A.M.	10:37 A.M.	1:05
	10:48 A.M.	11:42 A.M.	1:04
	12:00 P.M.	12:03 P.M.	0:03
		TOTAL USED:	2:12

I declare under penalty of perjury under the laws that the foregoing is true and correct.

Executed on _____ , 20___, at _____, _____.

_____

SIGNATURE OF THE WITNESS

I, the undersigned, a Certified Shorthand Reporter of the State of California, the State of Illinois and the State of Texas, a Certified Court Reporter for the State of New Jersey and the State of Washington, and Registered Professional Reporter, Certified Realtime Reporter, Registered Merit Reporter, do hereby certify:

That the foregoing proceedings were taken before me at the time and place herein set forth; that the appearances of counsel are set forth herein; that the witness in the foregoing proceedings, prior to testifying, was placed under oath; that a verbatim record of the proceedings was made by me using machine shorthand which was thereafter transcribed under my direction and that the foregoing is an accurate transcription thereof.

I further certify that I am neither financially interested in the action nor a relative or employee of any attorney or of any of the parties.

I further certify that Pursuant to

Rule 30(f)(1) of the Federal Rules of Civil Procedure, prior to the completion of the deposition the deponent DID request to read and sign said deposition transcript and that further certification requirements pursuant to Rule 30(f)(1) will be certified after they have occurred.

IN WITNESS WHEREOF, I have this date subscribed my name.

Dated: 9/5/24



LAURIE HELD-BIEHL, CSR, CCR, RPR, CRR, RMR
CA CSR No. 6781
IL CSR No. 084002860
NJ CRR No. 30XI00239100
TX CSR No. 8555
WA CCR No. 21020748
RPR/CRR/RMR No. 32836

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Federal Rules of Civil Procedure

Rule 30

(e) Review By the Witness; Changes.

(1) Review; Statement of Changes. On request by the deponent or a party before the deposition is completed, the deponent must be allowed 30 days after being notified by the officer that the transcript or recording is available in which:

(A) to review the transcript or recording; and

(B) if there are changes in form or substance, to sign a statement listing the changes and the reasons for making them.

(2) Changes Indicated in the Officer's Certificate. The officer must note in the certificate prescribed by Rule 30(f)(1) whether a review was requested and, if so, must attach any changes the deponent makes during the 30-day period.

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Veritext Legal Solutions represents that the foregoing transcript is a true, correct and complete transcript of the colloquies, questions and answers as submitted by the court reporter. Veritext Legal Solutions further represents that the attached exhibits, if any, are true, correct and complete documents as submitted by the court reporter and/or attorneys in relation to this deposition and that the documents were processed in accordance with our litigation support and production standards.

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