1 Case IPR2023-00255
United States Patent No. 9,629,287
2
3 UNITED STATES PATENT AND TRADEMARK OFFICE
4 _____
5 BEFORE THE PATENT TRIAL AND APPEAL BOARD
6 _____
7 SAMSUNG ELECTRONICS CO., LTD. AND SAMSUNG ELECTRONICS
8 AMERICA, INC.
9 Petitioners,
10 v.
11 MANUFACTURING RESOURCES INTERNATIONAL, INC.
12 Patent Owner
13 U.S. Patent No. 10,506,740
14
15 Title: ELECTRONIC DISPLAY WITH COOLING
16 _____
17
18 Inter Partes Review No. IPR 2023-00255
19
20 Deposition of HIMANSHU POKHARNA, Ph.D.
21 (Taken by the Petitioners)
22 Raleigh, North Carolina
23 Wednesday, December 13, 2023
24
25 Reported by: Marisa Munoz-Vourakis -
RMR, CRR and Notary Public

SEC et al. v. MRI
SEC Exhibit 1037.001
IPR2023-00254

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Deposition of HIMANSHU POKHARNA, Ph.D., taken by the Petitioners, at Kilpatrick Townsend Stockton LLP, 4208 Six Forks Road, Suite 1400, Raleigh, North Carolina, on the 13th day of December, 2023 at 9:04 a.m., before Marisa Munoz-Vourakis, Registered Merit Reporter, Certified Realtime Reporter and Notary Public.

SEC et al. v. MRI
SEC Exhibit 1037.002
IPR2023-00254

I N D E X

Examination of: Page

HIMANSHU POKHARNA, Ph.D.

EXAMINATION BY MR. REDDY 4

DEPOSITION EXHIBITS

EXHIBIT NUMBER	DESCRIPTION	PAGE
Exhibit 1	Expert Declaration in the '287 IPR Proceeding	5
Exhibit 2	Declaration of Dr. Pokharna in IPR proceedings for the '740 and '142 Patents	7
Exhibit 3	International PCT Application WO 2007/116116	20
Exhibit 4	US Patent 9,629,287	21
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SEC et al. v. MRI
SEC Exhibit 1037.003
IPR2023-00254

P R O C E E D I N G S

Whereupon, HIMANSHU POKHARNA, having been first duly sworn, was examined and testified as follows:

EXAMINATION BY COUNSEL FOR PETITIONERS BY MR. REDDY:

Q. Good morning.

A. Good morning.

Q. Would you please state your name for the record?

A. Himanshu Pokharna.

Q. And Dr. Pokharna, you were deposed, I believe, three times in connection with an ITC proceeding between the petitioners and respondent, correct?

A. Yes.

Q. And you also testified at trial before the ITC in the evidentiary hearing between the petitioner and respondents, correct?

A. That's right.

Q. And I believe you testified on direct twice in that ITC hearing, correct?

A. Yes.

Q. So Dr. Pokharna, you've been deposed, I believe, at least 15 times, is that correct?

A. Sounds about right.

Q. In that case, sir, I won't go through the ground rules for the deposition. But if at any point you have any questions or would like a break, please go ahead and request that. Do you understand?

A. Yes.

Q. I only ask that if there's a question pending, you answer my question before we take a break, unless your counsel instructs you not to answer.

Do you understand that?

A. Yes.

Q. And Dr. Pokharna, are you taking any medications or on any drugs that would impair your ability to recall facts or tell the truth today?

A. No.

Q. Dr. Pokharna, I'm handing you what I've marked as Pokharna IPR Exhibit number 1.

(The document referred to was marked Pokharna IPR Exhibit Number 1 for identification.)

Q. Pokharna IPR Exhibit 1 is the Expert Declaration of Dr. Pokharna on US Patent 9,629,287. It's Exhibit 224 in the 287 IPR proceeding.

Do you see that, sir?

A. Yes.

Q. And Dr. Pokharna, is this the declaration that was submitted in connection with the '287 IPR proceeding?

A. Yes.

Q. And is that your signature on the first page?

A. Yes, it is.

Q. And it appears to be an electronic signature, is that correct?

A. That's correct.

Q. Do you recall when that electronic signature was applied to this document?

A. Probably October 17th.

Q. Okay. And Dr. Pokharna, did you draft this declaration?

MR. ALEMANNI: Objection, form.

A. I worked with the attorneys on drafting this declaration.

Q. Do you recall the names of the attorneys that you worked with to draft this declaration?

A. Primarily Andie Anderson.

Q. Anybody else besides Ms. Anderson that you worked with to draft this declaration?

A. Primarily Andie. I might have had a call with David Reed, but I cannot recall that.

Q. Other than Ms. Anderson and Mr. Reed, did anybody else at the Kilpatrick firm assist you in drafting this declaration?

MR. ALEMANNI: Objection, form.

A. At least in one of the calls there was another attorney present. I can't remember the name, maybe Morlock.

Q. Okay. And Dr. Pokharna, are there any changes or modifications you would like to make to Pokharna IPR Exhibit number 1 sitting here today?

A. No.

Q. Dr. Pokharna, I'm now handing you what I've marked as Pokharna IPR Exhibit number 2.

(The document referred to was marked Pokharna IPR Exhibit Number 2 for identification.)

Q. Pokharna IPR Exhibit 2 is the Declaration of Dr. Pokharna in the IPR proceedings in connection with US Patent 10,506,740 and US Patent 11,013,142.

Do you see this document, sir?

A. Yes, I do.

Q. And Dr. Pokharna, is this the declaration that was submitted in connection with the IPR proceedings associated with those two patents?

A. That's right.

1 **Q. And did Ms. Anderson and Mr. Reed also**
2 **assist you in drafting this declaration?**
3 A. Yes, I believe so.
4 **Q. And do you recall roughly when your**
5 **electronic signature was applied to the first page of**
6 **this document?**
7 A. It should have been right by
8 September 26th.
9 **Q. And did anyone, other than Ms. Anderson and**
10 **Mr. Reed, assist you in drafting this declaration?**
11 A. No.
12 **Q. Are there any changes or modifications you**
13 **would like to make to Pokharna IPR Exhibit number 2?**
14 A. No.
15 **Q. Dr. Pokharna, in connection with preparing**
16 **these declarations, did you review any of the post**
17 **hearing briefing that was submitted to the ALJ in the**
18 **ITC case?**
19 A. I did not.
20 **Q. When were you first contacted to assist MRI**
21 **in the IPR phase of this case?**
22 A. In the IPR phase of this case, I don't
23 recall the exact dates, but it should have been
24 somewhere at least about six weeks prior to when my
25 first IPR was given. So it must have been in August

1 sometime.
2 **Q. Do you recall whether you were asked to**
3 **submit declarations in connection with the three**
4 **patents that we've identified before or after the PTAB**
5 **granted the request to institute IPR proceedings?**
6 A. I have no idea.
7 **Q. Now, you recall at the -- you recall that**
8 **the PTAB granted the petitioners' request to institute**
9 **IPR proceedings on the '287 Patent, the '740 Patent and**
10 **the '142 Patent?**
11 **I'm sorry, let me start again.**
12 **You recall that the PTAB granted the**
13 **petitioners' last request to institute IPR proceedings**
14 **on the '740 Patent and the '142 Patent prior to the**
15 **evidentiary hearing in the 1331 ITC investigation,**
16 **correct?**
17 A. I knew that some of the IPRs were
18 instituted. I did not know exactly which one were and
19 which one were not.
20 **Q. At the time of the evidentiary hearing in**
21 **the 1331 ITC investigation, had you been asked to**
22 **prepare declarations in connection with the PTAB**
23 **proceedings on either the '740 Patent or the '142**
24 **Patent?**
25 A. No. I was not asked at the time of the ITC

hearing to prepare any of these declarations.

Q. Have you reviewed the ALJ's final initial determination in the 1331 investigation?

A. No, I have not.

Q. Are you aware what the ALJ's decision was in the final initial determination of the 1331 investigation?

A. I'm broadly aware, just out of a very brief conversation that I had with Andie on that.

Q. Have you asked to review the ALJ's final initial determination?

A. No, I have not.

Q. Did you review the patent owner's preliminary response before -- I'm sorry.

Did you review the patent owner's preliminary responses that was submitted to the PTAB to for the '287 Patent?

A. No, I did not review the preliminary response by the patent owner.

Q. And likewise, have you reviewed the patent owner's preliminary response that was submitted to the PTAB prior to institution of the '740 Patent?

A. No.

Q. And have you reviewed the patent owner's preliminary response that was submitted to the PTAB

1 prior to institution of the '142 Patent?
2 A. No, I have not.
3 Q. Have you reviewed the PTAB's decision
4 instituting review of the '287 Patent?
5 A. Yes, that I have reviewed.
6 Q. And have you reviewed the board's decision
7 instituting review of the '740 Patent?
8 A. No.
9 Q. Have you reviewed the board's decision
10 instituting review of the '142 Patent?
11 A. No.
12 Q. Have you asked to review the board's
13 decision instituting review of the '740 Patent?
14 A. No.
15 Q. And have you asked to review the board's
16 decision instituting review of the '142 Patent?
17 A. No.
18 Q. All right. Dr. Pokharna, let's take a look
19 at Exhibit number 1, which is the declaration that was
20 submitted in connection with the IPR proceeding
21 associated with the '287 patent.
22 A. Okay.
23 Q. And if we can start, let's please go to
24 paragraph 38, which is on the page marked for
25 identification as Exhibit 2024 page 20 of 122. Let me

1 know when you're there.
2 A. Sorry, page 122?
3 Q. Correct. I'm looking at the bottom of the
4 document. There is a footer that was applied by
5 counsel for MRI, and you'll see that footer on all of
6 the documents we're going to look at today. So for
7 expediency, I'll try to refer to those page numbers,
8 which are similar to Bates numbers. If you have any
9 confusion or questions, let me know, and I'll try to
10 clarify. Is that clear?
11 A. Understood.
12 Q. Okay. So beginning on page 20 is a section
13 of your declaration that relates to an overview of the
14 challenged patent, correct?
15 A. That's right.
16 Q. And in paragraph 40, which is on page 21,
17 you discuss some of the prior art associated with the
18 '287 Patent, correct?
19 A. That's correct.
20 Q. And the first sentence you write: "Prior
21 to the inventions disclosed in the challenged patent,
22 systems for cooling electronic displays operated by
23 removing heat from the non-display sides and electrical
24 components of the system through the side walls or fins
25 on heat sinks." Do you see that?

A. Yes.

Q. And so when you refer to non-display sides, that's referring to any side of the display except for the side of the display on which the image is displayed, correct?

A. That's correct.

Q. And one of the ways that heat could be removed from the non-display sides in the prior art is through convective cooling, correct?

MR. ALEMANNI: Objection, form.

A. Convection and conduction and radiation, all three modes of heat transfer would be present in any of those systems.

Q. Right. And so in the prior art, cooling systems that leveraged convective cooling, conductive cooling or radiative cooling were all known in the field of outdoor displays, correct?

MR. ALEMANNI: Objection, form.

A. Again, specific kind of cooling systems were already known.

Q. And those specific kind of cooling systems that were known included convective cooling systems, conductive cooling systems and radiative cooling systems, correct?

MR. ALEMANNI: Objection, form.

A. All cooling systems would be related to either conductive, convective or radiated cooling systems. So in that sense, yes, the prior art did rely on conduction, convection or radiation through the non-display side of the displays to provide cooling to it.

Q. Okay. And now let's go to paragraph 41 on page 21. The first sentence states: "The challenged patent solves the problem of adequately cooling a larger format electronic display in locations of high thermal stress using two airflow pathways; a closed loop around the electronic display and an open loop behind the electronic display." Do you see that?

A. Yes, I do.

Q. And when you say a closed loop around the electronic display, you mean that the closed loop goes completely around the display in 360 degrees, correct?

MR. ALEMANNI: Objection, form.

A. It does not have to be necessarily completely 360 degrees. It could, you know, be following some different path, but it is a closed loop.

Q. You use the word around in that first sentence, right, sir?

A. Yes.

Q. What do you mean by the word around?

1 A. That the flow starts from certain point and
2 it comes back to that point.
3 **Q. I'm sorry, so let me -- sorry, go ahead.**
4 A. No, I'm done.
5 **Q. Let me clarify my question.**
6 **What did you mean by the phrase around the**
7 **electronic display?**
8 A. Okay. So by closed loop, I really mean
9 it's the flow goes in a loop or in a closed loop where
10 it starts from a point. It is -- it's -- in -- in this
11 introductory section, I'm describing at a high level
12 what, again, at a high level these -- that '287 Patent
13 is describing, which is the combination using the
14 closed loop where, again, the closed loop, as shown in
15 some of the embodiments in the '287 Patent, includes
16 flow around the display where it's going in, like you
17 said, 360 degrees around the display.
18 **Q. Okay. So when you use the phrase around**
19 **the electronic display, you're referring to the idea**
20 **that airflow starts from a certain point at the display**
21 **and comes back to that point after going -- after**
22 **encircling the display, is that right?**
23 MR. ALEMANNI: Objection, form.
24 A. In some of the embodiments, that is
25 possible.

1 Q. Okay. So -- and just to clarify, because
2 I'm looking at the realtime here, so in some of the
3 embodiments, when -- sorry, let me start again.
4 Well, actually, sir, with respect to this
5 first sentence, you cite claim 12 in the '287 Patent,
6 correct?
7 A. That's one embodiment that could be
8 described by claim 12.
9 Q. So just to clarify, so that first sentence,
10 in your opinion, is describing a type of embodiment
11 that is covered by claim 12, is that correct?
12 A. So claim 12 is not limited to that, but
13 it's one of the embodiments that is described by claim
14 12.
15 Q. Okay. Let's skip ahead to paragraph 43,
16 which starts at the bottom of page 22 and goes on to
17 page 23. Let me know when you're there.
18 A. I'm there.
19 Q. You see the last sentence on page 22
20 starts: "The LCD contains a backlight for the display
21 that illuminates the image created by the LCD cells.
22 That backlight includes a printed circuit board, a
23 plurality of lights, typically LEDs mounted to the side
24 facing the LCD cells and a thermally conducted
25 surface." Do you see that?

A. Yes.

Q. So in that sentence, are you describing generally the components that a person of ordinary skill would understand comprise a backlight?

MR. ALEMANNI: Objection, form.

A. Can I read the question again, or could you read the question again?

Q. Sure. So in that sentence, are you describing generally the components that a person of ordinary skill would understand comprise a backlight?

MR. ALEMANNI: Same objection.

A. So backlight comprises the light source, the LEDs in this case, as well as the board that the LEDs are mounted on, as well as some thermally conducting features that it may have on the back of that board, as is provided in the specifications of the '287 Patent itself.

Q. Okay. But in that sentence that begins at the end of page 22 and goes on to the top of page 23, you're generally describing components of a backlight, correct?

MR. ALEMANNI: Objection, form.

A. In that sentence, I'm just summarizing what the pattern specifications state about, about the backlight.

1 Q. Okay. Let's go ahead to paragraph 48,
2 which is on page 25. Let me know when you're there.
3 A. Yes, I'm there.
4 Q. The first sentence on paragraph 48 states:
5 "The open loop of ambient air passes in the constricted
6 channel formed between backlight 140 and the plenum 45
7 of the rear chamber 40."
8 Do you see that?
9 A. Yes.
10 Q. Now, again, in this instance, are you
11 simply describing one embodiment of the open loop of
12 ambient air?
13 A. Yes, it's one possible embodiment of.
14 Q. Okay. And so you're not offering the
15 opinion that in order to satisfy the open loop claim
16 limitations in the '287 Patent, ambient air has to pass
17 through a "constricted channel formed between a
18 backlight and a plenum," correct?
19 MR. ALEMANNI: Objection, form.
20 A. That limitation is provided by some
21 additional language that is present in various claims.
22 Q. But this particular sentence, are you
23 merely trying to describe one of the features of Figure
24 2, which is on the preceding page?
25 A. Yes. In this sentence, I am just

1 describing one of the features of this Figure 2.
2 **Q. Let's skip ahead to page 27, please.**
3 **At the top of the page 27 starts a new**
4 **section called the background of the technology,**
5 **correct?**
6 A. Yes.
7 **Q. And let's skip ahead to page 32, please.**
8 **And in particular, in paragraph 60, in the first**
9 **sentence you write: "First, the challenged patent**
10 **described a novel pathway of the closed loop that**
11 **travels around both the electronic display and includes**
12 **the electrical components for cooling the electronic**
13 **display."**
14 **Do you see that?**
15 A. Yes.
16 **Q. And, again, sir, you're just describing one**
17 **particular embodiment in that sentence, correct?**
18 A. Yes. In general -- I mean, any sentence
19 in -- without the context, just reading that sentence,
20 can only describe one of potentially many cases that
21 could be applied, that could be described in this
22 patent.
23 **Q. I'm handing you what I've marked as**
24 **Pokharna IPR Exhibit 3. It's International PCT**
25 **Application WO 2007/116116, and it's marked for**

1 identification in the '287 IPR proceeding as
2 Exhibit 1006.
3 (The document referred to was marked
4 Pokharna IPR Exhibit Number 3 for
5 identification.)
6 Q. You've seen this document before, right,
7 sir?
8 A. Yes, I have.
9 Q. I will refer to Pokharna Exhibit number 3
10 as the Karppanen reference. Is that okay with you?
11 A. Yes.
12 Q. Sir, I'm not going to ask you about claim
13 12 or any of the things that we discussed in the
14 evidentiary hearing in the 1331 investigation that
15 relates to this patent. Do you understand that?
16 A. Yes.
17 Q. So, let's put this aside just for one
18 moment, and then take a look at paragraph 104 from your
19 declaration, which is on page 59.
20 Now, starting in paragraph 106, you're
21 offering the opinion that Karppanen does not disclose
22 "one or more electronic devices for driving the LCD
23 position within the rear cooling chamber," is that
24 right?
25 A. That's right.

Q. Now, Dr. Pokharna, you would agree that Karppanen discloses locating electronic devices for driving the LCD in the device casing, correct?

MR. ALEMANNI: Objection, form.

A. Yes. The electronics is -- the electronics for driving the display are located in the device casing.

Q. And in paragraph 104 of your declaration, you're offering the opinion that the electronic devices for driving the LCD must be positioned within the closed loop portion to satisfy claim 15, is that right?

A. Could I get a copy of the '287 Patent so I can see claim 15?

Q. Dr. Pokharna, as you requested, I'm handing you Pokharna IPR Exhibit number 4. It's US Patent 9,629,287, and it's marked for identification as Exhibit 1001 in the IPR proceedings relating to the '287 Patent.

(The document referred to was marked Pokharna IPR Exhibit Number 4 for identification.)

A. Okay. Could you now repeat your question?

Q. Sure. In paragraph 104 of your declaration, you're offering the opinion that the electronic devices for driving the LCD must be

positioned within the closed loop portion to satisfy claim 15, is that right?

A. Yes. The '287 Patent describes a rear cooling chamber, which is the subject of claim 15, as a chamber which is positioned behind the LCD containing the closed loop airflow pathway.

Q. Now, claim 15 in the '287 Patent depends from claim 12, correct?

A. That's correct.

Q. And so what is your basis -- what's the basis for your opinion that the rear cooling chamber must be located within the closed loop to fall within the scope of claim 15?

A. So that's based on the specifications, specifically paragraph 4, line, maybe 7, which describes the rear cooling chamber is a part of the closed loop.

Q. Sir, so it's your opinion that the discussion in the specification, beginning around column 4, line 7, limits the rear cooling chamber to being a part of the closed loop, is that right?

MR. ALEMANNI: Objection, form.

A. I have not done any analysis to what that claim would be limited to. I'm offering one explanation right now sitting here when you asked me to

define what is meant by rear cooling chamber. Just sitting here, this is the one place where I can find how rear cooling chamber could be defined.

Q. Dr. Pokharna, you would agree that claim 15 depends solely from claim 12, correct?

A. That's correct.

Q. And you're offering the opinion that Karppanen does not disclose one or more electronic devices for driving the LCD positioned within the rear cooling chamber because, in your view, Karppanen does not disclose those electronic devices in a closed loop, correct?

MR. ALEMANNI: Objection, form.

A. Karppanen does not have those devices within any of the chambers where Smith-Gillespie has mapped various components of the Karppanen patent too.

Q. Well, as you write, sir, in paragraph 104 in the third -- fourth full sentence, you write: "The '287 Patent describes a rear cooling chamber as a chamber positioned behind the LCD containing the closed loop airflow pathway," correct?

MR. ALEMANNI: Objection, form. Also I think this is outside the scope of our agreements to the extent of the testimony that was already covered in the ITC.

1 MR. REDDY: Disagree, counsel, because
2 claim 15 wasn't asserted in the ITC, and
3 there was no invalidity case presented as to
4 claim 15 in the ITC.
5 MR. ALEMANNI: No, their agreement
6 wasn't about particular claims or -- it was
7 about the combinations of art and the
8 arguments in the ITC proceeding. I can pull
9 Christine's email to confirm. I can do
10 that. I've got a copy of it as well, but.
11 MR. REDDY: I think our agreement
12 says -- this is Mr. Reed writing counsel:
13 "MRI agrees not to take
14 Mr. Smith-Gillespie's deposition; and
15 Samsung agrees to limit any deposition of
16 Dr. Pokharna to three hours on the record
17 with no questioning relating to combinations
18 of art presented at the ITC hearing."
19 MR. ALEMANNI: Right. And I would
20 argue that Karppanen was at the ITC, was
21 presented at the ITC.
22 So questioning about the -- I think
23 it's within the scope to ask about Karppanen
24 as a secondary reference in relation to the
25 ground that you can question him, but based

on the questions you're asking, I think you are going beyond the scope.

MR. REDDY: So we disagree that we're prohibited from asking questions about claims not presented at the evidentiary hearing in the ITC on these references.

If you want to instruct the witness not to answer, then you are within your right to do that; but we disagree with that characterization of the agreement.

MR. ALEMANNI: Yeah, and, again, just to reiterate, it wasn't limited to claims. It was limited to combinations of prior art that were presented. I think it was explicit not to include just claims. And correct me if I'm wrong, but I didn't hear you say claims.

MR. REDDY: That's right. I read the email. The word claim wasn't in Mr. Reed's email, but, again, our understanding is we're able to ask Dr. Pokharna questions about his opinions on claims that were not presented at the ITC hearing. And, again, if you'd like to instruct him not to answer, you can do that.

MR. ALEMANNI: I'm not instructing him not to answer, but we will preserve the objection for potential motion to strike, depending on where this questioning goes.

MR. REDDY: Okay. Understood.

MR. ALEMANNI: All right. Thank you.

BY MR. REDDY:

Q. So Dr. Pokharna, I was reading that fourth full sentence which states: "The '287 Patent describes a rear cooling chamber as a chamber positioned behind the LCD containing the closed loop airflow pathway."

Do you see that?

A. Yes.

Q. And that's your testimony as to what the rear cooling chamber in claim 15 is, correct?

MR. ALEMANNI: Objection, form.

A. I believe my statement speaks for itself.

Q. Okay. Let's move on to page 60. And page 60 includes your opinions with respect to claim 17 of the '287 Patent, correct?

A. Yes.

Q. And it's your opinion that "Karppanen does not disclose an intended direction of closed loop isolated gas flow that is substantially perpendicular to the intended direction of the open loop of ambient

1 airflow," correct?
2 A. That's correct.
3 Q. Now -- and you include an excerpt of Figure
4 3 of Karppanen on page 61, correct?
5 A. Yes.
6 Q. Now, ambient air enters the electronic
7 information board through those events that are located
8 on either side of the electronic information board,
9 correct?
10 MR. ALEMANNI: Objection, form.
11 A. The air enters from the side.
12 Q. And then the ambient air travels through
13 the thin heat sinks that are shown as Element 62 in
14 Figure 3, correct?
15 A. Yes.
16 Q. And then the ambient air exits through the
17 grates located on the side of the electronics
18 information board on the other side, correct?
19 A. That's correct.
20 Q. So you would agree that the intended
21 direction of the ambient airflow in Karppanen is a
22 horizontal direction across the front of the display,
23 correct?
24 MR. ALEMANNI: Objection, form.
25 A. I believe, in this view, we are looking at

1 the cooling chamber. So it is not in the front of the
2 display. It's behind the display.
3 **Q. You're correct, sir.**
4 **So you would agree that the intended**
5 **direction of the ambient airflow in Karppanen is a**
6 **horizontal direction across the rear of the displays,**
7 **correct?**
8 MR. ALEMANNI: Objection, form.
9 A. Rear of the display in the cooling space.
10 Here the display in Karppanen has two
11 different sections; there is a section that is within
12 the device casing, and there could be a section that is
13 in, I believe what he calls as the cooling section.
14 And this -- all the discussion that we just had a few
15 minutes ago was related to not the device casing, but
16 that intermediate cooling section.
17 **Q. Right. And the intended direction of the**
18 **ambient airflow is the horizontal direction across the**
19 **cooling space located behind the display, correct?**
20 MR. ALEMANNI: Objection, form.
21 A. I'm sorry, I was not listening very
22 carefully to every word.
23 **Q. The intended direction of the ambient**
24 **airflow is the horizontal direction across the cooling**
25 **space located behind the display, correct?**

MR. ALEMANNI: Same objection.
A. Yes.
Q. And if we can take a look at Figure 2 of Karppanen, which you've excerpted on page 62 of your declaration.
And also, sir, you have the Karppanen reference in front of you. If you prefer to look at the larger Figure 2, which is on page 18 of that document -- I see you're looking at the Exhibit number 3. So I will look at Exhibit number 3 as well.
So in Figure 2 of Exhibit 3, we're seeing a cross-section of the electronic information board disclosed in Karppanen, correct?
A. That's correct.
Q. Now, in the display casing, airflow is generated by the fan 64, correct?
A. Yes.
Q. And the air generated -- airflow generated by fan 64 flows around the display, correct?
MR. ALEMANNI: Objection, form.
A. It does.
Q. We can put Karppanen aside.
Now, on page 63 begins your opinions with respect to the combination of Nagashima and Karppanen, correct?

1 A. That's correct.
2 **Q. I'm handing you Pokharna IPR Exhibit number**
3 **5.**
4 (The document referred to was marked
5 Pokharna IPR Exhibit Number 5 for
6 identification.)
7 **Q. It's marked for identification as US**
8 **6,798,655, and it's marked for identification in the**
9 **IPR proceedings as Exhibit 1007, and it's a patent to**
10 **Nagashima. Do you see that?**
11 A. Yes, I do.
12 **Q. And you're familiar with this document,**
13 **sir, right?**
14 A. Yes, I am.
15 **Q. So in an effort to get ourselves oriented,**
16 **let's start with Figure 1. Figure 1 discloses one**
17 **embodiment that's disclosed in Nagashima, correct?**
18 A. Yes.
19 **Q. And element three is called the main**
20 **chassis, correct?**
21 A. Yes.
22 **Q. And Element 12 is a cover?**
23 A. Yes.
24 **Q. And inside the main chassis and the cover**
25 **is element four, which is called the motherboard,**

1 **correct?**
2 MR. ALEMANNI: Objection, form.
3 A. Yes.
4 **Q. And also inside the main chassis and the**
5 **cover is CPU, which is Element 9?**
6 MR. ALEMANNI: Objection, form.
7 A. Yes, I believe so.
8 **Q. And, again, inside the main chassis and**
9 **cover is Element 8, which is called a heat receiving**
10 **head?**
11 MR. ALEMANNI: Same objection.
12 A. Yes.
13 **Q. And then inside the -- I'm sorry, connected**
14 **to the heat receiving head is a tube, which is Element**
15 **6, correct?**
16 A. Yes.
17 **Q. And tube six carries a liquid, correct?**
18 A. That's correct.
19 **Q. And Element 10, which is located inside the**
20 **main chassis and cover, is called a hard disk drive,**
21 **correct?**
22 A. That's correct.
23 **Q. And the display is Element 5, correct?**
24 A. Yes.
25 **Q. And Nagashima discloses that the display**

1 can be an LCD display, correct?
2 A. Yes.
3 Q. And in an LCD display, such as that
4 disclosed in Nagashima, that the backlight would be
5 located behind the LCD panel, correct?
6 MR. ALEMANNI: Objection, form.
7 A. Yes.
8 Q. All right. So let's start with your
9 declaration, paragraph 113.
10 Now, in this section of your declaration,
11 you're offering the opinion that Nagashima does not
12 disclose a closed loop of isolated gas, as required by
13 claims 12, 1 and 22, correct?
14 A. That's correct.
15 Q. Now, at the top of page 65, you've
16 annotated Figure 1, correct?
17 A. Yes.
18 Q. And you've circled an element that you call
19 an air inlet, correct?
20 A. Yes.
21 Q. The phrase air inlet does not appear in the
22 Nagashima reference, correct?
23 A. No, it does not appear in the Nagashima
24 reference.
25 Q. Now, in paragraph 116, which is again on

1 page 65, you write: "Indeed, Nagashima suggests that
2 the heat radiating fins in Figure 6A, located on the
3 heat receiving head 8, contribute to cooling the
4 hardware components by moving air through the cover
5 12." Do you see that?
6 A. Yes.
7 Q. Now in support, you cite column 6, lines 27
8 to 29, correct?
9 MR. ALEMANNI: Objection, form.
10 A. Column 7, line 27 to 29, I believe.
11 Q. Thank you, sir.
12 In support, you cite column 7, lines 27 to
13 29, correct?
14 A. Yes.
15 Q. Let's take a look at that section.
16 Lines 27 through 29 in column 7 are part of
17 a discussion of Figure 6, correct?
18 A. Yes.
19 Q. There is no Figure 6 in Nagashima, correct?
20 A. My understanding is Figure 6 is referring
21 to both Figure 6A and 6B.
22 Q. Okay. So your opinion is that a person
23 skilled in the art reviewing Nagashima would understand
24 the references to Figure 6 in the specification to be
25 referring collectively to Figure 6A and Figure 6B?

A. Yes.

Q. All right. So in column 7, lines 20 through 27, there's a discussion regarding Figure 6. I want you to read that to yourself and let me know when you're finished.

(Pause.)

A. I've read it.

Q. Now, this paragraph is describing a scenario where the tubes in Nagashima freeze, correct?

A. That's right.

Q. Now, the heat -- as we've discussed, the heat receiving head is connected to the tubes, correct?

A. Yes.

Q. So if the tubes are frozen, you would agree that the fact that the tubes are frozen would cool the heat receiving head, correct?

MR. ALEMANNI: Objection, form.

A. If the tubes are frozen, that means that those play no role in cooling of the CPU.

Q. So wouldn't you agree that the frozen pipes would at least conductively cool the CPU in Nagashima, in that the hypothetical where they are frozen?

MR. ALEMANNI: Objection, form.

A. No, I don't believe so.

Q. And why not?

A. It is a long tortuous conductive part. You have -- if you have the tubes frozen, it might be frozen, let's call it like, I don't know, just behind the screen, and the rest of the system is still fairly liquid.

So it's very hard to conduct the heat(sic) through the long tortuous part within the tube and to where it is contact with the CPU. A person of ordinary skill in the art would never think of a cooling system, if it is malfunctioned, to be providing cooling to the CPU.

Q. Okay. Now, you're offering the opinion that the disclosure in Column 7, lines 20 through 27, would teach a person skilled in the art that air is able to escape the chamber formed by the cover and the main chassis in Nagashima, correct?

A. It has to be able to escape the cover in Nagashima's invention, yes.

Q. And the basis for that opinion is the fact that this paragraph, Column 7, lines 20 through 27, describes an air cooling effect for the heat radiating fin, correct?

MR. ALEMANNI: Objection, form.

A. That's not the only reason.

First and foremost there is -- this patent

is applied to cooling of the CPU, which is of -- could be a very large amount of heat load in a desktop PC. And I have personal knowledge of the kind of heat loads that were present in these kinds of systems at that time. And there is no way that amount of heat load could be ejected without having air coming in in this chassis and -- or I should say the cold air coming into this chassis or the ambient air coming into the chassis and picking up the heat over the CPU via the cooling head and then leaving this chassis from somewhere else.

Nagashima itself does not talk about it being closed or sealed. And in fact, at many locations, in addition to the one that I have identified here in Figure 2, there are other locations where they show holes, for example, on chassis 3 in one of the figures.

Q. Now, going back to paragraph 116, you also cite Column 3, lines 8 through 10 in Nagashima, correct?

A. Yes.

Q. Let's take a look at that disclosure.

So Column 3, lines 8 through 10 are generally describing Figures 6A and 6B, correct?

A. Yes.

Q. And CPU9 is liquid cooled by tube 6,

1 **correct?**
2 A. So you're referring now to Figure 1 again?
3 **Q. No, it's Figure 6A, which is what you**
4 **cited.**
5 A. Oh. Sorry, the CPU9 is cooled by?
6 **Q. Yeah, let me start again.**
7 **So in Figure 6A, CPU9 is liquid cooled by**
8 **Tube 6, correct?**
9 A. It's liquid cooled by Tube 6, and then it's
10 air cooled by the fan or the heat radiating fins,
11 depending on whether you're looking at 6B or 6A.
12 **Q. I was just asking about Figure 6A, sir.**
13 **So in Figure 6A, the CPU, which is element**
14 **9, is liquid cooled by Tube 6, correct?**
15 A. Liquid cooled by Tube 6 and naturally
16 convection cooled by the heat radiating fins.
17 **Q. Okay. And then in Figure 6B, the CPU9 is**
18 **air cooled by a fan, correct?**
19 A. It's for circulation. Air cooled by the
20 fan and liquid cooled by 6.
21 **Q. Now, if we can go to the last page of**
22 **Nagashima. You can read claims 3, 4 and 6 to yourself,**
23 **and let me know when you're finished.**
24 (Pause.)
25 A. So I have read it, but I may have to go

1 back and read it, depending on the question.
2 **Q. So my question relates to question six,**
3 **which depends(sic) from claims 3 and 4.**
4 **Do you see that?**
5 A. Yes.
6 **Q. Now, claim 6 is covering an embodiment that**
7 **would include Figure 6B, correct?**
8 MR. ALEMANNI: Objection, form.
9 A. Yes, it would seem so, yeah.
10 **Q. Let's go back to your declaration, which is**
11 **Exhibit number 1. And skip ahead to page 67, which**
12 **starting in paragraph 118, you're offering the opinion**
13 **that Nagashima does not disclose an electronic display**
14 **that is coolable by a combination of a closed loop and**
15 **an open loop, correct?**
16 MR. ALEMANNI: Objection, form.
17 A. Yes.
18 **Q. Now, if we can go back to Nagashima and**
19 **take a look at Figure 4, please.**
20 **Now, as we've discussed, sir, in Figure 4,**
21 **the tubes connect from the heat receiving head to the**
22 **LCD display in this embodiment, correct?**
23 A. Yes.
24 **Q. And the tubes are exposed in the channel**
25 **that's formed between the LCD display and the main**

1 chassis, correct?
2 A. Yes.
3 Q. And Nagashima teaches that an open loop fan
4 can be located in that channel located between the LCD
5 display and the chassis, correct?
6 MR. ALEMANNI: Objection, form.
7 A. Yes, in one of his embodiments, he does
8 that.
9 Q. So if an open loop fan is added to Figure
10 4, ambient air is then flowing over the tube that's
11 located between the LCD and the main chassis, correct?
12 A. That's correct.
13 Q. Now, let's take a look at -- go back to
14 your declaration and go to page 69.
15 A. I'm there.
16 Q. Now, in beginning at the bottom of page 69,
17 you're offering the opinion that Nagashima does not
18 disclose an intended direction of closed loop isolated
19 gas flow that is substantially perpendicular to the
20 intended direction of the open loop of the ambient
21 airflow, correct?
22 A. Yes.
23 Q. So you would agree that in Nagashima, the
24 ambient airflow travels in a vertical direction,
25 correct?

MR. ALEMANNI: Objection, form.
A. Yes, it should be traveling substantially vertically based on the location of the fan that they have shown in one of the figures.
Q. So -- and just to kind of -- since you mentioned it, let's take a look at Figure 10 in Nakashima.
So in figure 10 in Nagashima, it's teaching that the ambient airflow located between the LCD display and the main chassis moves in a vertical direction, correct?
A. Yes.
Q. And you would agree that the intended direction taught in Nagashima for the ambient airflow is vertical direction, correct?
MR. ALEMANNI: Objection, form, scope.
A. Yes, between the chassis 3 and the display, it's flowing in the vertical direction, from bottom to top.
Q. And would a person skilled in the art understand that Nagashima intended for the air to flow in a vertical direction?
MR. ALEMANNI: Objection, form, scope.
A. Yes, in that channel.
Q. All right. Now, let's skip ahead to

1 paragraph 125, which is on page 72.
2 Now, you understand that
3 Mr. Smith-Gillespie has offered the opinion that the
4 airflow generated by the fan located on the heat
5 receiving head can only flow in a limited number of
6 directions, correct?
7 MR. ALEMANNI: Objection, form.
8 A. Yes, I believe that Mr. Gallespie,
9 Mr. Smith-Gillespie has opined that.
10 Q. And you disagree with Mr. Smith-Gillespie's
11 opinion, is that right?
12 A. There are limited ways in which the air can
13 flow, but what really matters is the direction of
14 airflow, which is -- which is substantially defined in
15 a particular way. So his opinion that the flow is
16 vertical to the direction of the open loop flow is
17 something that I do not agree with.
18 Q. Well, in the first sentence in paragraph
19 125, you write: "These are not the only two possible
20 configurations on fan orientation and direction of
21 airflow," correct?
22 A. That's right.
23 Q. So in your opinion, how would a person
24 skilled in the art understand the direction of the
25 airflow generated by the fan located on the heat

receiving head?

A. So when it blows air, it could be -- I mean, this is something that would require me to draw certain things on this. But it could be taking in air from the inlet or through various inlets, and it will go through the heat exchanger and then find its way out of the chassis through the holes that are existent on the chassis 3. It will also go through some other holes.

It's -- to figure exactly that out, we use computational flow dynamics models routinely in modeling the airflow.

So it's a function of many things, including the structure inside, location of the holes, whether it is axial flow fan, whether it's a blower, a variety of other things.

Q. So it's your opinion that in order for a person skilled in the art to understand how the movement of the airflow generated by the fan located on the heat receiving head, the person skilled in the art would need to conduct computational fluid dynamics analysis?

MR. ALEMANNI: Objection, form.

A. No. To understand it precisely, you will need to do computational flow dynamics.

1 But in general, from when I look at
2 something like that, I would think that the air would
3 be entering from the inlet that I had marked earlier,
4 shown on that figure in my declaration with the circle.
5 If we are going from there, it would be going to the
6 inlet of the fan and warmer air will come out of the
7 heat sink of the heat-receiving head, and then it will
8 find its way through the other holes, like the holes
9 that are shown on chassis 3 in Figure 2, and it will
10 also find its way out of the cover 12 in some other
11 locations where it may have exit holes.
12 **Q. What are the -- some other locations where**
13 **cover 12 may have exit holes?**
14 A. So all the figures that I'm showing here
15 for Figure 2 are a cross-section only at one location.
16 But if you were to look at a three-dimensional view of
17 this, it will have grilles located in some places where
18 the air would be coming out of.
19 **Q. Let's take a look at Figure 9B in**
20 **Nagashima, please.**
21 **Now, Figure 9B is disclosing an embodiment**
22 **where the tube is touching both the rear surface of the**
23 **LCD display and the main chassis, correct?**
24 A. Yes.
25 **Q. And if we turn to Column 8, you see that in**

1 **the very top of Column 8, Nagashima discloses: "Figure**
2 **9B is a view showing a distance between an LCD panel**
3 **and a main chassis, which is almost equal to the**
4 **diameter of a tube and the tube contacting over its**
5 **entire length with the LCD panel and the main chassis**
6 **for heat radiation." Do you see that?**
7 A. Yes, I do.
8 **Q. And in that disclosure, Nagashima is**
9 **stating that the main chassis can be located very close**
10 **to the rear surface of the LCD panel, correct?**
11 A. Yes. He's saying it could be located very
12 close to the field surface of the LCD, or it could be
13 located far away, as he shows in Figure 9A.
14 MR. REDDY: Okay. You can put
15 Nagashima aside, and we've been going for
16 about an hour and 25 minutes. Why don't we
17 take a break.
18 (Off the record at 10:24 a.m.)
19 (On the record at 10:39 a.m.)
20 BY MR. ALEMANNI:
21 **Q. Dr. Pokharna, let's take a look at page 75**
22 **in your '287 Patent Declaration. And starting in**
23 **paragraph 135 is your discussion regarding the Ohta and**
24 **Marumoto and Yare combinations, correct?**
25 A. That's correct.

1 Q. So I'd like to hand you what I've marked as
2 Pokharna IPR Exhibit 6. It's titled: Japanese Granted
3 Patent Publication, Patent Number 3118907. And for
4 identification purposes, it's also listed as SEC
5 Exhibit 1004. And it's called -- the first inventor is
6 Ohta.
7 (The document referred to was marked
8 Pokharna IPR Exhibit Number 6 for
9 identification.)
10 Q. Are you familiar with this exhibit?
11 A. Yes.
12 Q. Now, once again, let's get oriented by
13 taking a look at Figure 3, which is on the second to
14 last page of the exhibit.
15 Now, in Figure 3, Element 3 is referred to
16 as the front-based plate, correct?
17 A. Yes.
18 Q. And then Element 1 is a plasma display,
19 correct?
20 A. Yep.
21 Q. And then Element 6 is a coolant fluid that
22 flows in the front of the plasma display, correct?
23 A. Yes.
24 Q. And Ohta discloses that ethylene glycol is
25 an example of a coolant that can be used, correct?

A. Yes.

Q. And then Element 7 is called a convection pipe, correct?

A. Yes.

Q. And then Element 5 is a heat sink, correct?

A. Yes.

Q. And then this appears to be a finned heat sink, correct?

A. It's merely a cartoon. It's very hard to say what kind of heat sink it is.

Q. In your opinion, sir, would a person skilled in the art understand Figure 3 to be disclosing a finned heat sink?

MR. ALEMANNI: Objection, form.

A. There are so many different kinds of things that are possible. It's not very informative about the structure, location, size of these heat sinks.

Q. So it's your opinion that a person skilled in the art would not be able to determine whether Figure 3 discloses a finned heat sink?

MR. ALEMANNI: Objection, form.

A. It's certainly not clear based on this figure alone to understand what kind of structure that heat sink 5 is.

Q. All right. Well, fan 8 causes cooling

1 fluid to circulate through the convection tube 7,
2 correct?
3 A. Yes.
4 Q. And heat is removed from the cooling fluid
5 by the heat sink, correct?
6 A. Yes.
7 Q. And Ohta discloses that the heat sink can
8 be forcibly air cooled using a fan, correct?
9 A. It describes it could be naturally
10 convection cooled, or it could also have forced
11 cooling.
12 Q. So Ohta discloses that one way to cool the
13 heat sink is through forceably air cooling it using a
14 fan, correct?
15 A. Yes.
16 Q. Let's look at Figure 4, which is right next
17 to Figure 3.
18 A. Yes.
19 Q. And Figure 4 discloses a ventilation pipe,
20 which is Element 9, correct?
21 A. Yes.
22 Q. And ambient air flows through the
23 ventilation pipe 9, correct?
24 A. Yes.
25 Q. And in this embodiment, ambient air is used

1 to cool the display, correct?
2 MR. ALEMANNI: Objection, form.
3 A. In this case, ambient air is used to cool
4 the front of the plasma display panel.
5 Q. All right. And then if we can turn the
6 page and go to Figure 5, please.
7 Now, in Figure 5, the display is located
8 within an external housing, which is labeled Element
9 11, correct?
10 A. Yes, it's the housing 11.
11 Q. And then there's also ventilation fan,
12 which is identified as Element 10?
13 A. Yes, Element 10 is ventilation fan.
14 Q. And then air enters through the left side
15 of the housing and then exits through the front side of
16 the housing, correct?
17 MR. ALEMANNI: Objection, form.
18 A. Yes.
19 Q. And the air exits through that gap that's
20 located between the front face plate and the plasma
21 display, correct?
22 A. That's correct.
23 Q. And Figure 6 is a disclosure of the prior
24 art, which describes -- let me stop there.
25 Figure 6 is a disclosure of the prior art,

correct?

MR. ALEMANNI: Objection, form.

A. Yes, Figure 6 is prior art.

Q. And the difference between Figure 6 and Figure 5 is that there's no air flowing across the front surface of the plasma displayed in Figure 6, correct?

MR. ALEMANNI: Objection, form.

A. Yes.

Q. How would a person skilled in the art understand air to be exhausted from the housing in Figure 6?

MR. ALEMANNI: Objection, form, scope.

A. Again, this figure is just a schematic. In reality, the cooling fan size is clearly not going to be as big as it is shown in this figure. It's going to be located somewhere else. And it's meant to provide cooling to electronics in -- within the housing, and it will be located close to the electronics with having an inlet close to it and an exit, so that you can bring in fresh air through the cooling and exhaust warm air out.

Q. Okay. Now, you would agree that Ohta does not disclose the precise location of the fan that can forceably cool the heat sink, correct?

MR. ALEMANNI: Objection, form.

A. Yes, Ohta does not disclose, again, the location, the structure, the size or the type of the fan.

Q. Now, you understand that petitioners have taken the position that the combination of Ohta and the Marumoto reference renders obvious the various claims in the '287 Patent, correct?

A. I read that in the petition.

Q. So Dr. Pokharna, I'm also handing you what we've marked as Pokharna IPR Exhibit number 7.

(The document referred to was marked Pokharna IPR Exhibit Number 7 for identification.)

Q. It's Japanese Unexamined Patent Application Publication H8-152604. For identification purposes, it's SEC Exhibit 1005 in the IPR proceedings.

You're familiar with the Marumoto reference, which is Exhibit number 7, correct?

A. Yes, I am.

Q. So let's start by taking a look at Figure 1, which is the only figure that's located on the last page. Let me know when you're there.

A. I'm there.

Q. And, again, in Figure 1, Element 1 is the liquid crystal panel, correct?

1 A. That's correct.
2 **Q. And Element 34 is a panel heating or**
3 **cooling plate, correct?**
4 A. Yes.
5 **Q. And there is a channel located behind the**
6 **panel heating and cooling plate, correct?**
7 A. Yes.
8 **Q. Let's take a look at paragraph 12 in**
9 **Marumoto, please. Let me know when you're there.**
10 A. I'm there.
11 **Q. Paragraph 12 writes: "Note that the liquid**
12 **crystal panel one is a passive matrix type. A**
13 **transparent panel heating/cooling plate four is used.**
14 **This is done to enable the transmission of a**
15 **backlight."**
16 **Do you see that?**
17 A. Yes.
18 **Q. So based on that disclosure in the scenario**
19 **where the liquid crystal panel is a passive matrix**
20 **type, is the backlight located to the right of the**
21 **channel in Figure 1?**
22 MR. ALEMANNI: Objection, form, scope.
23 A. It may be.
24 **Q. Are you offering any opinion as to where**
25 **the backlight is located in the liquid crystal panel**

1 **that's disclosed in Marumoto?**
2 MR. ALEMANNI: Objection, form, scope.
3 A. I don't believe I have rendered any opinion
4 related to that.
5 **Q. All right. So staying with Figure 1,**
6 **Marumoto discloses a temperature sensor and a**
7 **temperature-controlled component, correct?**
8 A. Yes.
9 **Q. And it also discloses that the pipe can be**
10 **filled with either air or liquid, correct?**
11 A. Yes.
12 **Q. Let's go to Exhibit number 1, which is the**
13 **'287 declaration. Let's skip ahead to paragraph 193,**
14 **which is located on page 105.**
15 A. I'm there.
16 **Q. Now, in this section, you are offering the**
17 **opinion that Samsung's products practice the '287**
18 **Patent, correct?**
19 A. Yes.
20 **Q. Now, in your opinion, which claims do**
21 **Samsung's -- of the '287 Patent do Samsung's products**
22 **practice?**
23 A. So I don't believe I have rendered any
24 opinion on that here. But in the past, I have provided
25 my analysis on at least claim 12, practicing -- at

1 least claim 12 being practiced by Samsung products.
2 **Q. You understand that the ALJ disagreed with**
3 **your opinion in its final initial determination,**
4 **correct?**
5 MR. ALEMANNI: Objection form, scope.
6 A. I've heard that.
7 **Q. And do you maintain your opinion that**
8 **Samsung's products practice the '287 Patent?**
9 MR. ALEMANNI: Objection to form.
10 A. Yes, I do.
11 **Q. Now, in the next page, which is page 106,**
12 **starting in on page 106, you're offering the opinion**
13 **that MRI's products practice the '287 Patent, correct?**
14 A. Yes.
15 **Q. Now, what claims do you contend MRI's**
16 **products practice as the '287 Patent?**
17 A. Again, I don't believe I have rendered my
18 opinion on that. And during the IPC trial, I rendered
19 my opinion analysis that at least claim 12 of '287
20 Patent is being practiced by the MRI's products.
21 **Q. Let's put Exhibit 1 aside.**
22 **And if you could pick up Exhibit number 2,**
23 **which is your declaration from the '740 and '142**
24 **Patents. And let's go to paragraph 186, which is on**
25 **page 99. And beginning on the bottom of page 99,**

1 you're offering the opinion that Samsung's products
2 practice '740 and '142 Patents, correct?
3 A. That's correct.
4 Q. And, again, what products -- I'm sorry --
5 what claims do you contend the Samsung products
6 practice in the '740 and '142 Patents?
7 A. I mean, I do not recollect the claim
8 numbers, but I think they are referred to in my
9 declaration through one of the exhibits that was a part
10 of the IPC.
11 Q. Okay. So if we'd like to know what
12 specific claims you contend are covered by the
13 challenge claims, we should look to the exhibits that
14 you cited here, is that right?
15 A. At least that. At least those claims.
16 I've not rendered any opinion about any claims not
17 being practiced, so -- and that is my right to provide
18 additional testimony regarding those.
19 Q. Okay. Then let's skip ahead to page 102,
20 to paragraph 188.
21 Now, in this section, you're offering the
22 opinion that MRI's products practice the '740 and '142
23 Patents, correct?
24 A. Yes.
25 Q. You see there's a schematic at the top of

this page, 102?

A. Yes.

Q. And who created this schematic?

MR. ALEMANNI: Objection, form.

A. It was created by the counsel, but I have reviewed it, and I agree with its contents.

Q. And then for the schematic located on the preceding page, which is page 101, was that schematic also prepared by counsel, to the best of your knowledge?

MR. ALEMANNI: Objection, form.

A. Yes. And, again, I have analyzed it and agree with its content and stand by it.

Q. All right. So I'm going back to page 102.

What claims do you contend MRI's products practice as to the '740 and '142 Patents?

A. They are set forth in the exhibit that is referred to here.

MR. REDDY: All right. If we can just take a five-minute break. I think we might be done.

(Off the record at 11:05 a.m.)

(On the record at 11:07 a.m.)

MR. REDDY: Dr. Pokharna, I have no further questions. Thank you for your time

today.

(Off the record at 11:08 a.m.)

(On the record at 11:10 a.m.)

MR. ALEMANNI: I have no further questions. Thank you very much.

(Whereupon the deposition was concluded at 11:10 a.m.)

(Signature reserved.)

SIGNATURE PAGE

_____

HIMANSHU POKHARNA, Ph.D

SUBSCRIBED AND SWORN to before me this _____
day of_____, 2023.

_____

NOTARY PUBLIC

My Commission expires:_____

ERRATA PAGE

MMV

CASE NAME: Samsung vs. Manufacturing Resources

WITNESS NAME: HIMANSHU POKHARNA, Ph.D.

DATE: December 13, 2023

PAGE	LINE	READS	SHOULD READ	REASON FOR CHANGE

SEC et al. v. MRI
SEC Exhibit 1037.058
IPR2023-00254

C E R T I F I C A T E

I, Marisa Munoz-Vourakis, Stenographic Reporter, RMR, CRR and Notary Public, the officer before whom the foregoing proceeding was conducted, do hereby certify that the witness whose testimony appears in the foregoing proceeding, were duly sworn by me; that the testimony of said witness were taken by me to the best of my ability and thereafter transcribed under my supervision; and that the foregoing pages, inclusive, constitute a true and accurate transcription of the testimony of the witness.

I do further certify that I am neither counsel for, related to, nor employed by any of the parties to this action in which this proceeding was conducted, and further, that I am not a relative or employee of any attorney or counsel employed by the parties thereof, nor financially or otherwise interested in the outcome of the action.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 12th of December, 2023.

MARISA MUNOZ-VOURAKIS

Notary #20032900127

1

1 5:17,19, 21 7:10 11:19 30:16 32:13,16 37:2 38:11 45:18 50:21,24 51:21 52:5,12 53:21

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