

Deposition of
David B. Tuckerman, Ph.D.
October 20, 2025
Volume 2

Thermaltake Technology Co.

VS.

Lian Li Industrial Co.



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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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THERMALTAKE TECHNOLOGY CO., LTD.
and THERMALTAKE INC. (aka
THERMALTAKE USA),

Petitioners,

vs.

No. IPR2024-01230

LIAN LI INDUSTRIAL CO., LTD., and
CHEN, CHIEN-HAO,

Patent Owners.

DEPOSITION OF

DAVID B. TUCKERMAN, Ph.D.

(Volume 2 - pages 152 - 219)

Monday, October 20, 2025

Stenographically Reported by:

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1 BE IT REMEMBERED that on Monday, October 20,
2 2025, commencing at the hour of 9:29 a.m. thereof at the
3 Law Offices of GREENBERG TRAURIG, LLP, 1900 University
4 Avenue, Suite 500, Palo Alto, California 94303, before
5 me, GINA V. CARBONE, a Certified Shorthand Reporter in
6 and for the State of California, personally appeared

7 DAVID B. TUCKERMAN, PH.D.,
8 called as a witness in the above-entitled court and
9 cause, who, being by me first duly sworn, was
10 thereupon examined and testified as hereinafter set
11 forth:

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1 Monday, October 20, 2025 9:29 a.m.

2

3 THE REPORTER: Good morning. We are now on
4 the record. My name is Gina Carbone, I am a
5 California Certified Stenographic Reporter, state
6 license No. 8249.

7 Today's date is October 20th, 2025, the
8 time is 9:29 a.m. and this is the deposition of
9 David B. Tuckerman, Ph.D.

10 Will counsel please state your appearances.
11 And we'll start with the noticing attorney, please.

12 MS. QU: So this is Surui Qu from Pillsbury
13 Winthrop Shaw Pittman on behalf of petitioners in
14 this IPR proceeding.

15 MR. CHEN: Kyle Chen from Greenberg Traurig
16 for patent owner.

17

18 DAVID B. TUCKERMAN, PH.D.,
19 having been sworn, was
20 examined and testified as follows:

21

22 THE REPORTER: Thank you.
23 Please begin.

24 EXAMINATION BY MS.QU

25

1 BY MS. QU:

2 Q. Good morning, Dr. Tuckerman. You recall
3 that you provided deposition testimony in this IPR
4 proceeding back in July, correct?

5 A. That sounds right.

6 Q. Okay. And I assume, as before, you'll
7 agree to testify truthfully and accurately today?

8 A. I do.

9 Q. And is there anything that would impair or
10 impede your ability to testify truthfully and
11 accurately today?

12 A. There is not.

13 Q. Okay. Dr. Tuckerman, how did you prepare
14 for the deposition today?

15 A. I flew down -- well, I had a Zoom call with
16 Mr. Chen on Saturday, and then I flew down here
17 Saturday evening and met with him in person Sunday,
18 that's yesterday, and then did some reading on my
19 own afterwards. And that's basically it.

20 Q. How long was the Zoom call with Mr. Chen on
21 Saturday?

22 A. It was a few hours. I don't remember
23 exactly.

24 Q. What about your meeting yesterday with
25 Mr. Chen in person?

1 A. Around five hours.

2 **Q. Are there anyone else present at both**
3 **meetings?**

4 A. No.

5 **Q. Did you speak with anyone other than**
6 **counsel in preparation for the deposition today?**

7 A. No.

8 **Q. Did you take any notes during the meetings**
9 **on Saturday and Sunday?**

10 MR. CHEN: Caution the witness not to
11 reveal any work product, privileged information.

12 THE WITNESS: I took some notes to self.

13 BY MS. QU:

14 **Q. Did you -- do you have them, the notes,**
15 **with you today?**

16 A. I do not.

17 **Q. And you mentioned that you did some reading**
18 **after the meetings. What documents did you read?**

19 A. Well, I reviewed my own declaration and the
20 motion -- the revised contingent motion to amend
21 that my declaration was in support of and the
22 various materials considered on -- listed in my
23 declaration, I took a look through them.

24 **Q. And when you say you reviewed your own**
25 **declaration, do you mean the declaration that you**

1 recently submitted in support of the revised
2 contingent motion to amend?

3 A. Yes, the one dated October 3rd.

4 MS. QU: This was premarked as
5 Exhibit 2052.

6 (Exhibit 2052 was re-introduced.)

7 (Discussion off the record.)

8 BY MS. QU:

9 Q. And so this document in front of you is
10 your declaration in support of patent owners'
11 revised contingent motion to amend, correct?

12 A. Correct.

13 Q. Okay. I think it would be easier if we
14 just refer to this declaration as Exhibit 2052
15 throughout. Do you agree?

16 A. I agree.

17 Q. Okay. And you see on the lower right-hand
18 corner it says page 1 of 53.

19 Do you see that?

20 A. I see that.

21 Q. Can we agree to refer to those page numbers
22 in the lower right-hand corner?

23 A. Yes. That's fine.

24 Q. Okay. Dr. Tuckerman, did you write
25 Exhibit 2052 yourself?

1 A. I did write it with assistance from counsel
2 on formatting and clarity.

3 **Q. Other than counsel, do you have anyone else**
4 **that worked with you on this declaration?**

5 A. No.

6 **Q. How long did you spend writing**
7 **Exhibit 2052?**

8 A. It was over a period of a couple of weeks
9 immediately prior to the submission date.

10 **Q. And this is your signature on page 1 of**
11 **Exhibit 2052, correct?**

12 A. Correct.

13 **Q. Did you read Exhibit 2052 carefully before**
14 **signing?**

15 A. Yes.

16 **Q. Okay. And you consider every statement in**
17 **Exhibit 2052 to be accurate, correct?**

18 A. To the best of my knowledge.

19 **Q. Sitting here today, are you aware of any**
20 **errors that you want to correct in Exhibit 2052?**

21 A. Not at the moment. It's conceivable I
22 missed something in proofreading, but I'm not aware
23 of anything like that right now.

24 **Q. Okay. If we can turn to page 14, and based**
25 **on the lower right-hand corner page number.**

1 A. Okay.

2 **Q. On page 14 you cite several figures; did**
3 **you source the figures on page 14?**

4 A. The figures were provided to me from
5 counsel. I, of course, reviewed them and made sure
6 that they were correct for the purposes of this
7 declaration in terms of annotations.

8 **Q. Do you have an understanding where those**
9 **figures come from?**

10 A. My understanding is they came from an older
11 claim construction brief.

12 **Q. Just so I understand you, do you mean a**
13 **claim construction brief submitted by patent owner**
14 **in some separate legal proceeding?**

15 A. My understanding is that these were from --
16 these were from some earlier litigation associated
17 with Thermaltake. The exact provenance of them --
18 provenance of them I am -- I can't be specific on.

19 I was -- these figures were provided to
20 Dr. Wolfe, your expert, in his deposition and I'm
21 referring to them based on their use in that
22 deposition.

23 **Q. You understand that Dr. Wolfe was not**
24 **involved in any District Court litigation that**
25 **involved either Thermaltake or Lian Li, the patent**

1 owner here, correct?

2 A. I would not know exactly what Dr. Wolfe has
3 been involved in. What I do know is that
4 Exhibit 2042 and 2032, I believe, were shown to
5 Dr. Wolfe during a deposition, and so I am
6 referencing based on that, not the original source
7 of the figures.

8 Q. And can you let me know the original source
9 of the figures?

10 A. I can't comment beyond my recollection that
11 counsel told me they came from an earlier claim
12 construction brief. Beyond that, I cannot be
13 specific on the provenance, because I didn't think
14 it was important since I'm -- my sourcing of these
15 figures comes from the materials in exhibits in
16 Dr. Wolfe's deposition, and I thought that was
17 sufficient reference.

18 Q. Is it your understanding that Dr. Wolfe
19 provided those figures to counsel of patent owner?

20 A. I believe that counsel provided them to
21 Dr. Wolfe.

22 Q. So Dr. Wolfe is not the original source of
23 these figures, correct?

24 A. That's my understanding.

25 Q. And you did not examine the original source

1 of the figures before putting those figures into
2 your declaration, correct?

3 A. I may have seen it in -- a long time ago.
4 It was not part of my recent reviews. I can't
5 recall.

6 Q. Sitting here today, can you tell me which
7 claim construction brief that these figures come
8 from?

9 A. I cannot be specific on that. It was a
10 long time ago.

11 Q. When you draft this declaration,
12 Exhibit 2052, did you ask counsel where exactly
13 those figures come from?

14 A. I did.

15 Q. And what did counsel tell you?

16 MR. CHEN: I caution the witness not to
17 reveal privileged communication between counsel and
18 the witness.

19 BY MS. QU:

20 Q. Okay. What is your understanding, to the
21 best of your knowledge, the original source of these
22 figures is?

23 A. My understanding is prior litigation
24 documents involving Thermaltake.

25 Q. Were these figures produced in that

1 **litigation by Thermaltake or by Lian Li?**

2 MR. CHEN: Compound.

3 THE WITNESS: My presumption is they came
4 from Lian Li.

5 BY MS. QU:

6 **Q. And do you have an understanding of what**
7 **document those figures were included that were**
8 **produced in that litigation by Lian Li?**

9 A. Well, I am aware of inventor's notes that
10 did contain figures such as these.

11 **Q. What do you mean by "inventor's notes"?**

12 A. Documentation that the inventor had that
13 counsel was aware of.

14 **Q. Does any of the figures on page 14 appear**
15 **in the '336 patent?**

16 A. Not exactly.

17 **Q. Other than inventor's notes that you just**
18 **mentioned, are you aware of any other source, any**
19 **other documents that contain those figures on**
20 **page 14?**

21 A. I am -- well, as I said, the -- I was
22 informed by counsel that these figures have been
23 used in litigation involving Thermaltake and that
24 they're, therefore, in the legal record. So -- and
25 I've -- I do recall seeing inventor's notes a long

1 time ago that counsel had that showed these sorts of
2 configurations. Beyond that, I can't say what else
3 there might be out there.

4 Q. In those figures on page 14, element No. 8,
5 engaging block 8, is in a different location than in
6 any figures in the '336 patent, correct?

7 A. You have to present me with the '336 patent
8 before I could answer that.

9 Q. Sure.

10 This has been premarked as Exhibit 1001,
11 which is the '336 patent.

12 (Exhibit 1001 was re-introduced.)

13 THE WITNESS: Okay. Repeat your question,
14 please.

15 BY MS. QU:

16 Q. Yeah. So if you can take some time to look
17 at the figures in the '336 patent and let me know if
18 the engaging block 8 in the figures on page 14 of
19 Exhibit 2052 is in the same or different location
20 than in any figure in the '336 patent.

21 A. Well, there are, in the patent -- in the
22 '336 patent figures, to the extent that a figure
23 makes the engaging block -- makes engaging blocks
24 visible, there are, of course, different styles of
25 engaging blocks. Figures 4 and 5 use -- well, use

1 different styles than 1 through 3.

2 But in the figures on page 14 of
3 Exhibit 2052, there is a single engaging block shown
4 on the fans that are vis- -- where it's visible;
5 whereas, in the patent they show two engaging blocks
6 8. So that is a difference.

7 I will say that the location of the shown
8 engaging blocks 8 on -- in figure -- on page 14 of
9 Exhibit 2052 appears essentially the same location
10 as an engaging block that is in Figures 1 and 2 and
11 3 of the '336 patent.

12 Q. And if we can turn to page 13 of
13 Exhibit 2052.

14 A. Okay.

15 Q. There you cite Figure 3 of the '336 patent,
16 correct?

17 A. Excuse me. I'm sorry, page 13?

18 Q. Page 13.

19 A. I refer to Figure 3 on that page.

20 Q. And Figure 3 of '336 patent shows three fan
21 bodies 1 joined together, correct?

22 A. Correct.

23 Q. The fan bodies 1 are structurally the same,
24 correct?

25 A. I cannot say that they are or not.

1 Actually, no, they're not.

2 **Q. All the fan bodies -- all three fan bodies**
3 **on Figure 3 are labeled with the same element No. 1,**
4 **correct?**

5 A. They're labeled the same. They all have a
6 1 on them, I'll put it that way.

7 **Q. You see No. 1 marked in Figure 3 for each**
8 **fan body?**

9 A. I see No. 1 marked on three different fan
10 bodies.

11 **Q. Now, the leftmost fan body 1 in Figure 3**
12 **shows two engaging blocks 8.**

13 **Do you see that?**

14 A. I see that.

15 **Q. And one of the engaging blocks 8 on the**
16 **leftmost fan body 1 in Figure 3 is located in the**
17 **middle -- is located in the middle of the leftmost**
18 **edge of that fan body.**

19 **Do you see that?**

20 MR. CHEN: Vague.

21 THE WITNESS: Well, one of the engaging
22 blocks marked 8, I would say is roughly centrally
23 located on a side of that fan body.

24 BY MS. QU:

25 **Q. And the other engaging block of the**

1 leftmost fan body 1 in Figure 3 is located at the
2 corner -- on the same edge but at the corner, the
3 lower left corner of the fan body 1.

4 Do you see that?

5 MR. CHEN: Vague.

6 THE WITNESS: Well, what I'll say is that
7 the other engaging block is located on the same side
8 of the fan body as the central engaging block that I
9 referred to earlier. And it is -- it is at -- up at
10 the -- up at a corner. Up to corner edge, I guess
11 you could say.

12 BY MS. QU:

13 Q. And you made annotation with yellow
14 highlighting on Figure 3. And I want to understand,
15 would you agree that the yellow highlighted portion
16 is located at the same position where engaging block
17 8 of the leftmost fan body 1 is?

18 MR. CHEN: Vague. Mischaracterizing
19 document.

20 THE WITNESS: Well, the -- there is not
21 an -- as I understand the figure, there is not an
22 engaging block located in the yellow region. The
23 yellow region denotes a slot.

24 BY MS. QU:

25 Q. That is not my question.

1 My question is whether the yellow
2 highlighted portion that you annotated in Figure 3
3 is located at the same position where the engaging
4 block 8 of the leftmost fan body 1 is.

5 MR. CHEN: Objection. Vague and
6 mischaracterizing document.

7 THE WITNESS: There's not -- yeah. I find
8 that question too ambiguous.

9 BY MS. QU:

10 Q. So the yellow highlighted portion that you
11 annotated in Figure 3, that's located also on the
12 edge corner; is that fair?

13 MR. CHEN: Vague.

14 THE WITNESS: It is located on a -- it is
15 a -- a yellow highlighted portion is a slot or
16 groove, if you will, located on the side of the fan
17 body of that leftmost fan.

18 BY MS. QU:

19 Q. The yellow highlighted portion, is it also
20 located on the corner edge of the fan body 1 in the
21 middle?

22 MR. CHEN: Vague.

23 THE WITNESS: Well, as I read the figure,
24 it is a cutout or a groove or a slot in the leftmost
25 fan, so -- of body 1, so it's not part of fan

1 body -- of the middle fan body at all.

2 BY MS. QU:

3 Q. Can you take a look at Figure 2 of the '336
4 patent.

5 A. Okay.

6 Q. Does the location of the yellow highlighted
7 portion that you annotated in Figure 3 correspond to
8 groove 7 in Figure 2 of the '336 patent?

9 MR. CHEN: Compound.

10 THE WITNESS: So first of all, there are
11 two grooves 7 labeled on the right fan in Figure 2
12 of the '336 patent.

13 BY MS. QU:

14 Q. You're finished with your answer?

15 A. Well, I'm pointing out you mentioned groove
16 7, and your question is not specific because there's
17 two grooves 7.

18 Q. Does the location of the yellow highlighted
19 portion that you annotated in Figure 3 correspond to
20 any of the grooves 7 in Figure 2 of the '336 patent?

21 MR. CHEN: Same objection.

22 THE WITNESS: Well, what I'll say is that
23 the opening of the groove 7 that is toward the
24 corner of the right fan in Figure 2 where it meets
25 the side is roughly in the same location as the

1 yellow highlighted opening in Figure 3 of page 13 of
2 Exhibit 2052, but I'm certainly not claiming they
3 are structurally identical.

4 BY MS. QU:

5 Q. In your declaration, Exhibit 2052, do you
6 have any discussion of the patent specification that
7 discloses any opening slot or groove other than
8 groove 7 disclosed in the patent specification?

9 MR. CHEN: Document speaks for itself.

10 THE WITNESS: Well, what I can say is that
11 the specification does discuss grooves of
12 different -- different types.

13 BY MS. QU:

14 Q. Okay. Let me put it this way. So in
15 paragraphs 24 through 27, starting from page 12 to
16 page 13 of Exhibit 2052, there you include your
17 opinions on the open slot opening or groove that may
18 exist between two connected fans, correct?

19 MR. CHEN: Compound. Vague.

20 THE WITNESS: Yeah, that -- that is kind of
21 a confusing question. Could you -- is there
22 something specifically I said that you'd like to ask
23 me about?

24 BY MS. QU:

25 Q. I'm asking you, do you include your

1 **opinions regarding any opening slot -- any open slot**
2 **or groove that exists between two assembled fan**
3 **bodies in paragraphs 24 through 27 of Exhibit 2052?**
4 **I just want to understand what's being discussed in**
5 **your declaration.**

6 MR. CHEN: Document speaks for itself.

7 THE WITNESS: Well, I'm pointing out that
8 in Figure 3, as I say, the '336 patent's Figure 3
9 shows there is space annotated in yellow between
10 every two joint fans, and that's what the yellow
11 highlighting shows. "As can be seen above, Figure 3
12 of the '336 patent shows that there is clearly an
13 open slot between two adjacent fans. Thus, it is
14 entirely possible to have a power cable inserted
15 between two fans, provided that a suitable groove or
16 slot is built into at least one of the fans as shown
17 below," and then there's an illustration of that.
18 So I say that.

19 BY MS. QU:

20 **Q. And that's paragraphs 24 through 27,**
21 **correct?**

22 MR. CHEN: Mischaracterizing testimony.

23 THE WITNESS: It's -- I read you excerpts
24 from those paragraphs. Not saying that's everything
25 that's in there.

1 BY MS. QU:

2 Q. Can you point me to any other paragraphs in
3 Exhibit 2052 where you discuss any opinions
4 regarding open slot or groove between two connected
5 fan bodies?

6 MR. CHEN: Document speaks for itself.

7 THE WITNESS: Well, I mean, in
8 paragraph 27, for example, I discuss that the -- I
9 say "An opening of the power socket in the front
10 that is never used in one configuration is
11 appropriate because the inventor desires to allow
12 different configurations."

13 There may well be -- I may have missed --
14 there may be other references. I can't be a hundred
15 percent sure.

16 BY MS. QU:

17 Q. Sitting here today, can you point me to any
18 other paragraphs, other than paragraphs 24 through
19 27 in your declaration, Exhibit 2052, where you
20 discuss any opinions regarding an open slot or
21 groove between two connected fan bodies?

22 MR. CHEN: Document speaks for itself.

23 THE WITNESS: Well, given the limited time
24 to look through it, I don't see a specific
25 discussion other than in those paragraphs. But I

1 would say that it's some of the later discussions
2 about addressing the preliminary guidance indirectly
3 rely on the possibility of bringing power in between
4 the fans, which implies the existence of -- which
5 relies on those grooves. I guess that's the best
6 way I could put it.

7 BY MS. QU:

8 Q. So fair to say your opinions that directly
9 address any open slot or groove between two
10 connected fan bodies are set forth in paragraphs 24
11 through 27 in Exhibit 2052, correct?

12 MR. CHEN: Mischaracterizing document.
13 Document speaks for itself.

14 THE WITNESS: I will say those are the
15 paragraphs where I primarily address those issues.
16 I certainly have opinions that may not be in the
17 declaration, and -- but that's mainly what I could
18 say.

19 BY MS. QU:

20 Q. And we're only talking about your
21 declaration here.

22 So in paragraphs 24 through 27, you rely on
23 Figure 3 of the '336 patent as support for your
24 opinion, correct?

25 MR. CHEN: Mischaracterizing document.

1 Mischaracterizing testimony. Document speaks for
2 itself.

3 THE WITNESS: Well, I am relying on
4 Figure 3 as evidence of the existence of open -- an
5 open slot between the fans in that embodiment.

6 BY MS. QU:

7 Q. There were no citations to any text of the
8 patent specification in paragraphs 24 to 27,
9 correct?

10 MR. CHEN: Document speaks for itself.

11 THE WITNESS: In those paragraphs, I don't
12 see citations to the text. I see the figure, which
13 of course includes numerical annotations. Those
14 could be considered text from the specification.

15 BY MS. QU:

16 Q. Starting from page 16 of Exhibit 2052
17 through page 18, that is paragraphs 29 through 30,
18 you include your opinions regarding the term "side,"
19 correct?

20 MR. CHEN: Document speaks for itself.

21 THE WITNESS: Well, there are -- there is a
22 discussion of the use of the word "side" and my
23 point that "side" can only be understood in the
24 context of what it is referring to, so....

25

1 BY MS. QU:

2 Q. Is there a plain and ordinary meaning of
3 the term "side"?

4 A. Not in isolation, in my opinion.

5 Q. Is it fair to say that in your opinion the
6 term "side" used in the phrase "side of the body"
7 has a different meaning than the term "side" as used
8 in the phrase "side of the fan"?

9 A. Yes, that is my position. "Side" has a
10 different meaning in those two different contexts,
11 and that's why the claim terms should be -- we
12 should be talking about phrases. The "side of the
13 body" is a claim term. "Side of the fan" is a claim
14 term.

15 Q. So it is your opinion that the same term
16 "side" within the same claim has two different
17 meanings?

18 MR. CHEN: Mischaracterizing testimony.
19 Argumentative.

20 THE WITNESS: It is my opinion that the
21 relevant -- the relevant claim terms are phrases
22 "side of the body," "side of the fan."

23 BY MS. QU:

24 Q. In paragraph 30 of Exhibit 2052, and I
25 quote, "The '336 patent uses the term 'side' in two

1 different contexts: 'side of the body' and 'two
2 sides of the fan.'"

3 Thereafter you said, "A POSITA would have
4 understood 'side of the body' to refer to one of the
5 four lateral faces of the illumination fan body,
6 that is, either the lateral face containing the
7 power socket and first connector, or the lateral
8 face containing a second connector, or either of the
9 two remaining lateral faces."

10 And thereafter you continue to opine that
11 you believe, "...the meaning of 'side' in the
12 phrase, 'side of the body' as would have been
13 understood by a POSITA, should be closer to
14 Definition '3 b': 'a line or surface forming a
15 border or face of an object <a die has six sides>',
16 as shown in a side-by-side comparison" in annotated
17 figures on page 17 of Exhibit 2052.

18 So is it fair to say that you are applying
19 the meaning of a line or surface forming a border or
20 face of an object to the term "side" in the phrase
21 "side of the body"?

22 MR. CHEN: Document speaks for itself.

23 THE WITNESS: Well, what I say is that,
24 "...the meaning of 'side' in the phrase 'side of the
25 body,' as would have been understood by a POSITA,

1 should have been closer to Definition '3 b': 'a
2 line or surface forming a border or face of an
3 object," i.e., "a die has six sides."

4 So I say it should be closer to that
5 definition than alternative definitions.

6 BY MS. QU:

7 **Q. And continued on page 18, you opine that,**
8 **the term "side" in the phrase "sides of the fan,"**
9 **should have a meaning closer to the definition, "an**
10 **area next to something - usually used in combination**
11 **<a poolside interview>."**

12 (Reporter clarification.)

13 BY MS. QU:

14 **Q. So you're applying a meaning of "an area**
15 **next to something" to the term "side" in the phrase**
16 **"sides of the fan"; is that fair?**

17 MR. CHEN: Document speaks for itself.

18 THE WITNESS: Well, again, I say that how a
19 POSITA would construe "sides of the fan" would be
20 the -- the meaning of "side" would be closer to that
21 definition in the dictionary than alternative
22 definitions. That's how a POSITA would have
23 understood its meaning in that context.

24 BY MS. QU:

25 **Q. So the same term "side" within the same**

1 **claim has two different meanings, in your opinion,**
2 **correct?**

3 A. Its meaning is context sensitive. That's
4 why there's the order of a dozen different
5 definitions in the dictionary that was preferred by
6 Thermaltake in their documents. If something has a
7 dozen potential definitions, that means it's context
8 sensitive.

9 **Q. I'm not asking you for Thermaltake's**
10 **position, which is your speculation, I'm asking for**
11 **your opinion. Is it, in your opinion, that the same**
12 **term "side" within the same claim has two different**
13 **meanings?**

14 MR. CHEN: Mischaracterizing testimony.
15 Argumentative.

16 THE WITNESS: Well, first of all, I was
17 just pointing out that I believe Thermaltake
18 provided the particular dictionary that had multiple
19 definitions of side, which to me validates that
20 "side" is a word that can only be -- have a meaning
21 in context of what you're talking about.

22 BY MS. QU:

23 **Q. So is it your opinion that the same term**
24 **"side" has more than one meaning in the patent**
25 **claim?**

1 A. I'm saying that the meaning of the word
2 "side" can only be understood in context, and it is
3 used in two different contexts in the patent. And
4 so each context has to be interpreted by a POSITA,
5 you know, on its own.

6 **Q. So in paragraphs 29 through 30 of**
7 **Exhibit 2052, there were no citations to the patent**
8 **specification that defines the term "side"**
9 **differently in different contexts, correct?**

10 MR. CHEN: Mischaracterizing document.
11 Document speaks for itself.

12 THE WITNESS: Well, the -- a POSITA would
13 read the use of the word "side" in the context "side
14 of the body" or in -- and understood -- and would
15 understand from the -- from reading the patent
16 specification in its entirety what the sides of the
17 body -- what the sides of the body are.

18 And similarly, if a POSITA were reading the
19 specification in its entirety, when it comes to the
20 phrase "side" or "sides of the fan" would understand
21 what is meant by that. And I think -- so I'm
22 talking about the '336 patent in its totality here
23 and how a POSITA would read it.

24 BY MS. QU:

25 **Q. But there are no citations in your**

1 **declaration to the patent specification where more**
2 **than one meaning of the term "side" is applied,**
3 **correct?**

4 MR. CHEN: Mischaracterizing document.
5 Document speaks for itself.

6 THE WITNESS: Well, as I said, the -- I'm
7 discussing the '336 patent which includes a
8 specification in its totality, and a POSITA would
9 clearly have understood that the term "side" has two
10 different meanings in the two different contexts of
11 whether it's referring to "side of the body" or
12 "side of the fan." It would be understood by a
13 POSITA.

14 BY MS. QU:

15 **Q. But your declaration does not include any**
16 **direct citations to the patent specification,**
17 **correct?**

18 MR. CHEN: Argumentative. Document speaks
19 for itself. Asked and answered.

20 THE WITNESS: Well, I'm not sure that there
21 are no citations anywhere in the declaration.

22 BY MS. QU:

23 **Q. You can take your time and flip through**
24 **your declaration. And if you're aware of any direct**
25 **citations to the patent specification, let me know.**

1 A. Well, when we get to the support for --
2 written description support for Claims 6 and 7,
3 there's boatloads of them.

4 **Q. Can you give me the cites?**

5 A. I'm sorry, what?

6 **Q. Can you give me on which page there are**
7 **direct cites to the patent specification that apply**
8 **more than one meaning of the term "side"?**

9 MR. CHEN: Vague and ambiguous. Lack of
10 foundation. Document speaks for itself.

11 THE WITNESS: Well, every time there is
12 the -- every time "side" is used in reference to a
13 body, it would be understood by a POSITA in one way
14 and every time "side" is used in relation to the
15 center fan, it would be understood by a POSITA in a
16 different context. So it's -- it would be apparent
17 to a POSITA that these are different uses of the
18 word "side."

19 BY MS. QU:

20 **Q. But there are no direct citations to the**
21 **patent specification that defines the term "side"**
22 **with more than one meaning, correct?**

23 MR. CHEN: Asked and answered. Document
24 speaks for itself. Argumentative.

25 THE WITNESS: If there are not, I would say

1 that it's because it's not necessary because it is
2 so implicit in how a POSITA would read the patent.
3 BY MS. QU:

4 **Q. I'm just trying to understand what the**
5 **basis -- the scope of your declaration and what's**
6 **included in your declaration as a base for your**
7 **opinion.**

8 **So are there direct citations in your**
9 **declaration to the patent specification that define**
10 **the term "side" with more than one meaning?**

11 MR. CHEN: Same objections.

12 THE WITNESS: Well, I would say that in the
13 written description support section, the word "side"
14 comes up in the discussion -- the support for Claims
15 6 and 7 in multiple places. And sometimes it's
16 referred to as "toward the body" and sometimes
17 "toward the fan." And in each of those cases a
18 POSITA would understand its meaning. And the
19 meanings are not -- the meanings of "side" are not
20 identical in those two contexts.

21 So to me it's implicit in the entire
22 discussion. Every time "side of the body" is used
23 or "side of the center fan," a POSITA would
24 understand what is meant in those two different --
25 in those two cases and understand them to be

1 different.

2 BY MS. QU:

3 **Q. And in paragraphs 29 through 30, are there**
4 **any direct citations to the patent specifications?**

5 MR. CHEN: Same objections.

6 THE WITNESS: Well, I quote from the
7 patent. I suppose I didn't put a reference to every
8 use of it. But in paragraph 30 I say "The '336
9 patent uses the term 'side(s)' in two different
10 contexts: 'side of the body' and 'two sides of the
11 fan'."

12 So there I am referencing the specification
13 of the '336 patent directly. I just didn't cite
14 every -- I mean, there's multiple uses of it during
15 the patent; I did not specifically cite them because
16 there are so many.

17 BY MS. QU:

18 **Q. So the support from the specification is**
19 **the use of the two phrases; is that fair?**

20 MR. CHEN: Mischaracterizing testimony.
21 Asked and answered. Document speaks for itself and
22 vague. Lack of foundation.

23 THE WITNESS: So it's not just the two
24 phrases, it's their contexts. So what I would say
25 is the -- when the word "side" is used, even if it's

1 not exactly those phrases, "side of the body,"
2 where it's used, say in Claims 6 and 7, it's always
3 clearly referring to either the body of the fan or
4 to the center fan. And even if it's not written
5 every time as that phrase or a variant of that
6 phrase, it's always clear from the reading of the
7 omitted claims which context is being referred to.

8 BY MS. QU:

9 Q. Did you cite anywhere in your declaration,
10 Exhibit 2052, to the file history of the '336 patent
11 that defines the term "side" with more than one
12 meaning?

13 A. Well, the patent -- I don't recall if
14 there's specific citations to other portions of the
15 file history, other than the patent itself or -- but
16 the patent specification is part of the file
17 history, and I've just discussed how the POSITA
18 would read "side" to have different meanings
19 depending on whether the context is the body of the
20 fan or the center fan.

21 Q. Dr. Tuckerman, is the '336 patent directed
22 towards a pool?

23 MR. CHEN: Lack of foundation.

24 THE WITNESS: I didn't catch the last word.

25

1 BY MS. QU:

2 Q. Pool.

3 A. The '336 patent is not discussing pools.

4 Q. And is the '336 patent directed toward a
5 die?

6 A. The '336 patent is addressing illumination
7 fans.

8 Q. Not a die, correct?

9 A. It is not addressing a die.

10 MS. QU: I think maybe it's a good time to
11 take a break now. Resume in ten minutes.

12 (Recess taken from 10:43 AM to 10:57 AM)

13 BY MS. QU:

14 Q. So let's talk about the written description
15 for the proposed substitute claims. If you can turn
16 to paragraph 32, which starts from page 28 of
17 Exhibit 2052.

18 A. Okay.

19 Q. There, you include the Written Description
20 Support for the Proposed Substitute Claim 7,
21 correct?

22 A. Yes.

23 Q. If we can turn to page 29, Proposed
24 Substitute Claim 7 recites in part, and that's
25 labeled as Limitation 7(A)(v), "a first connector

1 comprising a first flat surface." And that
2 limitation further recites, "wherein the first flat
3 surface comprises a first electrical terminal that
4 is round," correct?

5 MR. CHEN: Document speaks for itself.

6 THE WITNESS: Yeah. I mean, you left out a
7 portion, but it's "a first connector comprising a
8 first flat surface disposed on the first side of the
9 body, wherein the first connector is structurally
10 distinct and separable from the power socket, and
11 wherein the first flat surface comprises a first
12 electrical terminal that is round and configured to
13 electrically connect with a second electrical
14 terminal of the second illumination fan."

15 BY MS. QU:

16 Q. And you include in column right to that
17 limitation the written description support for that
18 limitation, correct?

19 A. I do.

20 (Reporter clarification.)

21 THE WITNESS: So I'll just say, you said
22 "the written description support." Let me just
23 clarify this is written description support. I'm
24 not excluding the possibility of there being other
25 written description support, but this is what I've

1 put in there.

2 BY MS. QU:

3 Q. And you put in your declaration Figure 1 of
4 the '336 patent as written description support for
5 limitation 7(A)(v), correct?

6 A. Figure 1 of the '336 patent is shown as
7 part of the support for the written -- part of the
8 written description support, yes.

9 I take it that a figure itself could be
10 considered part of written description, it's a....

11 Q. Can you point me to where in Figure 1 of
12 the '336 patent there is disclosure supporting a
13 first connector comprising a first flat surface
14 which further comprises a first electrical
15 terminal?

16 MR. CHEN: Compound. Document speaks for
17 itself.

18 THE WITNESS: Well, what I'll say is that
19 that first connector has been blown up as much as
20 possible, given the resolution of the figure, and it
21 shows the connector having a flat surface and also
22 multiple round electrical terminals.

23 BY MS. QU:

24 Q. You are referring to the connector depicted
25 in Figure 1 labeled as element 5 as the first

1 **connector, correct?**

2 MR. CHEN: Document speaks for itself.

3 THE WITNESS: I am referring to the
4 connector labeled 5, yes.

5 BY MS. QU:

6 **Q. And when you were talking about multiple**
7 **round electrical terminals, you were referring to**
8 **what's been labeled element 51 in Figure 1, correct?**

9 MR. CHEN: Document speaks for itself.

10 THE WITNESS: I am -- the '336 patent
11 refers to an electrically conductive terminal 51;
12 that is that small round structure that is labeled
13 as 51. They show just -- only one of them is
14 labeled, but there are seven of them in the figure.

15 BY MS. QU:

16 **Q. Are there any explicit descriptions in the**
17 **text of the specification regarding the shape of the**
18 **first connector?**

19 MR. CHEN: Document speaks for itself.

20 THE WITNESS: I don't see it on the
21 transcript here. Did it not....

22 (Discussion off the record.)

23 THE WITNESS: Figure 1 is a preferred
24 embodiment that shows the first connector and the --
25 and the electrically conductive terminal 51 in it,

1 so that's the most illustrative information of the
2 shape in that preferred embodiment.

3 BY MS. QU:

4 Q. And there's no explicit discussions in the
5 text of the specifications regarding the shape of
6 the first connector, correct?

7 MR. CHEN: Document speaks for itself.

8 THE WITNESS: There's not specific
9 discussions of shape, other than what we can
10 determine from the examples in the preferred
11 embodiments figures.

12 BY MS. QU:

13 Q. And I need your help understanding the term
14 "flat surface" here in Proposed Substitute Claim 7.
15 Does Proposed Substitute Claim 7 require the first
16 flat surface to be planar with no features extending
17 outward from it or recessed from it?

18 MR. CHEN: Lack of foundation.

19 THE WITNESS: I don't consider that -- that
20 it's limited in that way.

21 BY MS. QU:

22 Q. The first connector 5, as depicted in
23 Figure 1, comprises a round electrical terminal
24 51 -- sorry, seven, as you just described, seven
25 round electrical terminals 51, correct?

1 MR. CHEN: Mischaracterizing document.
2 Mischaracterizing testimony. Document speaks for
3 itself.

4 THE WITNESS: Well, only one of the
5 electrical terminals is labeled as 51. But you only
6 need one for the claim language.

7 BY MS. QU:

8 Q. In your understanding, is the round
9 electrical terminal recessed, flush with, or
10 protruding relative to the surface of the first
11 connector?

12 MR. CHEN: Compound. Lack of foundation.

13 THE WITNESS: Well, I would say that it
14 could be any of those, depending on the design
15 choices of the specific implementer.

16 BY MS. QU:

17 Q. So is it your opinion that Proposed
18 Substitute Claim 7 -- strike that.

19 So is it your opinion that the recited
20 first flat surface in Proposed Substitute Claim 7
21 includes electrical terminals that are either --
22 that either protrude from or are recessed within the
23 connector surface?

24 MR. CHEN: Compound. Mischaracterizing
25 testimony.

1 THE WITNESS: Well, the major surface of
2 the connector, as depicted in Figure 1, the first
3 connector, is flat. The individual electrical
4 terminals are -- they could be -- they could
5 protrude slightly, they could be recessed slightly,
6 they could be flush. That's a design choice by the
7 person that specifies the connector.

8 BY MS. QU:

9 A. If we turn to page 30 of Exhibit 2052,
10 where it shows Proposed Substitute Claim 7 also
11 recites, "a second connector comprising a second
12 flat surface."

13 Do you see that?

14 MR. CHEN: Document speaks for itself.

15 THE WITNESS: Yes, "a second connector
16 comprising a second flat surface disposed on the
17 second side of the body" is what it says.

18 BY MS. QU:

19 Q. And my question is, does the term "flat
20 surface" in connection with a second connector here
21 carry the same meaning you've just described for the
22 first connector?

23 MR. CHEN: Lack of foundation.

24 THE WITNESS: To the extent that we are
25 referring to the portion of the connector exclusive

1 of the electrical contacts themselves, yes.

2 (Reporter clarification.)

3 BY MS. QU:

4 Q. Just so that I understand your testimony,
5 so a connector with electrical contacts that
6 protrude from or recessed from the surface may still
7 be covered by Proposed Substitute Claim 7, correct?

8 A. That would be my interpretation.

9 MS. QU: Okay. Handing you what's been
10 premarked as Exhibit 2006.

11 (Exhibit 2006 was re-introduced.)

12 BY MS. QU:

13 Q. Do you recognize this document?

14 A. I do.

15 Q. Okay. What is it?

16 A. It's my declaration in support of patent
17 owners' response and contingent motion to amend.

18 Q. And if you can turn to the last page,
19 page 105 of Exhibit 2006, that is Appendix C of
20 Exhibit 2006. Let me know when you're there.

21 A. Okay. I'm there.

22 Q. Okay. We discussed about Appendix C in
23 your last deposition; do you remember?

24 A. A little bit.

25 Q. And we discussed that Appendix C includes

1 two photos of a Lian Li device that practices
2 Claim 4 of the '336 patent; do you remember?

3 A. I don't remember specifically; however, I
4 wasn't prepared to discuss Claim 4. I was told that
5 Claims 6 and 7 were at issue here.

6 Q. Yeah. Of course.

7 My question is, so take a look at the
8 photos here. The fan on the left has an electrical
9 connector that has several plates as electrical
10 contacts, and the fan body on the right also has an
11 electrical connector that has several pins on it as
12 the electrical contacts.

13 Do you see that?

14 MR. CHEN: Mischaracterizing document.
15 Document speaks for itself.

16 THE WITNESS: So I see what appear to be
17 electrical connectors on both of the depicted fans.
18 BY MS. QU:

19 Q. Is the electrical connector on the right
20 fan body covered by Proposed Substitute Claim 7 as
21 the first connector?

22 A. Well, without more information I couldn't
23 answer that. There's no further information about
24 these fans, how they're connected and such. I mean,
25 you're showing me two disconnected fans here, so....

1 **Q. That's fair. And I'm only focusing on**
2 **limitations 7(A)(iv) and 7(A)(v) here. And let me**
3 **be more specific. Is the connector here shown on**
4 **the right fan body in those photos -- strike that.**

5 **Does the connector on the right fan body in**
6 **the two photos have a flat surface or not?**

7 MR. CHEN: Lack of foundation. Outside of
8 the scope.

9 THE WITNESS: Well, these photos don't have
10 enough contrast for me to answer that definitively.
11 I don't see -- other than the electrical contacts, I
12 don't see anything there that doesn't look flat.

13 MS. QU: Can you please mark this document
14 as Exhibit 1042.

15 (Discussion off the record.)

16 (Whereupon, Exhibit 1042 was marked for
17 identification.)

18 BY MS. QU:

19 **Q. So I represent to you that Exhibit 1042**
20 **contains photos of the same Lian Li device in**
21 **Appendix C of Exhibit 2006.**

22 A. Okay. I'll take your word for it.

23 **Q. So the photos in Exhibit 1042 shows the**
24 **connector located on the right fan body in the**
25 **photos of Appendix C of Exhibit 2006.**

1 **So look at those photos of Exhibit 1042.**

2 **Would you say that the connector has a flat surface**
3 **recited in Proposed Substitute Claim 7?**

4 MR. CHEN: Lack of foundation. Outside of
5 the scope. And mischaracterizing the document.

6 THE WITNESS: I have not physically
7 examined these fans recently, so I take issue with
8 the representation that it's the same fan. Because
9 I see in the photos in Exhibit 2006, page 105, I see
10 what looks like maybe two rows of contacts. And in
11 Exhibit 1042 I see only one row, if I'm -- so I'm a
12 little confused already.

13 BY MS. QU:

14 **Q. Dr. Tuckerman, I represent to you this is**
15 **the same Lian Li device.**

16 **Now, focusing on the photos of**
17 **Exhibit 1042, would you say that the connector --**
18 **the connector shown here in the three photos has a**
19 **flat surface as recited in Proposed Substitute**
20 **Claim 7?**

21 MR. CHEN: Outside the scope. Lack of
22 foundation. Mischaracterizing document.

23 THE WITNESS: With the caveat that I have
24 not physically examined this recently, if it is, in
25 fact, one that I have examined, I see a flat surface

1 surrounding the electrical contacts.

2 BY MS. QU:

3 Q. And does the connector have round
4 electrical terminals?

5 A. They appear that way to me.

6 Q. Okay. And let's return to Appendix C of
7 Exhibit 2006. Does the connector on the left fan
8 body in the photos of Appendix C of Exhibit 2006
9 have a flat surface?

10 MR. CHEN: Lack of foundation. Document
11 speaks for itself. Mischaracterizing document.

12 THE WITNESS: Well, again, the contrast in
13 the photo is poor, but it appears flat from what I
14 can see in the photo.

15 BY MS. QU:

16 Q. Dr. Tuckerman, were electrical connectors
17 known before December 2018?

18 A. Certainly.

19 Q. Same with power supplies, right? Power
20 supplies were well-known before December 2018,
21 correct?

22 A. They were.

23 Q. And power supplies were known to be used in
24 illumination fans, correct, before 2018?

25 A. They were.

1 **Q. And the idea of using electrical connectors**
2 **in illumination fans was also well-known before**
3 **December 2018, correct?**

4 MR. CHEN: Vague. Lack of foundation.

5 THE WITNESS: Well, that's a rather broad
6 question. Power has to be delivered to an
7 illumination fan for it to function; however, that
8 could be provided by cables, not necessarily
9 connectors.

10 BY MS. QU:

11 **Q. That's not my question.**

12 **My question is, was it known before**
13 **December 2018 to use electrical connectors in**
14 **illumination fans?**

15 MR. CHEN: Same objections.

16 THE WITNESS: I'd have to refresh my memory
17 on prior art. I'm not sure that that's the case.

18 BY MS. QU:

19 **Q. So you're not able to testify here today**
20 **whether any illumination fan before December 2018**
21 **uses an electrical connector?**

22 MR. CHEN: Lack of foundation.
23 Argumentative.

24 THE WITNESS: I'll say that an illumination
25 fan would require electrical connections to a power

1 supply to function, but whether it has connectors in
2 the context of the '336 patent, I could not say for
3 sure.

4 BY MS. QU:

5 **Q. What is the function -- or what are the**
6 **functions of the connectors in the context of the**
7 **'336 patent?**

8 MR. CHEN: Lack of foundation.

9 THE WITNESS: Well, in the -- one function
10 is to provide connectivity between two adjacent fans
11 by a direct connection between those fans.

12 BY MS. QU:

13 **Q. Was it known to use connectors to provide**
14 **connectivity between two illumination fans before**
15 **December 2018?**

16 MR. CHEN: Lack of foundation.

17 THE WITNESS: I cannot think of specific
18 prior art that would show that.

19 BY MS. QU:

20 **Q. Before December 2018, it was known to**
21 **connect two illumination fans together electrically,**
22 **correct?**

23 MR. CHEN: Lack of foundation.

24 THE WITNESS: There is art by Lai that
25 shows daisy-chain fans.

1 BY MS. QU:

2 Q. So it was known to use electrical
3 connectors to connect two illumination fans together
4 electrically before December 2018, correct?

5 MR. CHEN: Same objection.
6 Mischaracterizing testimony.

7 THE WITNESS: So I would disagree if we're
8 talking about Lai, at any rate, because Lai actually
9 doesn't discuss connectors. Lai shows cabling
10 connections between the fans, and certainly doesn't
11 show connectors -- certainly doesn't show fans
12 butted together for making a connection.

13 BY MS. QU:

14 Q. I'll make this easier for you. There's no
15 trap here. I kind of just want to understand, does
16 the '336 patent purport to invent any new hardware?

17 MR. CHEN: Lack of foundation. Vague and
18 ambiguous.

19 THE WITNESS: I believe it is -- it's an
20 invention that I believe is valid as an invention,
21 and it describes -- the word "hardware" is very
22 vague. Okay?

23 BY MS. QU:

24 Q. Does the '336 patent purport to invent
25 power supplies?

1 A. No, it does not.

2 **Q. Does the '336 patent purport to invent**
3 **electrical connectors?**

4 MR. CHEN: Lack of foundation. Vague and
5 ambiguous.

6 THE WITNESS: In the general sense, no.

7 BY MS. QU:

8 **Q. Does the '336 patent purport to -- purport**
9 **to invent the concept of using electrical connectors**
10 **to connect two illumination fans?**

11 MR. CHEN: Same objections. Vague and
12 ambiguous.

13 THE WITNESS: Well, it certainly is
14 inventing a configuration for connecting that is
15 new, useful and nonobvious.

16 BY MS. QU:

17 **Q. But, it was known -- the general concept of**
18 **using electrical connectors to connect two fans were**
19 **known, correct?**

20 MR. CHEN: Mischaracterizing testimony.
21 Lack of foundation. Vague and ambiguous.

22 THE WITNESS: Well, your previous question
23 was specific to illumination fans, and here you're
24 not qualifying it with illumination fans.

25

1 BY MS. QU:

2 Q. Okay. Illumination fans. Let me rephrase.

3 A. Okay.

4 Q. The general concept of using electrical
5 connectors to electrically connect two illumination
6 fans was known, correct?

7 MR. CHEN: Same objection.

8 THE WITNESS: I would dispute that.

9 BY MS. QU:

10 Q. Were electrical connectors with a flat
11 surface known before December 2018?

12 MR. CHEN: Same objections.

13 THE WITNESS: I'm sure they were.

14 BY MS. QU:

15 Q. Were connectors having round electrical
16 terminals known before December 2018?

17 MR. CHEN: Same objections.

18 THE WITNESS: Certainly in a general sense,
19 yes.

20 BY MS. QU:

21 Q. Was it known before December 2018 a
22 connector can perform dual functions of providing
23 electrical connection and power supplies?

24 MR. CHEN: Vague and ambiguous. Compound.
25 Lack of foundation.

1 THE WITNESS: In the general sense, yes.

2 BY MS. QU:

3 Q. And it was also known before December 2018
4 that the two functions of providing electrical
5 connection and providing power supplies can be
6 performed by two connectors in separate housings,
7 correct?

8 MR. CHEN: Same objections. Vague and
9 ambiguous. Lack of foundation. Overgeneralization.

10 THE WITNESS: Well, these are very general
11 questions that cover the entire space of
12 electronics. And in that general space you can have
13 multiple connectors that do -- that do different
14 functions in complex electrical systems.

15 MS. QU: Please mark this as Exhibit 1043.

16 (Whereupon, Exhibit 1043 was marked for
17 identification.)

18 BY MS. QU:

19 Q. So my question for Exhibit 1043 is, is the
20 illumination emitted from the LED shown in
21 Exhibit 1043 visible at 90 degrees from the
22 direction it is pointed?

23 MR. CHEN: Lack of foundation.

24 Mischaracterizing document.

25 THE WITNESS: So you're stipulating that

1 this is a picture of an LED?

2 BY MS. QU:

3 Q. Yes.

4 A. Okay. And we'll call the direction it is
5 pointed to be what will be up on this photo. So
6 some -- I should point out that this photo provides
7 no information on the magnitude of light intensity,
8 and the LED is normally designed to be very bright
9 in the, what I'll call, the zero-degree direction,
10 that is straight up in the picture.

11 And since you don't show that, the --
12 that -- since there's no view from the end, that
13 could be extremely bright. But since you're only
14 showing this view, we don't have intensity
15 information. So what I'm seeing could be less than
16 a percent of the light intensity that would be
17 viewed when viewing it the way it's intended to be
18 viewed.

19 Q. But there is visible light at the
20 90 degrees from the direction it is pointed,
21 correct?

22 MR. CHEN: Lack of foundation. Relevance.

23 THE WITNESS: Well, there is visible light
24 of unknown magnitude. I suspect it to be very small
25 compared with how it would be viewed, and on,

1 because these LEDs are not designed to be visible
2 from 90 degrees in these applications. So any light
3 that is visible is essentially, to some extent, an
4 unintended consequence of providing illumination in
5 the primary direction, which is just a long way of
6 saying that my expectation is the amount of light
7 visible from 90 degrees is very, very small compared
8 with the light in the primary direction.

9 And I suspect this photo has been created
10 to make it appear like a lot of light is coming out,
11 when there's actually even far more light, by orders
12 of magnitude, coming out from the end that you
13 cannot see in the photo.

14 MS. QU: I pass the witness. That's all my
15 questions for cross.

16 THE WITNESS: I'll catch my flight.

17 MR. CHEN: Okay. Can we take a break?

18 MS. QU: Sure.

19 (Recess taken from 11:49 AM to 12:54 PM)

20

21 EXAMINATION BY MR. CHEN

22 BY MR. CHEN:

23 **Q. Welcome back, Dr. Tuckerman.**

24 A. Thank you.

25 **Q. So Dr. Tuckerman, do you recall earlier**

1 today that counsel asked you questions about whether
2 you directly cited to the '336 patent specification
3 in paragraphs 29 and 30 on pages 16 to 18 of 53 in
4 Exhibit 2052, which is your declaration?

5 A. I recall questions to that effect.

6 Q. Please turn to paragraph 30 on page 17 of
7 53 in Exhibit 2052.

8 A. Okay.

9 Q. Do you see a figure on the lower right
10 corner on page 17 of 53 in Exhibit 2052?

11 A. Yes.

12 Q. What is that figure on page 17 of 53 in
13 Exhibit 2052?

14 A. It's an annotation of Figure 1 in the
15 patent. In the '336 patent.

16 Q. Is Figure 1 of the '336 patent part of the
17 '336 patent's specification?

18 A. It is.

19 Q. Let's go to the next page.

20 Dr. Tuckerman, do you see the figure on the
21 right in the middle of the page 18 of 53 in
22 Exhibit 2052?

23 A. Yes.

24 Q. What is the figure to the right in the
25 middle of the page 18 of 53 in Exhibit 2052?

1 A. It's a reproduction of Figure 1 of the '336
2 patent with some annotations.

3 **Q. Is Figure 1 part of the '336 patent**
4 **specification?**

5 A. Yes.

6 **Q. So Dr. Tuckerman, did you expressly cite to**
7 **the '336 patent specification in paragraphs 28 to 30**
8 **on pages 16 to 18 of 53 in Exhibit 2052 where you**
9 **discussed definitions of "side of the body" and**
10 **"sides of the fan"?**

11 A. I did expressly cite in the sense that I
12 reproduced the figures from the specific -- the
13 Figure 1 from the specification. And moreover, if
14 you go back to the exhibits that they refer to,
15 those would have indicated as being Figure 1 from
16 the patent. Even though it's not on these pages, it
17 is obviously a reproduction of Figure 1.

18 MR. CHEN: Okay. Let me give you the
19 premarked Exhibit 1032.

20 (Exhibit 1032 was re-introduced.)

21 BY MR. CHEN:

22 **Q. Dr. Tuckerman, do you have Exhibit 1032?**

23 A. I do.

24 **Q. What is Exhibit 1032?**

25 A. It contains an excerpted page from the

1 Merriam-Websters Collegiate Dictionary, 11th
2 Edition, and that excerpted page contains a set of
3 definitions for the word "side."

4 Q. Let's go to paragraph 30 of your
5 declaration, which is Exhibit 2052?

6 A. Okay.

7 Q. In paragraph 30 of Exhibit 2052, did you
8 testify that "Based on the same dictionary
9 definition excerpt (Exhibit 1032) provided by and
10 relied upon by Dr. Wolfe, I believe the meaning of
11 'side' in the phrase 'side of the body,' as would
12 have been understood by a POSITA, would [sic] be
13 closer to Definition '3 b': 'a line or surface
14 forming a border or face of an object <a die has six
15 sides>,' as shown in a side-by-side comparison
16 below"?

17 A. That's an exact quote of my testimony,
18 except that I think it -- my testimony says "should
19 be closer to Definition 3 b" rather than "would be
20 closer to Definition 3 b."

21 Q. Thank you.

22 A. Not that that meaning makes much
23 difference.

24 Q. Thank you, Dr. Tuckerman.

25 Dr. Tuckerman, in paragraph 30, of

1 Exhibit 2052, which is your declaration, did you
2 testify that "the meaning of 'side' in the phrase
3 'side of the body,' as would have been understood by
4 a POSITA, should be closer to Definition '3 b': 'a
5 line or surface forming a border or face of an
6 object <a die has six sides>', as shown in the
7 side-by-side comparison below"?

8 A. Yes.

9 Q. Dr. Tuckerman, do you recall earlier that
10 counsel asked you if the '336 patent is about a die?

11 A. Yes.

12 Q. What was your answer, if you recall?

13 A. While I don't recall my exact words, I
14 indicated that it did not explicitly refer to dies.

15 Q. So Dr. Tuckerman, why did you use the
16 Definition 3 b in Exhibit 1032 using a die as
17 example for the discussion on the meaning of the
18 "side of the body"?

19 A. Because that definition which says "a line
20 or surface forming a border or face of an object"
21 is, in my view, the most apt definition for
22 three-dimensional structures that are box-like. So
23 the fan is a three-dimensional, box-like object. It
24 has four lateral sides and a top and a bottom.

25 And the dictionary definition, its

1 particular example is a box-like object, namely a
2 die, so this just seems like the best-fit definition
3 to use.

4 Q. Dr. Tuckerman, please go to paragraph 45 of
5 your declaration, Exhibit 2052.

6 A. Okay.

7 Q. Paragraph 45 is on page 37 of 53 in
8 Exhibit 2052, which has a figure in the middle of
9 the page.

10 Do you see that?

11 A. I do.

12 Q. What is the figure on page 37 of 53 in
13 Exhibit 2052, which is your declaration?

14 A. The figure shows fans from the Tsuji
15 patent, and they have a box-like shape and sides.

16 Q. To be clear, Dr. Tuckerman, what is the
17 shape of the Tsuji fan as reproduced on page 37 of
18 53 in Exhibit 2052, in your opinion?

19 A. It's roughly a cubical shape.

20 Q. How does that shape of the Tsuji fan, which
21 is cubical --

22 (Discussion off the record.)

23 BY MR. CHEN:

24 Q. Dr. Tuckerman, in your opinion, how does
25 the cubical shape of the Tsuji fan, as reproduced on

1 page 37 of 53 in Exhibit 2052, compare to the
2 Definition 3 b in Exhibit 1032?

3 A. That definition is very apt, and the most
4 apt definition, for defining the sides of the Tsuji
5 object.

6 Q. Dr. Tuckerman, please go to page 18 of 53
7 in Exhibit 2052, which is your declaration.

8 A. Okay.

9 Q. On page 18 of 53 in Exhibit 2052, did you
10 testify that "I believe in the phrase, 'sides of the
11 fan' the term 'sides' should have a meaning closer
12 to the Definition '4 b', as a POSITA would have
13 understood it: 'An area next to something - usually
14 used in combination <a poolside interview>', as
15 shown in the side-by-side comparison below"?

16 A. Yes.

17 Q. Dr. Tuckerman, do you recall counsel asking
18 you questions about whether the '336 patent is about
19 a pool earlier today?

20 A. Yes.

21 Q. What was your answer, if you recall?

22 A. Again, without referring to the transcript
23 of exactly what I said, I indicated that the
24 patent -- the '336 patent does not explicitly refer
25 to pools.

1 Q. So Dr. Tuckerman, why did you use the
2 Definition 4 b in Exhibit 1032 using a poolside
3 interview as an example when discussing the
4 definition for the sides of the fan?

5 A. Because that example is a very close
6 analogy to the configuration of illumination areas
7 versus the fan in the '336 patent. As I believe
8 Dr. Wolfe even testified, the pool can be viewed as
9 having a right side and a left side, and those
10 regions are adjacent to the pool edge, but not --
11 not in the pool.

12 So the -- in the figure you see the fan
13 that is analogous -- the central fan is analogous to
14 the pool, and the illumination areas are next to the
15 fan but not in contact with the fan. But they're
16 next to it, one on each side.

17 So the analogy seemed very apt and hence
18 that Definition 4 b from the dictionary was by far
19 the closest applicable definition for "side" that I
20 could see.

21 Q. Okay. So in answering my next question,
22 please state your own opinion without referring to
23 Dr. Wolfe.

24 A. My own opinion is that --

25 Q. Let me ask the question.

1 A. I'm sorry. Yeah.

2 Q. So Dr. Tuckerman, why did you use
3 Definition 4 b in Exhibit 1032 using a poolside
4 interview as an example when discussing the
5 definition for the "sides of the fan" in the '336
6 patent?

7 A. Because that -- of all the definitions in
8 this dictionary excerpt, that definition was the
9 best fit to the situation here.

10 Q. And why do you think Definition 4 b in
11 Exhibit 104 -- strike that.

12 Dr. Tuckerman, why do you think Definition
13 4 b, using a poolside interview as an example for
14 the definition of "side," is the best fit for your
15 discussion regarding the sides of the fan?

16 A. Well, they are located close to but next to
17 the -- the two illumination areas are located close
18 to but next to the fan, and on opposite sides of it
19 in this case. And so the definition "an area next
20 to something" seemed applicable -- the most
21 applicable to this situation.

22 MR. CHEN: Thank you, Dr. Tuckerman. I
23 have no further questions.

24 MS. QU: I have no further questions. We
25 can conclude the deposition today.

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THE REPORTER: Off the record.
(Ending time: 1:17 PM)

1 I, GINA V. CARBONE, CSR No. 8249, RPR, RMR, CRR,
2 CCRR, certify: that the foregoing proceedings were taken
3 before me at the time and place herein set forth; at
4 which time the witness was duly sworn; and that the
5 transcript is a true record of the testimony so given.

6
7 Witness review, correction and signature
8 was

9 (X) by code. () requested.
10 () waived. () not requested.
11 () not handled by the deposition officer due to
12 party stipulation.

13
14 The dismantling or unbinding of the original
15 transcript will render the reporter's certificate null
16 and void.

17 I further certify that I am not financially
18 interested in the action, and I am not a relative or
19 employee of any attorney of the parties, nor of any of
20 the parties.

21 Dated this 22nd day of October, 2025.

22
23 

24 GINA V. CARBONE
25 CSR #8249, STATE OF CALIFORNIA

DECLARATION UNDER PENALTY OF PERJURY

Case Name: Thermaltake Technology Co.
vs. Lian Li Industrial Co.

Date of Deposition: 10/20/2025

Job No.: 10175075

I, DAVID B. TUCKERMAN, PH.D., hereby certify
under penalty of perjury under the laws of the State of
_____ that the foregoing is true and correct.

Executed this _____ day of
_____, 2025, at _____.

DAVID B. TUCKERMAN, PH.D.

NOTARIZATION (If Required)

State of _____

County of _____

Subscribed and sworn to (or affirmed) before me on
this _____ day of _____, 20____,
by _____, proved to me on the
basis of satisfactory evidence to be the person
who appeared before me.

Signature: _____ (Seal)

1 DEPOSITION ERRATA SHEET
Case Name: Thermaltake Technology Co.
2 vs. Lian Li Industrial Co.
Name of Witness: David B. Tuckerman, Ph.D.
3 Date of Deposition: 10/20/2025
Job No.: 10175075
4 Reason Codes: 1. To clarify the record.
2. To conform to the facts.
5 3. To correct transcription errors.

6 Page _____ Line _____ Reason _____
7 From _____ to _____

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1 DEPOSITION ERRATA SHEET

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22 _____ Subject to the above changes, I certify that the
transcript is true and correct

23 _____ No changes have been made. I certify that the
transcript is true and correct.

24

25 _____
DAVID B. TUCKERMAN, PH.D.

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