Transcript of George Edwards, Ph.D., Volume 2

Date: December 6, 2019
Case: American National Manufacturing Inc. -v- Sleep Number Corporation, et al. (PTAB)

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UNITED STATES PATENT AND TRADEMARK O ICE

BE ORE THE PATENT TRIAL AND APPEAL BOARD

AMERICAN NATIONAL MANU ACTURING, INC.,

Petitioner

v.

SLEEP NUMBER CORPORATION

f/k/a SELECT COM ORT CORPORATION,

Patent Owner

Case IPR20 9 00497, Patent No. 8,769,747
Case IPR20 9 00500, Patent No. 9,737, 54
Case IPR20 9 005 4, Patent No. 5,904, 72

VIDEOTAPED DEPOSITION

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GEORGE EDWARDS, Ph.D.

VOLUME II   PAGES 306   467

December 6, 20 9

Job No. 273575
Reported by: Amy L. Larson, RPR

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VIDEOTAPED DEPOSITION O GEORGE EDWARDS, Ph.D.,

taken on this 6th day of December, 20 9,

commencing at approximately 8:57 a.m., at

the law offices of ox Rothschild, LLP, 222 South

Ninth Street, Suite 2000, Minneapolis, Minnesota.

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APPEARANCES:

    On Behalf of Petitioner:

    SPENCER FANE LLP
    500 Granite Parkway
    Suite 650
    Plano, TX 75024
    By: Jaspal S. Hare, Esq.

    On Behalf of Patent Owner:

    FOX ROTHSCHILD, LLP
    222 South Ninth Street
    Suite 2000
    Minneapolis, MN 55402
    By: Luke Toft, Esq.

    ALSO PRESENT: Joshua Phinney, Ph.D.
                   Kyle Stolis, Videographer

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Mr. Hare.......................................3

EXHIBITS MARKED OR IDENTI ICATION:

Exhibit 4 2
Printed Source Code
Original retained by Counsel
No Copy Provided

Exhibit 2....................................462
Bates SN_002 0 3   SN_002 0 4

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2   P R O C E E D I N G S

3

4   THE VIDEOGRAPHER: Good morning.

5 Here begins day 2 in the videotaped

6 deposition of Dr. George Edwards in the

7 matter of American National Manufacturing,

8 Incorporated vs. Sleep Number Corporation,

9 et al., in the United States Patent and

0 Trademark Office before the Patent Trial and

   Appeal Board, Case Numbers IPR20 9 00497,

2 IPR20 9 00500, and IPR20 9 005 4.

3   Today s date is riday,

4 December 6th, 20 9. The time on the video

5 monitor is 8:58 a.m. The videographer today

6 is Kyle Stolis representing Planet Depos.

7 This video deposition is taking place at at

8 the office of ox Rothschild, LLP, in

9 Minneapolis, Minnesota.

20   Would counsel please voice identify

2 themselves and state whom they represent.

22   MR. HARE: Jaspal Hare with

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   Spencer ane representing petitioner

2 American National Manufacturing.

3   MR. TO T: Luke Toft,

4   ox Rothschild, representing Sleep Number

5 Corporation.

6   THE VIDEOGRAPHER: Thank you.

7   The court reporter today is

8 Amy Larson representing Planet Depos.

9   Would the reporter please swear in

0 the witness.

2   GEORGE EDWARDS, Ph.D.,

3   a witness in the above entitled action,

4   after having been first duly sworn, was

5   deposed and says as follows:

6

7   EXAMINATION

8 BY MR. HARE:

9 Q. Good morning. So since we concluded the

20 deposition, have you done anything to prepare

2 for today s   since we concluded the

22 deposition yesterday, the session, have you

3 2

1   done anything to prepare for today's session?

2 A. No.

3 Q. Okay. Did you look at any documents related

4   to this matter?

5 A. No.

6 Q. Did you talk to anybody regarding this

7   matter?

8 A. No.

9 Q. All right. I want to just clean up one

10   thing. We may -- and it may or may not need

11   cleanup, but we talked a lot about ANM

12   products yesterday, right?

13 A. Yes.

14 Q. All right. In your report you make clear

15   you're accusing certain products, but not

16   necessarily all of them, right?

17   MR. TOFT: Object to the extent it

18 mischaracterizes his testimony.

19   THE WITNESS: My report refers to

20 certain ANM products. My analysis refers

21 specifically to versions of source code, ANM

22 source code.

3 3

1   MR. HARE: Okay.

2 BY MR. HARE:

3 Q. Would it be fair to say that in the context

4   we re discussing the ANM products, our

5   discussion should be read in the context of

6   your report that if we re talking about a

7   certain element infringing, we re talking

8   about the ones you accuse, not necessarily

9   every ANM product?

10   MR. TOFT: Object to form, object

11 to the extent it mischaracterizes his

12 testimony, object to the extent it s outside

13 the scope of his direct testimony and/or

14 calls for legal conclusions.

15   THE WITNESS: So I think I stated

16 several times yesterday that I wasn t

17 offering any opinions on infringement, so I

18 don t believe that I made statements

19 regarding infringement with respect to any

20 ANM product or source code.

21 BY MR. HARE:

22 Q. So if we just, in my question, replaced

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1   infringement with meeting the elements, would
2   that be a fair statement then?
3   MR. TOFT: Same objections.
4   THE WITNESS: Can you -- can you
5   repeat the question with --
6   MR. HARE: Let me just try to
7   reread it.
8   And, Counsel, I m going to warn you
9   your objections are way out of line. We may
10 need to have a call with the Board if this
11 continues.
12   MR. TOFT: I disagree. They re
13 appropriate objections based on the
14 questions, but we ll see.
15   MR. HARE: We may need to have a
16 call with the Board.
17 BY MR. HARE:
18 Q. Would it be fair to say in the context we
19 were discussing -- when we were discussing
20 ANM products yesterday, that that discussion
21 should be read in the context of your report?
22 And by way of example, if we were talking

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1   about certain elements, claim elements
2   meeting -- being met in the ANM products, we
3   were talking about the ones you accused, not
4   necessarily all ANM products?
5   MR. TOFT: Object to the extent it
6   mischaracterizes testimony and to form.
7   THE WITNESS: I think that s
8   generally fair. The -- the opinions I ve
9   given are with respect to how the source code
10 I analyzed meets the software-related
11 elements of claims of the patents at issue.
12   MR. HARE: Okay.
13 BY MR. HARE:
14 Q. I wasn t trying to make this really
15 complicated. You re not trying -- in
16 yesterday s testimony, you re not trying to
17 accuse any extra products that you didn t
18 accuse --
19   MR. TOFT: Same objections.
20 BY MR. HARE:
21 Q. -- of meeting claim elements that aren t
22 specified in your report, correct?

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1 A. That --
2   MR. TOFT: Same objections.
3   THE WITNESS: It is -- it is
4   correct to say that I do not have opinions
5   regarding any ANM products that are not
6   referred to in my report or any ANM source
7   code that s not referred to in my report.
8 BY MR. HARE:
9 Q. Is there a reason you re not answering my
10 questions? I looked over the rough, and this
11 seems to be a continuing issue that you re
12 answering your own questions, not mine.
13   MR. TOFT: Object to the extent it
14 mischaracterizes.
15   THE WITNESS: I believe I just did
16 answer your question.
17 BY MR. HARE:
18 Q. I believe you changed my question and
19 answered a slightly different question. Are
20 you doing that intentionally?
21 A. **I'm doing my best to answer your questions.**
22 Q. Are you capable of answering my questions

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1   correctly?
2   MR. TOFT: Objection to form to
3   the extent it s harassment.
4   THE WITNESS: I -- my answer is
5   the same, I m doing my best to answer your
6   questions.
7 BY MR. HARE:
8 Q. Do you recall we talked about claim 1 of
9   the 747 yesterday?
10 A. **Yes, I do recall that.**
11 Q. Okay. And we also talked about certain
12 elements of claim 1 and various portions of
13 the infringement contentions related to
14 claim 1, correct?
15 A. **Yes, that's correct.**
16 Q. If those same elements appear in another
17 claim, would your analysis or testimony about
18 those elements change?
19   MR. TOFT: Object to form and to
20 the extent it calls for speculation and an
21 incomplete hypothetical.
22   MR. HARE: Again, Counsel, I find

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1 your objections, speaking objections and
2 inappropriate.
3   MR. TOFT: If you want to give a
4 specific example, Jaspal, feel free to do so.
5 But this is a very broad, generalized
6 question, and I can t not object --
7   MR. HARE: -- with speaking
8 objection and disrupting the deposition.
9   Please answer the question.
10   THE WITNESS: I think that where
11 claim elements of different claims are
12 identical, my -- the source code that I
13 identified as meeting those claims is the
14 same.
15   In some cases there are slight
16 differences between claims and the wording of
17 claim elements that are generally similar,
18 but not identical, and I would not be able to
19 say -- make a blanket statement that there
20 are no differences without reviewing the two
21 claims side by side.
22   MR. HARE: Okay. Thank you.

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1 BY MR. HARE:
2 Q. And I m just trying to save time with -- if
3   we need to go every single claim one by one
4   and do the same analysis, we can. But do you
5   want to take a quick look at the patents,
6   would that help? And I m just going to have
7   one -- probably one or two questions of would
8   your analysis of pressure adjustment
9   change -- sorry, pressure adjustment factor
10   change?
11   MR. TOFT: Object to form.
12   THE WITNESS: There are
13 differences in the claims with respect to the
14 pressure adjustment factor in some cases.
15 And where there are differences in the claim
16 with respect to the pressure adjustment
17 factor in some cases, I believe I identified
18 different code as meeting that claim element
19 when there are differences in the wording of
20 the claim element.
21   MR. HARE: Okay.
22 BY MR. HARE:

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1 Q. Do you recall any -- any of those claims that
2   are different? And in particular I'm talking
3   about independent claims.
4 **A. Okay. That -- that does change the question.**
5   **I -- the example I was about to give was that**
6   **some of the claims require an additive**
7   **pressure adjustment factor and some claims**
8   **require a multiplicative pressure adjustment**
9   **factor, so that was the example I was**
10   **thinking of of where there can be differences**
11   **in claims with respect to the pressure**
12   **adjustment factor.**
13 Q. Okay. As far as the independent claims, you
14   don't recall any differences?
15 **A. I --**
16   MR. TOFT: I'm just going to
17 object to the extent it's -- he doesn't have
18 them in front of him.
19   THE WITNESS: I can't recall off
20 the top of my head whether there are any
21 independent claims that have differences in
22 wording with respect to the pressure

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1 adjustment factor as compared to claim 1 of
2 the 747, which I believe is the claim we
3 were looking at yesterday.
4   MR. HARE: Okay.
5   Can I -- could I ask the court
6 reporter to please hand the witness Edwards
7 Exhibits 9 and 10, which are the 15 -- sorry,
8 Edwards Exhibit 8 and 9, which is the 747
9 patent and the 154 patent.
10   THE COURT REPORTER: (Complies.)
11 BY MR. HARE:
12 Q. My understanding is the stuff we discussed is
13   in all independent claims of the -- those two
14   patents I just handed you. If you see
15   anything significantly different than the
16   elements we discussed yesterday, can you
17   please let me know, in the independent
18   claims?
19 **A. Okay.**
20   MR. TOFT: Object to form.
21   THE WITNESS: Just a moment,
22 please. (Reviews document.)

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1   So I think one -- one example I
2 found of a -- different so far is that in
3 claim -- independent claim 18 of the 154,
4 claim element H refers to an updated pressure
5 adjustment factor. I don t believe that
6 claim 1 of the 747 uses the phrase "updated
7 pressure adjustment factor."
8 BY MR. HARE:
9 Q. So that s just something extra that claim
10 requires, correct, that s more than claim 1,
11 correct?
12   MR. TOFT: Object to the extent it
13 calls for a legal conclusion.
14   THE WITNESS: That is something
15 that claim 18 of the 154 requires that
16 claim 1 of the 747 does not explicitly
17 require.
18   Another difference that I see is
19 that claim 1 of the 747 explicitly requires
20 an inflate pressure adjustment factor and a
21 deflate pressure adjustment factor. Claim 1
22 of the 154, as an example, does not use the

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1 phrases "inflate pressure adjustment factor"
2 and "deflate pressure adjustment factor," it
3 uses the shorter and more general pressure
4 adjustment factor.
5   MR. HARE: Okay.
6 BY MR. HARE:
7 Q. Anything else?
8 A. **Claim 12 of the '154 also includes a modified**
9   **pressure adjustment factor. Claim 12 of**
10   **the '154 also includes the limitation wherein**
11   **the manifold pressure target is calculated to**
12   **approximate the desired pressure set point**
13   **for the air chamber as modified by the**
14   **pressure adjustment factor to account for**
15   **differences between the sensing pressure and**
16   **the manifold and sensing pressure in the air**
17   **chamber.**
18   **So that clause is clearly related to**
19   **the pressure adjustment factor and explicitly**
20   **refers to differences between sensing**
21   **pressure in the manifold and sensing pressure**
22   **in the air chamber, which again is something**

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1   **that I do not see explicitly in claim 1 of**
2   **the '747.**
3 Q. Anything else?
4 A. **There are, I think -- I think there's at**
5   **least one independent claim that I did not**
6   **identify source code for in the infringement**
7   **contentions. I believe --**
8 Q. Which one is that?
9 A. **I believe it is independent -- independent**
10   **claim 20 of the '154 is not included in the**
11   **infringement contentions, if I am remembering**
12   **correctly.**
13   **Again, I don't have the infringement**
14   **contentions in front of me at the moment, but**
15   **my recollection is that independent claim 20**
16   **of the '154 is not included in those**
17   **infringement contentions.**
18 Q. You're not asserting an opinion that claim 20
19 meets -- sorry. Strike that.
20   You're not asserting an opinion that
21 the ANM product -- any ANM product meets the
22 claim limitations of claim 20; is that

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1 correct?
2 A. **That is correct. At this time I'm not**
3   **offering an opinion regarding the claims that**
4   **are not included in the infringement**
5   **contentions.**
6 Q. Thank you.
7   MR. HARE: Could I ask the court
8 reporter to please hand the witness Edwards
9 Exhibit 7. Those are the unredacted
10 infringement contentions.
11 BY MR. HARE:
12 Q. Could you please confirm for me that claim 20
13 is not being --
14   THE COURT REPORTER: (Hands
15 document.) I'm sorry, can you restate that?
16 I wasn't --
17   MR. HARE: Sorry.
18 BY MR. HARE:
19 Q. Could you please confirm for me that the
20 claim 20 of the '154 patent is not being
21 asserted as meeting the claim elements of --
22 for any ANM product?

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1 A. Yes. Now with this in front of me, it
2   appears my recollection was correct --
3 Q. Okay.
4 A. -- that claim 20 is not included.
5 Q. Going back to my questions of any other
6   differences, did we finish the -- finish that
7   out?
8   MR. TOFT: Object to form.
9 BY MR. HARE:
10 Q. And that question was referring to the
11   difference between the discussion of claim 1
12   of the '174.
13   MR. TOFT: And I'll object to the
14   extent it calls for a legal conclusion.
15   THE WITNESS: Those are the
16   differences that I see right now regarding
17   the pressure adjustment factor specifically
18   and limited to the independent claims.
19 BY MR. HARE:
20 Q. How about the differences for -- with respect
21   to the adjustment factor?
22   MR. TOFT: Object to form.

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1 BY MR. HARE:
2 Q. Did you understand my question? Same
3   exercise, but with respect to the claim
4   element adjustment factor.
5 A. I understand that you're asking me what
6   differences there are among the independent
7   claims of the '747 and '154 with respect to
8   the adjustment factor error?
9 Q. That's correct.
10   MR. TOFT: And object to the
11   extent it calls for a legal conclusion.
12 BY MR. HARE:
13 Q. To be clear, I'm asking with respect to your
14   analysis.
15 A. So one difference that I see with claim 12 of
16   the '154 is that claim 12 includes modifying
17   the pressure adjustment factor based upon the
18   pressure adjustment factor error to create a
19   modified pressure adjustment factor
20   configured to more accurately account for
21   differences between sensing pressure in the
22   manifold and sensing pressure in the air

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1   chamber, and I do not see the phrase
2   "configured to more accurately account for
3   differences between sensing pressure in the
4   manifold and sensing pressure in the air
5   chamber" --
6 Q. Okay.
7 A. -- in claim 1 --
8 Q. Anything else?
9 A. -- of the '747.
10 Q. All right. Any other claims?
11 A. There is a slight difference in wording in
12   claim 18 of the '154 which recites
13   calculating an updated pressure adjustment
14   factor based upon the adjustment factor
15   error, whereas claim 1 of the '747 uses the
16   word "modifying the pressure adjustment
17   factor based upon the adjustment factor
18   error."
19 Q. Anything else?
20 A. I just noticed another difference regarding
21   the pressure adjustment factor from the
22   previous --

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1 Q. Go ahead and --
2 A. -- question that you were asking.
3 Q. You can go ahead and tell me.
4 A. Claim 10 of the '747 includes a limitation of
5   storing the modified pressure adjustment
6   factor, and I do not think that there is a
7   limitation of storing the modified pressure
8   adjustment factor in claim 1 --
9 Q. Okay. Anything else?
10 A. -- of the '747.
11   MR. TOFT: Object to form.
12   THE WITNESS: Claim 16 of the '747
13   also uses the wording "calculating an updated
14   pressure adjustment factor based upon the
15   adjustment factor error," which is -- again,
16   it's a slight difference in the wording from
17   claim 1 of the '747.
18   MR. HARE: Okay.
19 BY MR. HARE:
20 Q. Anything else?
21 A. Those are the differences that I see right
22   now.

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1 Q. All right. Thank you.
2   With the caveats you just noted,
3 would it be fair to say that the independent
4 claims of the '747 and the '154 patent are
5 substantially similar with respect to the --
6 with respect at least to the elements
7 pressure adjustment factor and error
8 adjustment factor?
9   MR. TOFT: Object to form and to
10 the extent -- I believe you mean adjustment
11 factor error, if --
12   MR. HARE: That's correct. I
13 thought that's what I said, but --
14 BY MR. HARE:
15 Q. Would you like me to just read the question
16 back?
17 A. **Sure. Yeah, I also think you misspoke there.**
18   **I think you meant pressure adjustment factor**
19   **error, so if you could state your question**
20   **again.**
21 Q. Let me see if I can clean those two things
22 up.

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1   With the caveats you noted, would it
2 be fair to say that the independent claims of
3 the 747 and the 154 patents are
4 substantially similar with respect to the
5 elements pressure adjustment factor and
6 adjustment factor error?
7   MR. TOFT: Object to form.
8   THE WITNESS: There are certainly
9 significant similarities with respect to
10 those claim terms.
11   MR. HARE: Can we take a 30-second
12 break.
13   THE VIDEOGRAPHER: We re off the
14 record at 9:31 a.m.
15   (Recess.)
16   THE VIDEOGRAPHER: We re back on
17 the record at 9:32 a.m.
18 BY MR. HARE:
19 Q. Could you do me a favor and hand Edwards
20 Exhibit 7, the contentions, back to the court
21 reporter, please.
22 A. **(Complies.)**

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1 Q. And if you could just turn to the cover of
2 Edwards Exhibit 8, which is the '747 patent.
3 A. **(Complies.)**
4 Q. And you can put the '154 to the side for now.
5 A. **(Complies.)**
6 Q. Could you turn to Figure 1, please. It's the
7 second page, sir.
8 A. **(Complies.)**
9 Q. Are you familiar with that diagram?
10 A. **Yes.**
11 Q. Do you understand that diagram?
12 A. **I have some understanding of this diagram,**
13   **but my understanding is that this diagram**
14   **refers primarily to structural and mechanical**
15   **elements.**
16 Q. I understand you may not understand Figure 1
17 in the level of detail as an engineer, but do
18 you understand Figure 1 at least as -- in the
19 level of simplicity that it's drawn in?
20   MR. TOFT: Object to form.
21   THE WITNESS: I am familiar with
22 it and have -- I have read and generally

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1 understand the description of it provided in
2 the disclosure.
3   MR. HARE: All right.
4 BY MR. HARE:
5 Q. So on Figure 1 you know where the bed is,
6 right, you'd know where to sleep?
7   MR. TOFT: Object to form.
8   THE WITNESS: Yes, I believe I can
9 generally identify the bed in this diagram.
10   MR. HARE: Okay.
11 BY MR. HARE:
12 Q. And you can identify a hand controller to
13 adjust pressure, correct?
14 A. **Yes, I believe I can.**
15 Q. You can identify the pump, correct?
16 A. **Yes, I believe I can.**
17 Q. You can identify a control box, correct?
18 A. **Yes, I believe so.**
19 Q. What -- what number is the pump?
20 A. **I believe the pump is number 20, and I'll**
21   **just confirm that by checking the disclosure.**
22 (Reviews document.) Yes. The -- in

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1 paragraph 3, I'm -- excuse me, column 3, the
2 pump is identified as item 20 in Figure 1.
3 Q. I'm going to -- would it be better if I just
4 write pump next to it or would you prefer for
5 me to just let you mark that exhibit?
6 A. Um --
7 Q. Let me state that again.
8 A. -- if you want to write -- write on here, I'm
9 happy to hand this to you.
10 Q. Sure.
11 A. (Hands document.)
12 Q. I would like the record to reflect that I am
13 writing the words "pump" next to 20.
14 I'd like the record to reflect I'm
15 actually going to highlight the item by 20
16 with blue highlighter.
17 MR. HARE: Would you like to see
18 it, Counsel? (Indicating).
19 MR. TOFT: Okay.
20 BY MR. HARE:
21 Q. I'm going to hand the exhibit back to the
22 witness. (Hands document.)

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1 Did I properly identify in blue
2 highlighter the pump --
3 A. I believe so.
4 Q. -- on that exhibit? All right.
5 And you can read my handwriting,
6 correct?
7 A. Yes, I can.
8 Q. All right. Number 12, that's the bed,
9 correct? If it's easier, you can flip
10 back --
11 A. That is --
12 Q. Sorry. I was going to say you can use the
13 other patent to flip back and forth.
14 A. That is correct, in Figure 1, item 12 is
15 identified as the bed.
16 Q. Do you have clear handwriting if -- or as
17 clear as mine, do you think?
18 A. I believe I can write legibly, if that's what
19 you're asking.
20 Q. Yeah. Could you write "bed" next to
21 Figure 12, please? I'm going to hand you a
22 red pen. (Hands pen.)

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1 A. (Complies.)
2 Q. Do you see 14-A and 14-B, those are air
3 chambers, correct, or air bladders?
4 A. 14-A is identified as the first air chamber,
5 and 14-B is identified as the second air
6 chamber.
7 Q. You see item 22, right?
8 A. Yes, I do.
9 Q. That's the remote control, correct?
10 A. Yes.
11 Q. And that would be used to send commands to
12 the pump to increase pressure or potentially
13 decrease pressure, correct?
14 MR. TOFT: Object to form.
15 THE WITNESS: What's stated is
16 that the remote control includes pressure
17 increase and decrease buttons and allows the
18 user to in increase or decrease the pressure.
19 The description that I see of
20 element 22 of Figure 1 doesn't explicitly
21 refer to how it controls a pump directly in
22 the way that you stated.

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1 MR. HARE: Fair enough.
2 BY MR. HARE:
3 Q. Could you -- could you write -- it's a
4 handheld remote control, correct, 22? And
5 I'm looking at column 3, line --
6 A. It is referred to --
7 Q. -- 46 about --
8 A. It is referred to as a handheld remote
9 control in column 3.
10 Q. Okay. That's -- it refers to that because
11 that's what it's supposed to be, correct?
12 MR. TOFT: Object to the extent it
13 calls for speculation.
14 THE WITNESS: I -- I think that --
15 yes, that's what -- that's what it says in
16 column 3.
17 MR. HARE: All right.
18 BY MR. HARE:
19 Q. Could you write "handheld remote control" by
20 22?
21 A. (Complies.)
22 Q. Twenty-four is a control box, correct?

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1 A. **Twenty-four is a control box.**

2 Q. Could you write "control box" by 24?

3 A. **(Complies.)**

4 Q. Could you turn your attention to

5   approximately columns 3 and 4, and this may

6   make it go a little faster, and I'm just

7   going to list some of the components in the

8   control box and confirm that that's what's in

9   there. And it's approximately column 3

10   starting at paragraph -- or line 44.

11   The control box includes the power

12   supply, correct?

13 A. **(Reviews document.)**

14   MR. TOFT: Just to -- oh, sorry.

15   THE WITNESS: I see -- I see that

16   control box comprises power supply, which is

17   element 34. And this is now referring to

18   Figure 2.

19 BY MR. HARE:

20 Q. Control box on Figure 1 that identifies 24

21   includes a power supply, correct?

22 A. **I do not see the depiction of the power**

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1   **supply in Figure 1, if that's what you're**

2   **asking. Maybe I'm just not seeing it right**

3   **now.**

4 Q. It's not depicted in there, but it includes

5   it, correct?

6 A. **The control box depicted in Figure 2 includes**

7   **it. So to the extent that those are the same**

8   **control box, then the control box in Figure 1**

9   **would include it also.**

10 Q. The control box depicted in Figure 2 is also

11   numbered 24, correct?

12 A. **Yes, it is.**

13 Q. Okay. Figure 1 control box is 24, correct?

14 A. **Yes.**

15 Q. Those are the same component, correct?

16 A. **Regarding the mechanical and structural**

17   **elements, I -- that's not something that is**

18   **incorporated in my --**

19 Q. You understand if you read a basic patent

20   that one -- you when use the same number for

21   the same thing, they're the same thing

22   whether they're in two -- two different

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1   figures?

2   MR. TOFT: Object to form.

3 BY MR. HARE:

4 Q. Do you not understand that?

5   MR. TOFT: Same.

6   THE WITNESS: I understand that

7   typically a disclosure can describe

8   alternative embodiments and alternative forms

9   of an invention. So the inclusion of an

10   element in one figure does not necessarily

11   mean that it is required in all forms or

12   embodiments that might be depicted in other

13   figures.

14 BY MR. HARE:

15 Q. I m going to ask you a yes or no question,

16   and if you can t answer it with a yes or no,

17   just say I cannot answer it with a yes or no,

18   otherwise I don t want anything else. Am I

19   clear?

20 A. **Okay.**

21 Q. Do you understand the basic concept in

22   patents that when the same numeral is used in

34

1   multiple figures, they refer to the same

2   component?

3 A. **I can't answer that with a yes or no.**

4 Q. Again, I'm going to ask you a yes or no

5   question. Please answer it with a yes or no

6   answer or you cannot answer it.

7   Referring to the '747, the items,

8   the pump 20 and the control box 24 -- strike

9   that.

10   Referring to the '747, the control

11   box 24 in Figure 1 is the same component as a

12   control box in Figure 2, correct?

13 A. **I can't answer that with a yes or no.**

14 Q. Thank you. The pump reflected in Figure 1,

15   is that depicted anywhere else in the figures

16   in the '747 patent? I believe Figure 2.

17 A. **Figure 2 includes an element 20 that's**

18   **identified as a pump.**

19 Q. Okay. I'm going to do the same thing, I'm

20   going to ask another yes or no question, same

21   conditions, if you can't answer, just say so.

22   The pump depicted in Figure 1,

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1   number 20, is that the same component as
2   number 20 depicted in Figure 2 in the '747
3   patent?
4 A. Both of them are pumps.
5 Q. But is it the same pump?
6 A. Not necessarily.
7 Q. So back to my previous yes or no question you
8   answered without a yes or no, did you do that
9   on purpose?
10 A. I -- I don't think that I'm required to
11   answer questions with simply a yes or no. My
12   understanding is that when you ask a
13   question, I am allowed to provide the answer
14   that I think is the best answer to your
15   question.
16 Q. I believe I'm conducting this deposition and
17   I -- my instruction was I believe fair,
18   answer it with a yes or no, or if you cannot
19   answer it with a yes or no, say so. You're
20   not entitled to pour out a narrative of your
21   choosing at a deposition.
22 A. I'm entitled to answer the questions.

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1 Q. In compliance with your oath.
2 A. Correct, and that's what I'm doing.
3 Q. And I find the way you're answering the
4   questions isn't in compliance with your oath.
5   So I'm going to ask my yes or no question
6   again, and can you answer it with a yes or no
7   or say you cannot answer it with a yes or no.
8   And if I want to ask more follow up, I will.
9   And if I don't, I won't.
10   Do you understand?
11 A. I understand that I'm going to answer your
12   question truthfully giving the answers that
13   I --
14 Q. Are you refusing to comply with my
15   instructions?
16 A. I'm re -- I'm refusing to let you tell me
17   what my answer should be.
18 Q. So are you refusing to comply with that
19   instruction to answer a yes or no question?
20 A. No.
21 Q. So you will comply with that instruction?
22 A. If appropriate and truthful.

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1 Q. What other options would you need other than
2   yes, no, or I can't answer it with a yes or
3   no, other than giving your own narrative,
4   which I believe you're attempting to do here?
5 A. If you would like me to simply say that your
6   question is not a yes or no question, then I
7   am willing to do that.
8 Q. Okay. Well, I believe my instruction was you
9   cannot fairly answer it with a yes or no. I
10   don't believe I'm asking you to tell me if my
11   question is a yes or no. Is that fair?
12 A. It depends on the question.
13 Q. So you're refusing to comply with my
14   instruction?
15   MR. TOFT: Objection to the extent
16   it calls for an incomplete hypothetical.
17   THE WITNESS: No, I'm not refusing
18   to comply with your instruction.
19   MR. HARE: Thank you.
20 BY MR. HARE:
21 Q. So turning to the '747 patent, is the pump
22   depicted in Figure 1, number 20, the same

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1   component as number 20 depicted in Figure 2?
2   Yes or no.
3 A. I don't believe I can completely answer that
4   question with just a yes or a no.
5 Q. Thank you. What information would you need,
6   such as reading the patent more to be able to
7   answer that question?
8 A. I do not believe that the mechanical and
9   structural components of the invention fall
10   within my area of expertise or the analysis
11   that I performed.
12 Q. Okay. Thank you.
13   Turning to Figure 2, and I'm going
14   to draw your attention to -- to paragraph --
15   or column 3 around lines 45, "The pump 20
16   includes a motor 42, pump manifold 43, relief
17   valve 44, first control valve 45-A, second
18   control valve" -- "control valve 45-B, and a
19   pressure transducer 46"; is that correct?
20 A. That is what it says here.
21 Q. Is that correct?
22   MR. TOFT: Object to form.

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1   THE WITNESS: Is that correct that
2   that's what it says?
3 BY MR. HARE:
4 Q. No, I'm asking is that what --
5 **A. Maybe I need you to repeat the question.**
6 Q. -- is depicted in Figure 2?
7   MR. TOFT: Object to the extent
8   it's outside the scope of the direct
9   testimony.
10   THE WITNESS: Yes, that is what is
11   depicted in Figure 2.
12 BY MR. HARE:
13 Q. Would those components be present in the pump
14   of Figure 1 as well?
15 **A. They certainly could be.**
16 Q. Do you believe them to be?
17 **A. That is beyond the scope of my opinion,**
18   **because that relates to the mechanical and**
19   **structural elements of the invention.**
20 Q. So are you refusing to answer my question?
21 **A. I'm telling you that I cannot answer that**
22   **question with an expert opinion about**

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1   **mechanical elements, because I am a computer**
2   **science software engineering and embedded**
3   **systems expert, and you are asking me about**
4   **mechanical and structural elements of the**
5   **invention, which I have stated again and**
6   **again are beyond my area of expertise and**
7   **beyond the opinions that I've offered.**
8 Q. They're also beyond your capabilities to
9   answer sitting right here?
10   MR. TOFT: Object to the extent
11   it's outside the scope of this -- of the
12   direct testimony and to the extent it's
13   harassment.
14   THE WITNESS: I don't provide
15   expert opinions in areas in which I do not
16   have sufficient knowledge and training to
17   classify myself as an expert, and I do not
18   have --
19 BY MR. HARE:
20 Q. Well, I'm not asking for your --
21   THE WITNESS: -- formal knowledge
22   and training -- let me finish my answer --

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1   THE COURT REPORTER: I'm sorry --
2   THE WITNESS: Let me finish my
3   answer.
4   THE COURT REPORTER: -- I can only
5   take one person at a time.
6   THE WITNESS: I do not have formal
7   knowledge and training in mechanical
8   engineering and, therefore, I am not offering
9   any expert opinions regarding mechanical and
10   structural elements.
11   MR. HARE: Okay.
12 BY MR. HARE:
13 Q. Did you offer an opinion regarding an element
14   determining an initial pressure within the
15   housing?
16 **A. Yes, I did.**
17 Q. Are there structural elements in that
18   element?
19 **A. Yes, but there are also software elements in**
20   **it.**
21 Q. Okay. But you were able to do -- provide an
22   opinion on determining initial pressure

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1   within a pump housing?
2 **A. I offered an opinion on the software aspects**
3   **of that claim element.**
4 Q. But not the hardware aspects?
5 **A. Not the mechanical elements, that's right.**
6 Q. So you couldn't tell me where the pump
7   housing is; is that correct?
8   MR. TOFT: Object to the extent it
9   mischaracterizes testimony.
10   THE WITNESS: I've not offered an
11   expert opinion of where the pump housing is.
12   MR. HARE: Okay.
13 BY MR. HARE:
14 Q. So your opinion of determining initial
15   pressure, you cannot -- you did not offer
16   whether that's within the pump housing or
17   somewhere else?
18   MR. TOFT: Same objection and
19   form.
20   THE WITNESS: My opinion was that
21   the software determines an initial pressure
22   from the pressure sensor. The location of

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1   the pressure sensor was not within the scope
2   of my analysis.
3 BY MR. HARE:
4 Q. You can -- well, you can hang on to those.
5   Could you turn your attention to --
6   and I d ask the court reporter to hand you
7   Edwards Exhibit 3, please. You can give him
8   the whole binder, I believe. And if you need
9   to look at any other exhibits in the binder,
10   feel free.
11   THE COURT REPORTER: (Hands
12   document.)
13   MR. HARE: Do you guys want to
14   take a break before we go on?
15   MR. TOFT: I m okay. It s up to
16   you.
17   THE WITNESS: I m fine to
18   continue.
19   MR. HARE: Okay. We re
20   probably -- this is going to be my last
21   thing, so it ll probably be an hour at most,
22   I think at most an hour.

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1   MR. TOFT: I don't believe you
2   have an hour left.
3   MR. HARE: How much time is left
4   or how much time have we gone?
5   THE VIDEOGRAPHER: Today?
6   MR. HARE: Yup.
7   THE VIDEOGRAPHER: Today we have
8   gone just about an hour.
9   MR. HARE: And how much yesterday?
10   THE VIDEOGRAPHER: Seven hours and
11   20 minutes.
12   MR. HARE: Okay.
13   MR. TOFT: Twenty-one minutes,
14   right?
15   THE VIDEOGRAPHER: Twenty-one
16   minutes.
17   MR. HARE: All right. Well, we'll
18   just finish it up then in 30 minutes or so.
19 BY MR. HARE:
20 Q. Could you turn to Edwards Exhibit 3, which is
21   your declaration, correct?
22 **A. That's right.**

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1 Q. And if you turn to page 12.
2 **A. (Complies.)**
3 Q. You discussed that you -- you state that,
4   "Certain versions of ANM software are
5   substantially similar to Sleep Number
6   software," correct? And that's in bullet
7   point 3.
8 **A. Yes, and there is an incorrect word that I**
9   **used here in the -- so I should put this**
10   **correction on the record at this point.**
11   **The -- the last part of the sentence says,**
12   **"The Sleep Number software that post dates**
13   **the patent issuance," and that should say,**
14   **"The Sleep Number software that post dates**
15   **the patent filing."**
16 Q. Okay. Duly noted.
17   Does your report include any report
18   or exhibits to the report include any
19   Sleep Number software?
20   MR. TOFT: Object to form.
21   THE WITNESS: My report discusses
22   the Sleep Number software. I'm not sure what

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1   you mean by does it include the Sleep Number
2   software.
3 BY MR. HARE:
4 Q. Do you attach the Sleep Number software?
5 **A. The -- the Sleep Number software source code**
6   **is not attached to the report.**
7 Q. Did you make that decision not to attach it
8   or to attach it --
9   MR. TOFT: Objection.
10   MR. HARE: Sorry, let me rephrase.
11 BY MR. HARE:
12 Q. Who made the decision whether or not to
13   attach Sleep Number software source code?
14 **A. I don't recall having a specific discussion**
15   **about that because I, as a practice, would**
16   **not ever attach source code as an exhibit**
17   **unless it was open source or public code are**
18   **the only instances in which I can recall**
19   **attaching source code as an exhibit to a**
20   **report or declaration.**
21 Q. Are you relying on Sleep Number source code
22   for your opinions in your report?

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1 **A. I am relying on my inspection of that source**
2   **code.**
3 Q. Do you provide your analysis or thought
4   processes to support your opinion stated in
5   bullet point 3 on page 12 of your
6   declaration?
7 **A. Yes, I believe I do.**
8 Q. Where?
9 **A. That is supported with the discussion in**
10   **section 6 which discusses the Sleep Number**
11   **software. And then bullet point number 3 is**
12   **referring specifically to claims 12 and 16 of**
13   **the '172 patent. So with respect to the ANM**
14   **software and source code, there -- that**
15   **discussion is in section 7.**
16 Q. So with respect to the Sleep Number side of
17   the opinion, that's exclusively in paragraph
18   33, correct, the analysis to support the
19   Sleep Number side?
20   MR. TOFT: Object to the extent it
21   mischaracterizes.
22   THE WITNESS: No, it's paragraphs

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1   33 and 34.
2   MR. HARE: Okay.
3   THE WITNESS: It's also referenced
4   in paragraph 39, for example.
5 BY MR. HARE:
6 Q. Did you provide any charts or similar type of
7   analysis with respect to Sleep Number code or
8   products?
9 **A. I did not create any charts with respect to**
10   **the Sleep Number software.**
11 Q. Okay. Do you identify any source code files
12   in your report or exhibits with respect to
13   any Sleep Number software?
14 **A. I did not identify any files by file name.**
15 Q. Did you identify any function names in your
16   report or exhibits thereto with respect to
17   any Sleep Number software or products?
18 **A. I don't think that I did. I believe that the**
19   **infringement contentions refer to the**
20   **Sleep Number products, but do not identify**
21   **specific functions.**
22 Q. Thank you.

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1   Do you -- did you identify any
2   variable names in your report or exhibits
3   thereto with respect to any Sleep Number
4   software products?
5 **A. No.**
6 Q. If you weren't provided source code with
7   respect to the ANM products, could you have
8   conducted your analysis that's in Edwards
9   Exhibit 7, which is the unredacted
10   infringement contentions?
11 **A. No, that -- that analysis focused heavily on**
12   **the source code, so I could not have**
13   **conducted that analysis without the source**
14   **code.**
15 Q. So an end user of the product, he couldn't
16   determine whether or not the claim elements
17   are being -- sorry, strike that.
18   An end user of the products could
19   not determine whether or not all the claim
20   elements, for example, the '747, claim 1, are
21   being practiced by an ANM product?
22   MR. TOFT: Object to form,

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1   incomplete hypothetical and speculation.
2   THE WITNESS: I -- I think that as
3   I sit here right now, I would not know a way
4   to conclusively determine whether all the
5   claim elements of claim 1 were met without
6   access to the source code. I m not prepared
7   to entirely rule out that possibility,
8   because it s something -- it s a question I
9   hadn t considered until this moment.
10   But as I sit here right now, the
11   source code seems like the -- the obvious way
12   that you would determine whether some of the
13   claim elements are met.
14   MR. HARE: Okay. Thank you.
15 BY MR. HARE:
16 Q. I m going to try to ask the same question and
17   fix -- fix a couple of things in this
18   question. It s going to be similar to
19   just the question I asked.
20   So an end user of an ANM product
21   using the ANM product wouldn t know whether
22   all the claim elements of, for example,

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1   claim 1 of the 474 patents are being
2   practiced, correct?
3   MR. TOFT: Give me one second to
4   read this.
5   Object to the extent it s an
6   incomplete hypothetical, calls for
7   speculation. That s it.
8 BY MR. HARE:
9 Q. And, actually, I m going to have to reread
10   the question, because I -- I think I messed
11   up the patent number.
12   An end user of an ANM product that s
13   being -- that uses the code that practices
14   one of these -- strike that.
15   So an end user of an ANM product
16   using the ANM product wouldn t know whether
17   all the claim elements of, for example,
18   claim 1 of the 747 patent are being
19   practiced, correct?
20   MR. TOFT: Object to the extent it
21   calls for speculation and is an incomplete
22   hypothetical.

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1   THE WITNESS: I agree that simply
2   using an ANM product is -- would not provide
3   sufficient information to conclusively
4   determine whether all the claim elements are
5   met.
6   MR. HARE: Thank you.
7 BY MR. HARE:
8 Q. You provide an opinion regarding copying,
9   correct?
10 A. Yes.
11 Q. Could you just turn to that section of your
12   report.
13   I'm just going to read the last two
14   questions over again, because I didn't have
15   my mic on.
16   You provide an opinion regarding
17   copying, correct?
18 A. Yes.
19 Q. And could you turn to that section of your
20   report.
21 A. Which section are you referring to?
22 Q. I believe it's section 9 relates to the

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1   copying; is that correct?
2 A. Section 9 does relate to copying, but is also
3   discussed in other places in the report.
4 Q. Do --
5 A. And I need to also note the same correction
6   that I noted earlier appears in paragraph 45,
7   first sentence, the phrase, "Sleep Number
8   software that post dates patent" -- "patent
9   issuance," should read, "Sleep Number
10   software that post dates patent filing."
11 Q. Thank you. Duly noted.
12 A. And I'll also just note that those
13   corrections were made in my supplemental
14   declaration.
15 Q. Okay.
16   MR. HARE: Can we go off the
17   record for 30 seconds.
18   THE VIDEOGRAPHER: We're off the
19   record at 10:18 a.m.
20   (Recess.)
21   THE VIDEOGRAPHER: And we are back
22   on the record at 10:22 a.m.

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1 BY MR. HARE:
2 Q. We were focusing on the copying opinions --
3   sorry, strike that.
4   Just to get back to where we were,
5   could I draw your attention to your copying
6   opinions in your report?
7 A. Okay.
8 Q. Do you provide any kind of comparison, like a
9   side-by-side chart comparing ANM products or
10   ANM code to Sleep Number products or
11   Sleep Number code?
12 A. Not in the form of a side-by-side chart.
13 Q. Okay. I'm going to just rephrase that
14   question.
15   In support of your copying opinions,
16   do you provide a comparison of ANM products
17   or ANM code to Sleep Number products or
18   Sleep Number code?
19 A. Yes.
20 Q. Where is that?
21 A. So, for example, paragraph 39, for example,
22   talks about the similarities.

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1 Q. Anything else?
2 A. Paragraph 45 identifies the aspects in which
3   they're similar. And this is also referred
4   to in paragraphs 48 and 49, for example.
5 Q. Anything else?
6 A. Paragraph 50, 51, 52, and then it's kind of
7   summarized at the end of paragraph 54.
8 Q. Okay. As far as -- strike that.
9   Other than the paragraphs you --
10   just to let you know, I'm just going to ask
11   that question again, because it looks like
12   there's a typo in it or I misspoke.
13   Other than the paragraph you just
14   listed, is there anything else that supports
15   your opinions regarding copying?
16 A. Yes, there is.
17 Q. What's that?
18 A. The other things that support that opinion
19   are the -- Sleep Number's contentions, as
20   well as the Sleep Number source code, the ANM
21   source code, and the documents that are
22   referenced in my declaration that identify

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1   the timeline when products were released and
2   the versions of source code that were
3   incorporated into different products, that --
4 Q. You don't provide any Sleep Number source
5   code to support your copying contentions,
6   correct?
7 A. I'm not sure what you mean by I didn't
8   provide it. I --
9 Q. I'll rephrase it.
10 A. Sleep Number provides the code, I analyze the
11   code.
12 Q. You don't rely on any Sleep Number code to
13   support your opinions regarding copying,
14   correct?
15   MR. TOFT: Object to the extent it
16   mischaracterizes.
17   THE WITNESS: No, that's not
18   correct.
19 BY MR. HARE:
20 Q. Your report or any exhibits thereto don't
21   provide any kind of work product analyzing
22   the Sleep Number code to support your

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1   opinions regarding copying, correct?
2   MR. TOFT: Same objection.
3   THE WITNESS: Well, I think the --
4   the report itself is the work product that
5   describes the findings for my inspection of
6   that code.
7 BY MR. HARE:
8 Q. Other than the report itself, which is your
9   declaration, is there any other work product?
10   MR. TOFT: Object to form.
11   THE WITNESS: Aside from the
12   declaration and the exhibits and materials
13   referenced, there s no other work product
14   that I am relying on.
15 BY MR. HARE:
16 Q. In support of the -- the copying opinions,
17   you don t provide any kind of side-by-side
18   comparison of ANM products, ANM code or
19   Sleep Number products or Sleep Number code,
20   correct?
21   MR. TOFT: Object to the extent it
22   mischaracterizes and to form.

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1   THE WITNESS: I m not sure exactly
2   what you mean by side-by-side. I compared
3   the two software programs with respect to
4   their functionality. I did not do a -- a
5   diffing analysis, which is what I would think
6   of as a side-by-side analysis, because it was
7   not an appropriate analysis in this -- in
8   this context.
9 BY MR. HARE:
10 Q. In support of your copying opinions, your
11   report and exhibits don t cite any
12   Sleep Number source code, correct?
13   MR. TOFT: Object to the extent it
14   mischaracterizes.
15   THE WITNESS: It cites to the
16   source code generally and the -- the
17   different folders of source code that were
18   produced. It does not cite to specific files
19   within those folders.
20 BY MR. HARE:
21 Q. And it doesn t cite to any specific line
22   numbers or variable names or function names,

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1 correct?
2   MR. TOFT: Object to form.
3   THE WITNESS: That s correct.
4   MR. HARE: Okay. Thank you. I --
5 I believe I m done, but if you want to start
6 prepping, I ll just double check.
7   MR. TOFT: Okay.
8   MR. HARE: Can we go off the
9 record, please.
10   THE VIDEOGRAPHER: We re off the
11 record at 10:32 a.m.
12   (Recess.)
13   THE VIDEOGRAPHER: And we re back
14 on the record at 10:35 a.m.
15   MR. HARE: Thank you, Dr. Edwards,
16 I have no further questions at this time.
17 I ll pass the witness.
18   MR. TOFT: And I d like to go off
19 the record.
20   THE VIDEOGRAPHER: We re off the
21 record at 10:35 a.m.
22   (Lunch recess.)

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1   THE VIDEOGRAPHER: And we re back
2   on the record at 12:16 p.m.
3   MR. HARE: Before we start, I d
4   like to make a note on the record. We agreed
5   to a 45-minute break. We think now over an
6   hour and a half of coaching the witness is
7   excessive and too far. Go ahead.
8   MR. TOFT: I -- we agreed to take
9   a break so that I could prepare for my
10   redirect. I apologize if it went longer than
11   I initially anticipated, but I let you know
12   that I would be taking longer, and I believe
13   I m entitled to as much time as I need to
14   prepare.
15   With that said, I will proceed.
16
17   EXAMINATION
18 BY MR. TOFT:
19 Q. Good afternoon, Dr. Edwards.
20   Do you recall yesterday when counsel
21   asked you questions about the line numbers
22   and functions of source code without showing

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1   you the source code itself?
2 **A. Yes, I do.**
3 Q. And do you recall yesterday --
4   MR. HARE: Objection; form.
5 BY MR. TOFT:
6 Q. -- when counsel asked you questions about
7   Sleep Number s contentions related to the
8   source code without showing you those
9   contentions?
10   MR. HARE: Objection; form.
11   THE WITNESS: Yes, I do.
12   MR. TOFT: What is your objection?
13   MR. HARE: You re not specific as
14   to what you re talking about.
15   MR. TOFT: In what regard?
16   MR. HARE: So for both those
17   objections, you re talking generally about
18   some testimony, you haven t laid a foundation
19   specifically for what -- which part of the
20   conversation you re talking about or if any
21   particular -- particular question.
22 BY MR. TOFT:

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1 Q. Dr. Edwards, do you recall yesterday when
2   counsel asked you questions about the line
3   numbers and functions of source code with
4   respect to the ANM source code that you
5   analyzed in this proceeding without showing
6   you the source code itself?
7   MR. HARE: Objection; form.
8   Objection; foundation.
9   THE WITNESS: Yes, I recall that.
10 BY MR. TOFT:
11 Q. And do you recall yesterday when counsel
12   asked you questions about Sleep Number s
13   infringement contentions, which are the
14   contentions that are referenced in your
15   declaration, without showing you those -- the
16   unredacted contentions?
17   MR. HARE: Objection; form.
18   Objection; foundation.
19   THE WITNESS: Yes, I recall
20   receiving questions about those contentions
21   while I was not able to look at the
22   contentions.

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1 BY MR. TOFT:
2 Q. And there was a -- indeed, you didn t have a
3   single exhibit in front of you for several
4   hours; is that your recollection?
5   MR. HARE: Objection; leading.
6 Objection; form. Objection; foundation.
7   MR. TOFT: I m just laying
8 foundation.
9   THE WITNESS: I -- I recall being
10 questioned for numerous hours yesterday
11 without any documents to use to answer those
12 questions.
13 BY MR. TOFT:
14 Q. How, if at all, would your testimony have
15   changed if you had the actual printed source
16   code that you analyzed of ANM s in front of
17   you for that testimony?
18   MR. HARE: Objection; form.
19 Objection; foundation.
20   THE WITNESS: I --
21   MR. TOFT: I m sorry, let me
22   just -- what is your objection to form?

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1   MR. HARE: You re not specific as
2   to what testimony you re talking about,
3   you re covering a whole --
4   MR. TOFT: He has already
5   testified that he remembers the -- the
6   testimony.
7   MR. HARE: Okay. I don t believe
8   it s clear. Merely because he remembers it,
9   it s not clear on the record what we re
10   talking about.
11 BY MR. TOFT:
12 Q. How, if at all, would your testimony related
13   to ANM source code have changed if you had
14   the actual printed source code from ANM that
15   you analyzed in this proceeding in front of
16   you?
17   MR. HARE: Objection; form.
18 Objection; foundation.
19   THE WITNESS: I don t believe that
20   any of my answers would have changed. If I
21   had had the source code in front of me, I
22   would have simply been able to further

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1   confirm the correctness of my answers rather
2   than going based only on my recollections.
3   But as I sit here today, I believe all my
4   answers were correct, and so I do not wish to
5   change any of them.
6 BY MR. TOFT:
7 Q. And how, if at all, would your testimony have
8   changed if you had been given the unredacted
9   infringement contentions, I believe that was
10   marked as Exhibit 1 and 7, in front of you
11   during your testimony yesterday?
12   MR. HARE: Objection; form.
13 Objection; foundation.
14   THE WITNESS: I think I would say
15   that -- give the same answer. My testimony
16   would not change, because I believe all the
17   answers that I gave were correct. Having the
18   document in front of me is helpful to confirm
19   that my answers are correct. But, again, as
20   I -- as I sit here now, I don t know of any
21   testimony that I would give differently.
22   MR. TOFT: Okay.

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1 BY MR. TOFT:
2 Q. Would having the source code in front of you
3   allowed you to be more specific in answering
4   any of the questions that you were asked?
5 A. Yes.
6   MR. HARE: Objection; leading.
7   THE WITNESS: I think that it s
8   difficult for me as I sit here right now to
9   remember every question that was asked, but
10   certainly the source code is the fundamental
11   basis for much of the analysis that I did.
12   And so having that available to look at when
13   answering questions about it, is helpful and
14   allows for the greatest degree of certainty
15   and specificity.
16   MR. TOFT: Okay.
17   MR. HARE: I m also going to
18   object to the answer to the extent a
19   narrative was provided in response to a yes
20   or no question. And to the extent the form
21   was unclear of the question, objection to
22   form to the previous question.

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1   MR. TOFT: Jaspal, if you agree it
2 was a yes or no question, then it s not a
3 leading question, so I would appreciate it if
4 you would make only appropriate objections in
5 the future.
6   MR. HARE: I don t know if that
7 makes any sense. And the way you conducted
8 your objections during the cross was
9 absolutely inappropriate and it s not even
10 close to what you were doing.
11   MR. TOFT: I disagree. And feel
12 free to make appropriate objections in the
13 future, but I m going to continue with the
14 redirect.
15   MR. HARE: My objections are --
16 BY MR. TOFT:
17 Q. You were asked --
18   MR. HARE: Go ahead.
19 BY MR. TOFT:
20 Q. You asked several questions yesterday about
21 your analysis regarding the -- how ANM s
22 products that practiced the versions of

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1 source code that you analyzed read on the
2 functionality of various claims of the
3 patents.
4   Do you remember that?
5   MR. HARE: Objection to form.
6   THE WITNESS: Yes, I --
7   MR. HARE: Objection; foundation.
8   THE WITNESS: Yes, I do recall
9 that.
10 BY MR. TOFT:
11 Q. And you were also asked if you had an
12 understanding of secondary considerations?
13 **A. Yes, I recall that as well.**
14 Q. What is that understanding? What is your
15 understanding of secondary considerations?
16 **A. My understanding is that there are certain**
17 **considerations that may be considered in**
18 **determining obviousness of an invention or a**
19 **claim that are termed secondary**
20 **considerations, and those secondary**
21 **considerations include things such as whether**
22 **an invention or product has been copied,**

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1 **whether there -- it has achieved success in**
2 **the marketplace, whether it has technical**
3 **value, and those are the -- the ones that I**
4 **can think of.**
5 Q. Okay. And I believe this is -- it's already
6 in front of you. Can I have you open up your
7 Exhibit 3, Deposition Exhibit 3, which I
8 believe is your declaration in the '154
9 proceeding.
10 **A. (Complies.)**
11   MR. HARE: If you could just give
12 me a second to get there too.
13   MR. TOFT: Well, now I have lost
14 my Exhibit 3.
15   MR. HARE: Just to be clear,
16 you're saying Edwards Exhibit 3, correct?
17   MR. TOFT: Edwards depo Exhibit 3.
18 Okay. I will pull it up.
19 BY MR. TOFT:
20 Q. And can I have you turn to -- I believe it's
21 paragraph 29, but let me just confirm.
22   Bullet point 2 is an opinion that

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1 you ve offered in this case, correct?
2   MR. HARE: Objection to form.
3   THE WITNESS: Yes, that s correct.
4 BY MR. TOFT:
5 Q. And is that opinion -- do you still hold that
6 opinion?
7 **A. Yes, I do.**
8 Q. Counsel also asked you about copying. I
9 believe bullet point -- can you identify the
10 bullet points in paragraph 29 that relate to
11 that opinion?
12 **A. Sure.**
13   MR. HARE: Objection to form.
14   THE WITNESS: Bullet point
15 number 3 relates to that, because it states
16 that certain versions of ANM s source code
17 have similarities with -- or I should say
18 certain versions of ANM software have
19 similarities with Sleep Number software.
20   And the bullet -- the fourth bullet
21 point also relates to that for the same
22 reasons.

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1   The fifth bullet point, which is now
2 on page 13 of my declaration, also relates to
3 that.
4 BY MR. TOFT:
5 Q. And you say that the -- the software versions
6   that you analyzed have substantial
7   similarities. How did you determine whether
8   or not one version of source code that you
9   looked at was similar to another version of
10   source code?
11   MR. HARE: Objection to form.
12   Objection; foundation.
13   MR. TOFT: What are your
14   foundation objections?
15   MR. HARE: There s no foundation
16   for what version of source code you re
17   talking about.
18 BY MR. TOFT:
19 Q. Dr. Edwards, how did you determine any
20   similarities between ANM s source code that
21   you analyzed?
22 **A. So --**

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1   MR. HARE: Objection to form.
2   THE WITNESS: -- regarding the --
3 regarding similarities between different
4 versions, I think it s helpful to be precise
5 about what we re talking about. So there is
6 a portion of the declaration that discusses
7 similarities among versions of ANM s source
8 code, meaning similarities between one
9 version of ANM source code to another version
10 of ANM source code.
11   For example, I noted that there was
12 a high degree of similarity between ANM s
13 versions 1.8, 1.97 and 2.0, and there was
14 also a high degree of similarity between
15 version 1.9 and 1.92. So that is one
16 analysis of version similarity that is
17 described in the declaration.
18   Separately from that, there was an
19 analysis of the degree of similarity between
20 versions of Sleep Number s software and ANM s
21 software that was based on a slightly
22 different type of analysis and had different

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1   conclusions and findings associated with it.
2   So it would be helpful if you could
3   clarify your question with respect to --
4 BY MR. TOFT:
5 Q. So let me break this down. How did you --
6   MR. HARE: Just a second. Give me
7   a second to look over this answer.
8   I m going to object on the scope as
9   well to that question. Go ahead.
10 BY MR. TOFT:
11 Q. So let me break down your answer there. How
12   did you determine whether or not there was
13   any similarities between version 1.8 and
14   version 1.97?
15 **A. The way --**
16   MR. HARE: Objection; scope.
17   THE WITNESS: The way that that
18   was done was during my inspections of ANM
19   source code it -- which I had access to
20   electronic copies of all of the source code
21   on a computer with various source code
22   analysis tools.

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1   In particular, one of the tools that
2 I requested and was made available to me
3 during that inspection is known as a diffing
4 tool. This is a tool that allows you to
5 select different files or folders and it will
6 automatically compare those files and folders
7 and show you the places within the files and
8 folders that have changed and the places that
9 are the same.
10   So using that tool, I was able to do
11 comparisons of the different versions of
12 ANM s source code and determine that there
13 was a high degree of similarity between, for
14 example, version 1.8 and version 1.97.
15 BY MR. TOFT:
16 Q. Did you use that same methodology to
17   determine any differences and similarities
18   between 1.8 and 2.0?
19 **A. Yes, I did.**
20   MR. HARE: Objection; leading.
21 BY MR. TOFT:
22 Q. And did you use that same methodology for any

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1   similarities between 1.97 and 2.0?
2 A. Yes, I did.
3   MR. HARE: Objection; leading.
4 BY MR. TOFT:
5 Q. And how did you determine whether or not
6   there were any differences between any of
7   those versions of source code, versions 1.8,
8   1.97 and 2.0, to version 1.9, for instance?
9   MR. HARE: Objection; scope.
10   THE WITNESS: So the -- the same
11   process was followed. What I recall doing
12   was these pair-wise comparisons across, you
13   know, the various pairs of versions that were
14   provided for inspection.
15   So I think this is -- this is over a
16   year ago, but my -- what I recall doing and
17   what my normal process would be would be to,
18   you know, compare 1.8 to 1.9, 1.9 to 1.92,
19   et cetera, and then start doing some
20   comparisons of -- of the other versions that
21   are, you know, further apart in time or in
22   numbering to get a sense of which versions

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1   look the same, which look different, what are
2   the significant aspects of the code that have
3   changed from one version to the next.
4   That s the general process that I --
5   I used in comparing all those versions of
6   code.
7 BY MR. TOFT:
8 Q. And you mentioned this diffing analysis. Is
9   that a -- was there sufficient data, source
10   code for you to be able to perform the
11   diffing analysis?
12   MR. HARE: Objection; leading.
13   THE WITNESS: With respect to the
14   ANM versions that are referenced in my
15   declaration, yes, there was sufficient source
16   code, what appeared to be to be substantially
17   complete source code for those products, so,
18   yes.
19 BY MR. TOFT:
20 Q. And is diffing a tool that is considered
21   reliable in the art of source code?
22 A. Yes, it --

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1   MR. HARE: Objection; foundation.
2   THE WITNESS: It s a tool that s
3 very commonly used both in academia and in
4 industry. It s been used reliably for -- for
5 many, many years. It s a -- I guess one
6 example of a type of static analysis, which
7 is what is described in my declaration as the
8 analysis method that was applied in this --
9 in this case.
10   MR. HARE: I m also going to
11   object on form to that previous question --
12 BY MR. TOFT:
13 Q. And did you --
14   MR. HARE: -- and scope.
15 BY MR. TOFT:
16 Q. And did you reliably apply the diffing
17   analysis to the source code in this case?
18   MR. HARE: Objection; leading.
19   Objection; scope. Objection; foundation.
20   THE WITNESS: I believe I did. I
21   essentially, you know, systematically went
22   through and compared -- did pair-wise

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1   comparisons between these different versions,
2   and I believe that to be a reliable method.
3 BY MR. TOFT:
4 Q. And what differences, if any, were there
5   between the different versions of ANM code
6   that you analyzed?
7   MR. HARE: Objection; scope.
8   Objection; foundation.
9   MR. TOFT: What is your objection
10   to scope?
11   MR. HARE: We didn t ever talk
12   about the differences between the ANM code in
13   the manner you are.
14   MR. TOFT: You discussed that
15   he -- you asked him questions about the
16   different ANM code that he analyzed and you
17   pointed that out in the declaration.
18   MR. HARE: I don t believe in the
19   manner you are asking questions or the scope
20   of your questions. We asked questions about
21   certain -- certain versions and certain parts
22   of his declaration. You re going into the

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1 differences between, I believe actually, code
2 that s not even accused or we even discussed
3 yesterday or today during cross.
4   MR. TOFT: Which code was not
5 discussed yesterday?
6   MR. HARE: I don t believe we
7 discussed 1.9.
8   MR. TOFT: At all?
9   MR. HARE: I don t believe we did.
10   MR. TOFT: Okay. Your objection
11 is noted. I will reask my question.
12 BY MR. TOFT:
13 Q. What differences, if any, were there between
14   the different versions of ANM code that you
15   analyzed in this proceeding?
16 A. Well --
17   MR. HARE: Again, same objections.
18   THE WITNESS: I -- those
19 differences are stated in starting around
20 paragraph 47 of my declaration. And so
21 what -- what I found is that version 1.9 and
22 1.92 do not incorporate the software-based

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1 control functions of the 154 and 747
2 patents that are necessary to implement what
3 I referred to in my declaration as the
4 improved target pressure system.
5   In other words, they did -- they
6 were -- the code had been modified between
7 version 1.8 and 1.9, modifications were made
8 to the code to remove necessary logic for the
9 improved target pressure system, namely,
10 logic that uses an adjustment -- pressure
11 adjustment factor to allow the system to
12 reach a desired pressure more quickly and
13 with less turning on and off of the motor to
14 reach that target pressure.
15   MR. HARE: Just to be clear, I
16 think -- I believe I said same objections. I
17 want to be clear my objections are
18 foundation, form and scope.
19   MR. TOFT: Jaspal, if you re going
20 to object after every question and every
21 answer, this is starting to get very
22 disruptive. Can you please object to the

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1 extent you deem it necessary after my
2 question so that we can proceed in an orderly
3 fashion?
4   MR. HARE: I m not doing it to
5 every question. If you don t ask
6 objectionable questions, I won t have to.
7   MR. TOFT: Please object after my
8 question.
9   MR. HARE: And certain of your
10 questions, it s because the answer, he
11 provides a narrative that s not even --
12   MR. TOFT: I m not asking for an
13 explanation, I m just asking you to stop
14 disrupting.
15 BY MR. TOFT:
16 Q. And this difference that you identified in
17   the 1.9, did you identify any differences in
18   any other versions of code?
19   MR. HARE: Objection; leading.
20 Objection; scope.
21   THE WITNESS: Yes. So what that
22 showed me was that those -- the modifications

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1 that I described took place between
2 version 1.8 and 1.9, were also present in
3 version 1.92.
4   In other words, version 1.92 also
5 did not have the software control functions
6 disclosed in the 154 and 747 patents, and
7 is similar to version 1.9 in that respect,
8 then those -- when we look at version 1.97,
9 those -- that -- those control functions are
10 reincorporated back into the code.
11   In other words, it looks like that
12 the changes that were implemented when moving
13 to version 1.9 were reverted or undone such
14 that version 1.97 is highly similar to
15 version 1.8. And the same can be said of
16 version 2.0, it is also similar to versions
17 1.97 and 1.8 in that respect.
18 BY MR. TOFT:
19 Q. Are there differences between versions 1.8
20   and 1.97?
21 A. There are --
22   MR. HARE: Objection; scope.

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1   THE WITNESS: There are other
2   differences, but those differences are more
3   superficial in nature and not directly
4   relevant to any of the opinions that I ve
5   offered in this declaration.
6 BY MR. TOFT:
7 Q. Are there differences between versions 1.8
8   and 2.0?
9   MR. HARE: Objection; scope.
10   THE WITNESS: It s the same --
11   same thing I just said is -- is true again,
12   yes, there are some other changes that were
13   made to the -- the source code.
14   For example, I think one that we
15   discussed yesterday was that comments that
16   had previously been written in a foreign
17   language, in many cases had been rewritten in
18   English. But there were also changes to the
19   source code itself. However, many of those
20   changes again are more super -- either
21   superficial in nature or were just not
22   changes that had some material relation or

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1   in the code, the foreign language comments,
2   that is, would you have been able to -- would
3   that have affected your analysis?
4   MR. HARE: Objection; leading.
5   THE WITNESS: No, that wouldn t
6   have affected my analysis. I m not able to
7   read the foreign language comments anyway.
8   In the case where comments are in English,
9   again, that -- that doesn t affect my
10   analysis, because source code comments do not
11   have any impact on the behavior of the
12   program.
13   They are notations made by a
14   programmer to add text within the program
15   that can be read by other programmers, but
16   they are ignored by the computer when the
17   source code is actually executed.
18   And in particular, the -- my
19   declaration gave a -- had a little background
20   section talking about the process of
21   compilation, and when the -- when source code
22   is piled into object code, the comments are

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1   impact to the -- to the opinions that I
2   provided in my declaration.
3   MR. TOFT: Okay.
4 BY MR. TOFT:
5 Q. And were there any differences between the
6   1.9 and 1.92 that you noted that would impact
7   your opinion?
8   MR. HARE: Objection; scope.
9   THE WITNESS: There -- my
10   recollection is that the -- the two -- those
11   two versions are not identical, but the
12   answer to your question would be no, the
13   differences between 1.9 and 1.92 were not
14   material to the opinions that I offered in
15   this declaration.
16 BY MR. TOFT:
17 Q. You just mentioned the testimony yesterday
18   about a comments -- foreign language
19   comments, and I believe you said some of them
20   were translated to English; is that right?
21 A. Yes.
22 Q. Would -- if those comments were not present

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1   removed from that, so my -- my analysis is
2   based on what the actual source code does and
3   not what it says in the comments.
4 BY MR. TOFT:
5 Q. And were any of the comments necessary to
6   perform your analysis?
7   MR. HARE: Objection; leading.
8   THE WITNESS: For the -- for the
9   same reason, I would say no, they re not
10   necessary to the analysis.
11 BY MR. TOFT:
12 Q. Can I have you turn to section 9 of your
13   declaration?
14 A. (Complies.) Okay.
15 Q. Did you -- what is your opinion that is
16   expressed in section 9?
17   MR. HARE: Objection to form.
18   THE WITNESS: The key opinions
19   that are expressed in section 9 relate to the
20   important changes that occurred in ANM s
21   source code and the timing of those changes
22   and how those changes relate to the 154

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1 and 747 patents.
2   So, for example, it was -- it s my
3 opinion stated in paragraph 48 that version
4 1.8 reads on the claims of the 154 and 747
5 patents, and for that reason has a high
6 degree of similarity with the Sleep Number
7 software that I inspected with the exception
8 of one very early version that s -- I
9 referred to as the Winland code in the
10 earlier section talking about the -- the
11 Sleep Number software. So that was one of
12 the key opinions.
13   I also provided an opinion that
14 those changes appear to be what I called a
15 step backwards from a design perspective,
16 because they don t allow the system to
17 achieve a target pressure with the same speed
18 and convenience as the source code of
19 version 1.8.
20   And if you give me just a moment,
21 let me see if there s any other key opinions
22 expressed in section 9. (Reviews document.)

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1   So I guess the -- the only other
2 thing that I would mention that s an
3 important opinion in section 9 is the final
4 sentence of paragraph 53, which states
5 that -- my opinion that the ANM s reversion
6 to a prior version of the source code after
7 having removed the improved target control
8 system functionality, I think is evidence
9 that that functionality had a technical
10 benefit or solved the problem.
11 BY MR. TOFT:
12 Q. What is your basis for your opinion that it
13 had a -- sorry, let me -- that ANM s
14 reversion is evidence of a technical benefit,
15 or has technical value, as you state here in
16 paragraph 53?
17   MR. HARE: Objection; scope. And
18 objection, leading.
19   THE WITNESS: My basis for that is
20 my knowledge and experience as a software
21 engineer generally and my work in the
22 software engineering community in academia

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1 and industry for -- for many years in which I
2 know that the normal process of software
3 development is that successive versions of
4 software add and improve on functionality
5 that was in previous versions. There are
6 generally -- new features are added, bugs and
7 flaws in the software are removed and the
8 software evolves over time in a way that its
9 overall quality improves.
10   It is unusual for a software product
11 at a later version to undo or revert changes
12 that were made in the prior versions and
13 essentially go back to something that existed
14 longer before that.
15   The -- the -- I would say the
16 typical reason that that happens, in my
17 experience, is that there was some kind of a
18 problem or issue that was created by some
19 changes that were made and, therefore, those
20 changes needed to be undone because there was
21 a realization made that those -- that those
22 changes were not beneficial and, therefore,

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1   the engineers decided to undo those changes.
2   That s based on my experience why
3 software versions are reverted. And so that,
4 I think, is circumstantial evidence that that
5 is what has occurred in this case, and that
6 the changes that were made between version
7 1.8 and 1.9 were later determined to be not
8 beneficial and perhaps even harmful in some
9 sense.
10 BY MR. TOFT:
11 Q. Is it your opinion that version 1.8 has
12 benefits that 1.9 does not?
13   MR. HARE: Objection; leading.
14 Objection; scope.
15   THE WITNESS: Yes, that s what --
16 that s what my -- my declaration says, that
17 version 1.8 has the software control
18 functions disclosed in the 154 and 747
19 patents, and for that reason, it provides the
20 feature of an improved target pressure
21 system, what I -- what I referred to as an
22 improved target pressure system, meaning it

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1   can reach a target pressure with greater
2   speed and convenience, and that feature and
3   benefit is not present in version 1.9 of
4   ANM s software.
5 BY MR. TOFT:
6 Q. Was there a benefit that you re aware of in
7   1.9 that is not present in version 1.8?
8   MR. HARE: Objection; leading.
9   Objection; scope.
10   THE WITNESS: I was not able to
11   identify a technical benefit to those changes
12   that would justify the drawbacks of those
13   changes. In fact, I wasn t able to identify
14   any technical benefit at all, so I -- I don t
15   think that this was -- at least I was not
16   able to -- to find any evidence that this was
17   a situation where there was some type of a
18   tradeoff occurring, and one drawback was
19   accepted in exchange for some other benefit
20   that was achieved.
21   In terms of the -- the technical --
22   the technical benefits and the behavior of

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1   the code itself, it seems like the changes
2   that were made between version 1.8 and
3   version 1.9 were -- had no -- had no benefit.
4 BY MR. TOFT:
5 Q. And did 1.92 restore those benefits?
6   MR. HARE: Objection; leading.
7   Objection; scope.
8   THE WITNESS: No. 1.92 is similar
9   to version 1.9, and then the -- the benefits
10   of the improved target pressure system were
11   restored in version 1.97.
12 BY MR. TOFT:
13 Q. And 2.0?
14 A. Yes.
15   MR. HARE: Objection; leading.
16 BY MR. TOFT:
17 Q. We talked about the -- the diffing analysis
18   that you performed an ANM s source code.
19   Did you perform a diffing -- you
20   testified earlier today that a diffing
21   analysis would not have been appropriate
22   between ANM and Sleep Number s source code;

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1   is that correct?
2 A. Yes --
3   MR. HARE: Objection; form.
4   Objection; foundation.
5 BY MR. TOFT:
6 Q. Why is that -- why would a diffing analysis
7   not have been appropriate between ANM and
8   Sleep Number s source code that you reviewed?
9   MR. HARE: Objection; foundation.
10   Objection; leading. Objection; form.
11   THE WITNESS: The -- for starters,
12   I did not -- I never had access to a computer
13   that had both sets of source code on it. I
14   performed separate inspections of each of the
15   source code due to the restrictions in the
16   protective order. And so in order to do the
17   diffing, you have to have both sets of code
18   on the same computer. So there s just a
19   technical barrier, for starters.
20   MR. TOFT: Okay.
21   THE WITNESS: Secondly, I did not
22   ask to do that or think that it was an

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1   appropriate or needed analysis, because to my
2   knowledge, I ve not seen any evidence to date
3   that ANM had direct access to Sleep Number s
4   source code, and I ve not been made aware of
5   any allegation of literal source code theft
6   or copying, therefore, the diffing analysis,
7   which operates at the level of source code
8   and lines of source code, is not going to
9   show the similarity that I was interested in
10   investigating.
11   I was interested in investigating
12   similarity at the level of the software s
13   functionality, and in particular, the
14   functionality that is taught in the 154
15   and 747 patents, which can generally be
16   referred to as the improved target pressure
17   system, but more specifically includes the
18   use of a pressure adjustment factor to
19   calculate a target pressure and update the
20   pressure adjustment factor based on a
21   pressure adjustment factor error.
22   And so that is the -- the -- the

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1   type of similarity that I was looking for,
2   and that is not a similarity that would be
3   determined through the use of a diffing
4   operation.
5 BY MR. TOFT:
6 Q. And did you conduct an analysis to see if
7   there was a level of software s functionality
8   between the ANM source code you reviewed and
9   the Sleep Number source code you reviewed?
10   MR. HARE: Objection; foundation.
11   I m sorry, strike that.
12   Objection; scope. Objection -- just
13   a second.
14   Objection; leading. That s it.
15   MR. TOFT: Jaspal, why do you
16   think that there s an objection to scope?
17   MR. HARE: I don t believe we
18   discussed that during the cross.
19   MR. TOFT: You asked about
20   copying.
21   MR. HARE: Not -- not the way
22   you re asking it or the level you are.

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1   MR. TOFT: But you agree you asked
2   about copying?
3   MR. HARE: Yeah, of course.
4   MR. TOFT: And what is your
5   objection to leading?
6   MR. HARE: Because you re leading
7   him to that there s a level -- I m sorry, the
8   screen jumped. That there was a level of
9   software s functionality between the ANM
10   code --
11   MR. TOFT: I just asked if he --
12   MR. HARE: -- Sleep Number --
13   MR. TOFT: -- conducted an
14   analysis to see if there was a level of
15   functionality. Where do you think the
16   suggestion in that question is?
17   MR. HARE: That portion I just
18   read you.
19   MR. TOFT: Can you read it again?
20   MR. HARE: You re suggesting that
21   there s a level of software s functionality
22   between the ANM source code reviewed and the

404

1   Sleep Number source code you reviewed.
2   MR. TOFT: I was using his
3   language from the previous answer.
4   MR. HARE: Okay.
5   MR. TOFT: It s not a leading
6   question. Please stop objecting on those.
7   MR. HARE: I ll make my
8   objections.
9   THE WITNESS: Okay. I need to be
10   reminded what the question is.
11   MR. TOFT: Yup, no problem.
12 BY MR. TOFT:
13 Q. So the question is: Did you conduct any
14   analysis to see if there is a level of
15   software functionality similarities between
16   ANM source code that you reviewed in this
17   proceeding and Sleep Number source code that
18   you reviewed?
19 **A. Yes, I did.**
20   MR. HARE: Same objections.
21 BY MR. TOFT:
22 Q. And how did you conduct that analysis?

405

1 **A. I conducted that analysis by my**
2   **examination --**
3   MR. HARE: Objection; foundation.
4   And objection, scope.
5   THE WITNESS: Okay. I conducted
6   that analysis by -- through my inspection of
7   each set of source code that was produced.
8   In particular, I went through the source code
9   files carefully using the -- the static
10   analysis tools that I requested that are
11   listed in my -- my declaration in order to
12   determine how that code works and what it
13   does, what are the main components within the
14   software, how are they -- how do they relate
15   to each other and what do they do. And I, in
16   particular, investigated whether the claims
17   and claim elements that are disclosed in
18   the 154 and 747 patents were present.
19   I did that separately for each
20   version of ANM s code that is listed in my
21   declaration, and I did that for the versions
22   of Sleep Number s code that I was provided to

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1   inspect.
2   I determined, as it says in my
3   declaration, that some of the versions, which
4   are, you know, listed in the -- in the
5   declaration, do include all the claim
6   elements of many of the claims of those
7   patents and that they implement the improved
8   target pressure system that allows for
9   achieving a target pressure with greater
10   speed and convenience.
11   And so based on that analysis, I
12   made the conclusions listed in the
13   declaration that they are substantially
14   similar in terms of those software-based
15   control functions.
16 BY MR. TOFT:
17 Q. And which versions of ANM code did you
18   determine implement the -- what you referred
19   to as the improved target pressure system?
20   MR. HARE: Objection; scope.
21   THE WITNESS: That s versions 1.8,
22   1.97 and 2.0.

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1 BY MR. TOFT:
2 Q. And were there any versions of Sleep Number s
3   code that you determined also implemented
4   the -- as you referred to it, the improved
5   target pressure system?
6 A. Yes, there were.
7   MR. HARE: Objection to form.
8   Objection --
9 BY MR. TOFT:
10 Q. Which were those?
11   MR. HARE: -- scope. Same
12   objections.
13   THE WITNESS: Those are identified
14   in paragraphs 33, and I guess more
15   particularly 34. And I think they -- there
16   is some additional specificity in my
17   supplemental declaration regarding that
18   question. Yes.
19   So there were four main folders in
20   the Sleep Number source code. One had the
21   name Logic PD, one was named Sleep Number,
22   one was named Sleep Number and Sleep IQ,

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1   and one was named Winland Board
2   Documentation.
3   And so my inspection determined that
4   all of them implemented the improved target
5   pressure system except for the one that was
6   named Winland.
7 BY MR. TOFT:
8 Q. And is there any particular, for example,
9   claim that you believe is representative of
10   the improved target pressure system that
11   you're referring to?
12   MR. HARE: Objection to form.
13   Objection; scope.
14 BY MR. TOFT:
15 Q. Or is -- sorry. Go ahead.
16 A. I think that the improved target pressure
17   system is present in all of the independent
18   claims of the '154 and '747, but —
19 Q. So would it be fair to say that if a -- if
20   you reviewed the source code and you felt it
21   read on claim 1 of the '154, for instance,
22   that you would conclude that it practiced the

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1   improved target pressure system?
2   MR. HARE: Objection; leading.
3   THE WITNESS: Yes, if a -- if a
4   system practiced claim 1 of the '154, then I
5   would agree that the improved target pressure
6   system would be present, that that feature
7   would be present.
8 BY MR. TOFT:
9 Q. You testified earlier that you did not
10   perform a side-by-side comparison chart of
11   ANM source code to Sleep Number source code;
12   is that correct?
13 A. Yes.
14   MR. HARE: Objection to the extent
15   it mischaracterizes testimony.
16 BY MR. TOFT:
17 Q. Why did you not?
18 A. Well, for — again, the — the side-by-side
19   comparison, as I believe I testified earlier,
20   to me that sounds like a diffing type
21   analysis. And for the reasons I've already
22   stated, that analysis was helpful in terms of

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1 understanding the changes that were made to
2 ANM's code between different versions, but
3 was neither possible nor would have been
4 helpful in determining the functional
5 similarities regarding software-based control
6 elements that are claimed in the '154
7 and '747 and -- and the similarities with
8 respect to those control functions.
9 Q. Okay.
10 MR. TOFT: Can I have this marked?
11 What are -- are we on 12?
12 MR. HARE: I think we only got to
13 10.
14 Counsel, what is this exhibit?
15 MR. TOFT: This is excerpts of the
16 Sleep Number code that he reviewed and opined
17 on.
18 MR. HARE: We're going to object
19 to using this code at all. This is not part
20 of the record. You're adding new exhibits
21 after he's already filed his report. We
22 think this is completely improper. We're not

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1 And -- well, maybe just to make this more
2 efficient, are you only going to put this
3 exhibit or do you have multiple source code
4 exhibits?
5 MR. TOFT: This exhibit.
6 MR. HARE: This is the only one?
7 MR. TOFT: Well, for now.
8 MR. HARE: Okay. So you might as
9 well -- if you want to give me them all, I ll
10 just consult with Kyle and see what --
11 MR. TOFT: I don t have any others
12 that I intend to at this time.
13 MR. HARE: Okay. All right. So
14 this is the only one you want me to -- do you
15 mind if we just go off the record then?
16 MR. TOFT: That s fine.
17 MR. HARE: Thank you. Let me talk
18 to Kyle and --
19 THE VIDEOGRAPHER: We re off the
20 record at 1:10 p.m.
21 (Recess.)
22 (Exhibit 11 marked.)

4

1 going to allow this to be entered in as an
2 exhibit.
3 MR. TOFT: You asked him questions
4 about his analysis of the Sleep Number code
5 and didn t allow him to put it in front of
6 him. I m not allowed to put the ANM code in
7 front of him, but I am allowed to put the
8 Sleep Number code in front of him and ask
9 about his analysis of this code.
10 MR. HARE: Do you only intend to
11 put the Sleep Number code in front of him,
12 not the ANM?
13 MR. TOFT: You re free to put the
14 ANM code in front of him.
15 MR. HARE: Okay. But you re not
16 going to attempt to put any ANM code in front
17 of him?
18 MR. TOFT: I can t pursuant to the
19 protective order.
20 MR. HARE: Okay. Let me -- let me
21 confer with the higher-ups then and let me
22 see what we want to do this about this.

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1 THE VIDEOGRAPHER: And we are back
2 on the record at 1:33 p.m.
3 MR. HARE: All right. We re going
4 to object to the use of Edwards Exhibit 11,
5 which is select pages from printed source
6 code of Sleep Number that ANM had printed in
7 the district courts --
8 MR. TOFT: Just for the record,
9 can we make this clear, can I enter the
10 Bates-stamped numbers so that it s clear what
11 the exhibit is?
12 MR. HARE: Go ahead.
13 MR. TOFT: So Exhibit 11 to the
14 Edwards deposition is Bates-stamped documents
15 SNISC 0015, 16, 27, 28, 29 and 30.
16 MR. HARE: Okay. And, again, the
17 Petitioner is going to object --
18 MR. TOFT: It should be a comma
19 between each of the 15, 16 --
20 MR. HARE: -- on the grounds of
21 scope. And, further, it s extremely
22 prejudicial, because Patent Owners had a --

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1 months to prepare its response, and prepared
2 a declaration, they used infringement
3 contentions, they cited no source code, even
4 though this is their own source code, they
5 have no restrictions on how they can use it
6 because it is their own code, and now on
7 redirect they re trying to introduce this
8 partial exhibit.
9   We ve also had no time to prepare,
10 and we may need to re-depose Dr. Edwards
11 regarding the Sleep Number code based on
12 this.
13   We also believe there s an issue of
14 completeness given that these are select
15 pages cherry-picked out of a larger set of
16 printed source code, which is also out of a
17 larger set of source code that was produced.
18   We also believe Sleep Number may
19 have waived confidentiality. The PTO
20 proceedings are generally supposed to be
21 public. And by introducing this code, it
22 potentially enters more issue of

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1 confidentiality and goes against the openness
2 of the proceeding.
3   Thank you. That s all I have.
4   MR. TOFT: And I would just
5 respond that Sleep Number s position is that
6 it s within the scope of this testimony
7 because they repeatedly asked Dr. Edwards
8 about his analysis of the Sleep Number code
9 yesterday.
10   I offered to provide the code
11 yesterday, and counsel refused. Dr. Edwards
12 asked for the code, I believe, and wasn t
13 allowed to review it during the
14 cross-examination, but instead was forced to
15 try and remember it from memory.
16   The -- as to completeness,
17 Petitioner has had access to this code at
18 least since they reviewed it in October of
19 2018, and could have introduced it as an
20 exhibit during the cross-examination.
21   The -- and as for confidentiality, I
22 disagree that there s any waiver of

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1 confidentiality. The proceedings allow for
2 the filing of under seal -- of documents
3 under seal that are confidential in nature,
4 which this one is and remains.
5   And to the extent there is any
6 waiver of confidentiality, I would insist
7 that the same apply to the same degree as to
8 the unredacted infringement contentions that
9 were introduced by opposing counsel,
10 Mr. Hare, Exhibits 1 and 7, the unredacted
11 infringement contentions.
12   MR. HARE: Just one clarification.
13 During cross-examination we only talked about
14 the lack of source code, particularly lack of
15 Sleep Number source code that was in the
16 report, we didn t actually talk -- ever talk
17 about actual source code, because there was
18 none --
19   MR. TOFT: I can remember --
20   MR. HARE: -- described or
21 attached to Dr. Edwards report.
22   You can proceed.

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1 BY MR. TOFT:
2 Q. Dr. Edwards, you've received what has been
3   marked as Exhibit 11. Do you recognize this
4   document?
5 A. Yes, I do.
6 Q. What is it?
7 A. This is a printout of a source code file that
8   is part of Sleep Number's software. And in
9   particular, it's a file that's found in the
10   Logic PD folder. And it's my understanding
11   that this file was printed by ANM or Sizewise
12   during their inspection of the source code.
13 Q. And does this -- does the source code that's
14   depicted in Exhibit 11 fairly and accurately
15   depict the source code that you reviewed of
16   Sleep Number's?
17   MR. HARE: Objection; form.
18   THE WITNESS: Yes, this is a -- a
19 portion of the source code that I -- I
20 analyzed. Of course, during my inspection I
21 was able to view the entirety of the source
22 code, which included many files and folders,

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1   and this is one of the files that I analyzed

2   during my inspection.

3 BY MR. TOFT:

4 Q. And have you seen the source code that was

5   printed, the entirety of the source code that

6   was printed by ANM in their inspections?

7 A. Yes, I have.

8 Q. Does it include all of the source code --

9   MR. HARE: Objection.

10 BY MR. TOFT:

11 Q. -- that you inspected?

12 A. No. And that's typical for any software

13   program that's, you know, more than very

14   small in size, if you print out the entirety

15   of the source code, you're generally talking

16   about thousands, tens of thousands, millions

17   of pages. So the portions of source code

18   that are -- that are printed in these

19   instances tend to be a -- a small amount of

20   the overall code, and that's what this is.

21   MR. HARE: Counsel, would you mind

22   if we have a standing objection to -- based

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1   on scope with respect to the SN source code

2   discussion?

3   MR. TOFT: That s fine.

4   MR. HARE: Okay. Thank you.

5   MR. TOFT: And this seems like a

6   good time to also indicate that this exhibit

7   is marked highly confidential, source code,

8   outside counsel only, and I would request

9   that this portion of the transcript be marked

10 AEO.

11   MR. HARE: Just to be clear, this

12 portion going forward, but nothing else?

13   MR. TOFT: Correct.

14   MR. HARE: All right.

15 (Attorneys Eyes Only.)

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10
11   (Attorneys Eyes Only
12   Designation Ends.)
13   MR. HARE: And just one other
14 thing, I ve handed the courtesy copy of the
15 Exhibit 11 source code back to counsel. And
16 we re -- we re done with that exhibit,
17 correct?
18   MR. TOFT: Yes.
19   MR. HARE: All right.
20   MR. TOFT: Unless George suddenly
21 has something that he wants to say, but...
22   MR. HARE: And, again, I would

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1   just request if we re not using exhibits,
2   hand them back to the court reporter just to
3   make sure it s -- things are...
4 BY MR. TOFT:
5 Q. You ve testified, I believe yesterday and
6   today, about the process that you went
7   through in analyzing the evidence in front of
8   you and drafting your report; is that
9   correct?
10   MR. HARE: Objection to form.
11   THE WITNESS: Yes, I generally
12 discussed the static analysis approach. We
13 talked about the inspections, the multiple
14 inspections that were performed. We talked
15 about some of the tools that I ve used and so
16 on.
17 BY MR. TOFT:
18 Q. And you testified, I believe, that you
19   reviewed the ANM source code in person twice?
20 A. Yes.
21 Q. And that -- those inspections consisted of
22   approximately how many days?

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1 A. I think that it was something like five or
2   six days. I was not a hundred percent
3   certain when asked this question yesterday
4   either, but that -- that was kind of my
5   recollection, was it was about five or six
6   days.
7 Q. And you printed off portions of the code that
8   you reviewed; is that correct?
9 A. Correct.
10   MR. HARE: Objection; form.
11 Objection; foundation.
12 BY MR. TOFT:
13 Q. How many pages did you print?
14 A. I don't recall off the top of my head, but it
15   was several hundred. It was 400 pages,
16   something like that, 500 pages.
17 Q. And you testified earlier that you helped to
18   draft the analysis of the source code that's
19   contained within the infringement
20   contentions; is that correct?
21 A. That's correct, I -- I participated in
22   drafting the infringement contentions in

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1   particular. I authored a great deal of the
2   content that relates to the -- the software
3   aspects of those infringement contentions and
4   that -- and I've reviewed all of the portions
5   of those infringement contentions that relate
6   to software and -- for correctness. And
7   those infringement contentions contain a
8   detailed explanation of the findings in my
9   analysis.
10   MR. HARE: I'm going to object to
11 form to the previous question.
12   And if you could do me a favor, just
13 give me a second to get my objections in
14 before answering, please.
15   THE WITNESS: Okay. Sorry.
16 BY MR. TOFT:
17 Q. Is it -- did you draft more than one
18   infringement contention -- let me rephrase
19   that.
20   Did you ever assist in helping to
21 draft amended infringement contentions?
22   MR. HARE: Objection to form.

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1 Objection to foundation.
2 THE WITNESS: Yes, I assisted with
3 drafting, I believe, several versions of the
4 infringement contentions.
5 BY MR. TOFT:
6 Q. And what is your -- over what period of time
7 were you assisting to draft these several
8 versions of the infringement contentions?
9 MR. HARE: Same objections.
10 THE WITNESS: My recollection is
11 that it was an ongoing activity between the
12 fall of 2018 and January of 2019.
13 BY MR. TOFT:
14 Q. And when drafting these infringement
15 contentions, did you --
16 A. It might have been -- it might have -- it
17 might have extended beyond January of 2019.
18 I forget the exact period.
19 Q. Okay. And you said that you independently
20 reviewed the contentions?
21 A. That's correct.
22 Q. And if you disagreed with anything in the

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1 contentions, would you have said anything?
2 MR. HARE: Objection; leading.
3 THE WITNESS: Yes, I would have.
4 BY MR. TOFT:
5 Q. Is there anything in the contentions that you
6 disagree with, sitting here today?
7 MR. HARE: Objection to form.
8 THE WITNESS: No, there s not.
9 There is content within the infringement
10 contentions that I did not evaluate the
11 correctness of, and I m speaking particularly
12 of content within the infringement
13 contentions that relates to the structural
14 and mechanical elements of the products. And
15 the correctness of those aspects was not part
16 of my analysis, but I carefully checked all
17 the software-related content within the
18 infringement contentions, and as I sit here
19 today, am not aware of any mistakes or
20 anything that I disagree with.
21 BY MR. TOFT:
22 Q. And did you review the unredacted versions of

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1 the infringement contentions before signing
2 your declarations in these proceedings?
3 A. Yes, I did.
4 Q. And did you review other documentation before
5 signing those declarations?
6 A. Yes, I did.
7 Q. What other documentations did review or
8 documents did you review?
9 A. The --
10 MR. HARE: Objection to form.
11 THE WITNESS: The documents that
12 are identified in my declaration, so the
13 timelines of the product releases, which are
14 identified by Bates number, the declarations
15 of Dr. Abraham, which I relied on, to the
16 extent that they -- I relied on Dr. Abraham's
17 opinions that the mechanical and structural
18 elements of the claims are present in the --
19 the ANM products. I reviewed the
20 contentions, and I -- I -- that's all that
21 I'm remembering right now, but it's all
22 identified in the declaration what I

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1 reviewed.
2 MR. TOFT: Okay.
3 BY MR. TOFT:
4 Q. And do you believe that the documents and --
5 the documents you reviewed sufficiently
6 allowed you to make the opinions expressed in
7 your declaration?
8 A. Yes --
9 MR. HARE: Objection; leading.
10 THE WITNESS: Yes, I do.
11 BY MR. TOFT:
12 Q. Yesterday you were asked about the inflate
13 pressure adjustment factor. Do you remember
14 discussions related to that?
15 A. Yes, I do.
16 MR. HARE: Just a second.
17 MR. TOFT: He gave you time.
18 MR. HARE: I know that. Okay.
19 You can proceed. Sorry.
20 BY MR. TOFT:
21 Q. And in particular, counsel asked you about a
22 variable, and I apologize if I m -- if I m

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1 messing these names up, but I believe it's a
2 variable named inflate need add. Do you
3 remember discussions related to that?
4 **A. Yes, I do. I think it's inflating.**
5 Q. Inflating need add?
6 **A. Need add.**
7 Q. And I believe you testified that with respect
8 to this variable -- is variable the right
9 word?
10 **A. Yes, it is.**
11 Q. That with respect to this variable, that the
12 adjustment factor error does not have an
13 explicit variable in the source code. Is
14 that a fair characterization of what you said
15 or would you -- if not would you mind --
16   MR. HARE: Objection to form.
17 Objection; leading.
18 BY MR. TOFT:
19 Q. -- restating it in your own words?
20 **A. Sure. Yeah, what you said is -- is generally**
21 **what I stated, which is that the -- that**
22 **value is calculated, but is not assigned and**

45

1 **stored in a named variable.**
2 Q. Based upon your analysis of the code, is an
3 error still computed?
4   MR. HARE: Objection; leading.
5   THE WITNESS: It is computed, but
6 it is not assigned a variable name.
7 BY MR. TOFT:
8 Q. And is the, you know, modification of the
9 pressure adjustment variable based upon this
10 error, in your opinion?
11   MR. HARE: Objection -- objection;
12 form. Objection; leading. Objection;
13 foundation.
14   THE WITNESS: In my opinion, the
15 modification is based upon that error.
16 BY MR. TOFT:
17 Q. So just to -- so we have a clean record, is
18 it your opinion that the modification of
19 inflating need add in the ANM source code, is
20 based upon an adjustment factor error?
21   MR. HARE: Same objections.
22   THE WITNESS: Yes, and that s

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1 basically exactly what it says in the
2 contentions.
3   MR. TOFT: Okay.
4 BY MR. TOFT:
5 Q. Yesterday you -- when counsel was asking you
6 about your understanding of infringement, one
7 of the things that you said was that the
8 patent would need to be valid.
9   Do you remember that?
10 **A. Yes, I do.**
11 Q. Are you offering any opinions on the validity
12 of any of the patents-in-suit or patents at
13 issue?
14 **A. No, I'm not.**
15   MR. HARE: Objection; scope.
16   MR. TOFT: And I believe I am
17 done, but can I have a minute break just to
18 check?
19   MR. HARE: We ll just go chat too
20 and get -- do our prep.
21   THE VIDEOGRAPHER: We are off the
22 record at 2:26 p.m.

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1   (Recess.)
2   THE VIDEOGRAPHER: And we re on
3 the record at 2:41 p.m.
4 BY MR. TOFT:
5 Q. So I believe I only have one more question
6 left.
7   Dr. Edwards, in your declaration --
8 I believe you testified to one of counsel s
9 questions earlier that the declaration does
10 not contain line numbers or variables for
11 Sleep Number s source code; is that correct?
12 **A. Yes.**
13 Q. Why -- why does your declaration not
14 include any line numbers or variables for
15 Sleep Number source code?
16   MR. HARE: Objection; leading.
17   THE WITNESS: For the same reason
18 that I didn t include file names, line
19 numbers, function names and variable names
20 for the ANM code. My understanding was that
21 the protective order and confidentiality
22 considerations were such that I should not

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1 include those in the declaration. And in the
2 case of ANM code, those were contained in the
3 unredacted contentions.
4   MR. TOFT: Okay. I have no
5 further questions and I pass the witness.
6   MR. HARE: One thing. We re going
7 to object to the whole line of questioning on
8 redirect on the basis that the witness was
9 heavily coached. There was an over
10 hour-and-a-half break between cross and
11 redirect. Many of his answers were -- to yes
12 and no questions contained extensive
13 narratives, although only a yes or a no was
14 required to answer a question, which also
15 evidences the heavily coaching nature of the
16 testimony.
17   MR. TOFT: I disagree with your
18 characterization, but note it for the record.
19   MR. HARE: Thank you. We ll begin
20 recross then.
21
22   FURTHER EXAMINATION

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1 BY MR. HARE:
2 Q. During the break between cross and redirect,
3   did you talk to your attorney?
4   MR. TOFT: Objection to the extent
5 it calls for privileged communication. But
6 to the extent you can answer the question
7 without revealing any communication, you are
8 free to do so.
9   THE WITNESS: Yes, we did talk.
10 And I guess I would clarify that he s not my
11 attorney.
12 BY MR. HARE:
13 Q. You talked to the attorney representing the
14   Patent Owner, correct?
15 A. Yes.
16 Q. Okay. In that last question you stated
17   you -- and correct me if I m wrong, you
18   believe the protective order in the case
19   prevented you from using Sleep Number code in
20   your declaration or in a supporting exhibit;
21   is that correct?
22 A. That's not what I said.

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1   MR. TOFT: Sorry, I would just add
2 the objection to the extent it
3 mischaracterizes, but I believe the witness
4 has got that.
5 BY MR. HARE:
6 Q. Can you explain?
7   MR. TOFT: Object to form.
8   THE WITNESS: Yeah. My
9 understanding is that I was allowed to use my
10 analysis and findings of that analysis of the
11 source code in the declaration, but was not
12 permitted to identify specific variable
13 names, function names, file names and line
14 numbers, or describe the source code at the
15 level of specificity that it is described in
16 the unredacted infringement contentions.
17 BY MR. HARE:
18 Q. And we re talking about the Sleep Number
19   source code, not ANM?
20 A. I'm referring to both sets of source code.
21 Q. Where did your understanding come from?
22 A. From counsel and from my -- yeah, from

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1   counsel.
2 Q. During our redirect, do you recall
3   discussing, with respect to ANM products,
4   certain -- certain portions of the code would
5   result in something being faster or quicker?
6 A. Yes, I do recall that.
7 Q. Okay. Could you maybe, in a sentence, just
8   summarize what you were describing to be
9   faster and quicker?
10   MR. TOFT: Object to form.
11   THE WITNESS: Sure. So based on
12 my reading of the source code, usage of the
13 improved target pressure system, including
14 use of an adjustment factor, would allow the
15 software to achieve a target pressure with
16 fewer attempts at inflation and deflation,
17 meaning fewer iterations of activating or
18 deactivating a motor and valves to reach a
19 target pressure and, thus, achieve a target
20 pressure faster.
21 BY MR. HARE:
22 Q. You didn t conduct any tests to confirm that,

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1   did you?
2 A. No, that's based on my inspection of the
3   source code.
4 Q. Okay. Thank you.
5   Do you recall talking about the
6   Logic PD source code related to ANM products?
7 A. Yes, I do.
8 Q. Strike the last question.
9   Do you recall talking about the
10   Logic PD source code related to
11   Sleep Number products?
12 A. Yes, I do.
13 Q. Does your report identify what Sleep Number
14   products the Logic source code that was
15   produced is actually used on?
16 A. My report references a document describing
17   the Sleep Number products and the times that
18   those products were developed, and so that
19   can be indirectly associated with that code
20   by matching up the dates.
21 Q. Do you have any direct evidence that the
22   Logic source code was actually used in a

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1   production product of Sleep Number's?
2 A. I don't know exactly what you mean by "direct
3   evidence," but the source code does indicate
4   that it was used in a release version.
5 Q. Where in your report does it discuss anything
6   about -- or any analysis about that release
7   version?
8 A. My report references the -- the folder that
9   contains that source code, but does not
10   contain a discussion of the question you just
11   asked.
12 Q. Can you tell me one product of Sleep Number's
13   that was commercially sold that used the
14   Logic PD source code?
15 A. I can if I'm provided with the document
16   that's referenced in my declaration.
17   MR. TOFT: Would you like me to
18   hand that to him?
19   MR. HARE: Can I just see it?
20   MR. TOFT: Yeah. (Hands
21   document.)
22   MR. HARE: Oh, I think I have it

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1   right here. It s the exhibit -- why don t
2   you just hand it to him to refresh his
3   recollection.
4   MR. TOFT: (Hands document.)
5   MR. HARE: And I d like the record
6   to reflect the witness is reviewing to
7   refresh his recollection in the -- what is,
8   in the 514 proceeding, Exhibit 2079, and it
9   begins at Bates number SN 0021013.
10   MR. TOFT: And, sorry, just for
11   the record, I ll just put in that it s
12   Exhibit 2058 in the 497 and 500 proceedings.
13   MR. HARE: Thank you.
14   THE WITNESS: Okay. So --
15   MR. TOFT: Sorry, did you want to
16   make this an exhibit or did you just want to
17   use this to refresh his recollection?
18   MR. HARE: Well, let s just see
19   what his answer is and decide.
20   MR. TOFT: He s -- okay.
21   THE WITNESS: Okay. So based on
22   the dates indicated in that source code, I

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1   think that it was used in the performance FCS
2   and innovation FCS models.
3   MR. HARE: Okay.
4 BY MR. HARE:
5 Q. You use the word "think" because you re not
6   100 percent sure, correct?
7   MR. TOFT: Object to the extent it
8   mischaracterizes.
9   THE WITNESS: The -- the evidence
10   that I have is not 100 percent, but it does
11   indicate that.
12   MR. HARE: Okay.
13 BY MR. HARE:
14 Q. You have no firsthand knowledge that the
15   Logic PD source code was used on those
16   products, correct?
17 A. Correct.
18 Q. All right. Do you want to hand counsel back
19   his exhibit.
20   MR. TOFT: So I d actually liked
21   this marked this as Exhibit 12 then.
22   MR. HARE: That s no problem.

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1 Could we have the --
2   MR. TOFT: Can you just hand it to
3 the court reporter.
4   MR. HARE: -- what we just
5 described as 2070 to refresh the witness s
6 recollection marked as Exhibit 12, please, to
7 the Edwards deposition.
8   (Exhibit 12 marked.)
9   MR. HARE: Would you mind if I
10 take a browse and make sure this is the same
11 thing I looked at?
12   Counsel, can you represent this is
13 just a clean copy of the exhibit?
14   MR. TOFT: Correct.
15   MR. HARE: There s a marking here.
16   MR. TOFT: Oh.
17   MR. HARE: I think I have it.
18   MR. TOFT: Do we want to -- I can
19 grab a clean version.
20   MR. HARE: I think I have it.
21   MR. TOFT: Okay.
22   MR. HARE: Can we just go off the

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1 record for 30 seconds and I ll grab it.
2   THE VIDEOGRAPHER: We are off the
3 record at 2:55 p.m.
4   (Recess.)
5   (Exhibit 12 marked.)
6   THE VIDEOGRAPHER: And we re back
7 on the record at 2:57 p.m.
8 BY MR. HARE:
9 Q. Do you recall, during your redirect, having a
10   discussion about the ANM products, starting
11   with the products that used version 1.8, code
12   implement insert in features related to
13   the 757 and 154 patent?
14 A. Yes.
15 Q. Okay. Does your report provide an opinion
16   that ANM products, prior to the version 1
17   point -- that used version 1.8, did not use
18   the features of the 747/ 154 patents?
19   MR. TOFT: Object to form.
20   THE WITNESS: I have not offered
21 an opinion on that.
22   MR. HARE: Thank you.

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1   And if I can take a second to confer
2 with my -- my expert, I think we re going to
3 be done.
4   (Brief discussion.)
5   MR. HARE: Thank you for your
6 time, Dr. Edwards. We have no further
7 questions.
8   THE WITNESS: Okay.
9   MR. TOFT: Oh, I m good as well.
10   THE VIDEOGRAPHER: That concludes
11 our deposition at 2:59 p.m. Thank you.
12   (Off video record.)
13   (Brief discussion.)
14   THE COURT REPORTER: So Mr. Hare,
15 did you want the same order as yesterday, the
16 realtime, the rough and three-day expedite
17 unless we can get it to you sooner?
18   MR. HARE: Yup.
19   THE COURT REPORTER: And Mr. Toft,
20 same as yesterday --
21   MR TOFT: Same as yesterday.
22   THE COURT REPORTER: -- regular

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1 turnaround, no rough?
2   MR. TOFT: No, we re fine.
3   THE COURT REPORTER: Great. Thank
4 you.
5   (Deposition concluded at 3:00 p.m.)
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ACKNOWLEDGMENT OF DEPONENT

1
2
3   I, GEORGE EDWARDS, Ph.D., do
4   hereby acknowledge that I have read and
5   examined the foregoing testimony and the same
6   is a true, correct, and complete
7   transcription of the testimony given by me
8   and any corrections appear on the attached
9   errata sheet signed by me.
10
11
12 (SIGNATURE)   (DATE)
13
14
15
16
17
18
19
20
21
22

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1   C RT F CAT OF SHORTHAND R PORT R - NOTARY PUB C
2   , Amy   arson, Registered Pro essiona
    Reporter and Notary Pub ic with and or the State
3   o Minnesota, do hereby certi y
4   That George dwards, Ph D , the witness
    whose deposition is hereinbe ore set orth, was
5   du y sworn by me be ore the commencement o such
    deposition and that such deposition was taken
6   be ore me and is a true record o the testimony
    given by such witness
7
        urther certi y that the adverse party,
8   S eep Number Corporation, was represented by
    counse at the deposition,
9
        urther certi y that the deposition o
10 George dwards, Ph D , Vo ume , occurred at the
    o ices o Fox Rothschi d, 222 South Ninth Street,
11 Suite 2000, Minneapo is, Minnesota on Thursday,
    December 6, 2019, commencing at 8 57 a m to
12 3 00 p m
13   urther certi y that am not re ated
    to any o the parties to this action by b ood or
14 marriage, am not emp oyed by or an attorney to
    any o the parties to this action, and that am
15 in no way interested, inancia y or otherwise, in
    the outcome o this matter
16
        N W TN SS WH R OF, have hereunto set
17 my hand this 9th day o December, 2019
18   amy L. Larson

19   Amy   arson, RPR
        My Commission xpires 01 31 20
20   NOTARY PUB C N AND FOR TH
        STAT OF M NN SOTA
21
22

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