08:17:24

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE

- - -

MICROCHIP TECHNOLOGY INCORPORATED, : C.A. No. 17-1194

Plaintiff,

vs.

APTIV SERVICES US, LLC,

Defendant.

- - -

TRANSCRIPT OF PROCEEDINGS

TESTIMONY

VOLUME 3

- - -

Date: Friday, April 8, 2022

Time: 9 o'clock a.m.

Place: J. Caleb Boggs Federal Building
844 N. King Street
Courtroom 6B
Wilmington, Delaware 19801

Before: HONORABLE JOSHUA D. WOLSON, JUDGE

Reporter: Rose A. Tamburri, RPR, CM, CRR
Notary Public of Delaware

- - -

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1
I N D E X
2

3 WITNESS PAGE

4 MITCHEL OBOLSKY

5
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7 REDIRECT EXAMINATION BY:
MR. SLAYDEN 66
8

9
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11 DIRECT EXAMINATION BY:
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17

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1

E X H I B I T S

2

NO.	MARKED	ADMITTED
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272	22	22
269	26	27
275	28	28
273	31	31
236	35	35
270	36	37
271	36	37
42	49	49
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82	67	67
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373	153	154
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2

376	231	--
182	280	281
18	281	281
125	281	281
264	387	387

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1 (Whereupon, the Court commenced 08:19:09
2 proceedings at 9 o'clock a.m.) 08:19:13
3 THE COURT CLERK: All rise. The 08:19:17
4 Honorable Joshua D. Wolson presiding. 08:19:21
5 THE COURT: All right. Good 08:19:26
6 morning, everybody. 08:57:07
7 MR. SLAYDEN: Good morning. 08:57:09
8 MS. DURIE: Good morning. 08:57:10
9 THE COURT: Have a seat, please. 08:57:11
10 All right. 08:57:14
11 We got the jury instructions that 08:57:16
12 everybody sent last night. Thank you. We are 08:57:17
13 working through the changes you saw. I will 08:57:20
14 try to incorporate them into our draft and I 08:57:24
15 will get you something by the end of the day 08:57:28
16 so you can look at them over the weekend. 08:57:31
17 MS. DURIE: And I just want to be 08:57:33
18 clear that there is a dispute between the 08:57:34
19 parties about the changes. 08:57:36
20 THE COURT: Yes, I saw that there 08:57:37
21 was a draft. 08:57:38
22 MS. DURIE: Perfect. 08:57:39
23 THE COURT: And then I guess you 08:57:40
24 accepted -- one side made changes, the other 08:57:42

1 side didn't accept all the changes and made 08:57:46
2 their own changes. I didn't think that meant 08:57:48
3 you had agreed to their changes. 08:57:50
4 MS. DURIE: Perfect. We just 08:57:51
5 wanted to get it in because we knew you were 08:57:52
6 waiting for it. 08:57:55
7 THE COURT: Understood. I think 08:57:56
8 we understand the state of play. 08:57:57
9 MS. DURIE: Perfect. 08:57:59
10 THE COURT: You know, you'll see 08:58:00
11 what we give you, and obviously to the extent 08:58:01
12 of what we issue. I don't think it will be 08:58:05
13 amongst the confusion, but if it is, you'll 08:58:08
14 let us know. 08:58:10
15 MS. DURIE: Yes. Thank you. 08:58:11
16 Very, very much appreciate it, getting the 08:58:11
17 heads-up. 08:58:15
18 THE COURT: Yes. Okay. All 08:58:15
19 right. I think that's it. I didn't hear 08:58:20
20 anything else in terms of issues we need to 08:58:23
21 take up; right? 08:58:25
22 MR. SLAYDEN: No, Your Honor. 08:58:26
23 THE COURT: All right. Let's 08:58:27
24 bring the jury in and we'll get Mr. Obolsky 08:58:28

1 back up here. 08:58:31
2 (Whereupon, the jury entered the 08:58:33
3 courtroom.) 08:58:35
4 THE COURT: All right. 08:58:59
5 Good morning, everybody. I am 08:58:59
6 impressed with your promptness. I appreciate 08:59:03
7 it. It's not always the case with juries, so 08:59:05
8 you are in good standing. 08:59:08
9 All right. So we're going to 08:59:09
10 resume this morning with Mr. Obolsky. I'm 08:59:11
11 sorry, you can all be seated. You can resume 08:59:14
12 Mr. Obolsky's cross-examination, so Mr. 08:59:17
13 Obolsky, if you will step up. 08:59:20
14 You understand you're still under 08:59:37
15 oath? 08:59:38
16 THE WITNESS: Yes, I do. 08:59:39
17 THE COURT: All right. 08:59:40
18 Ms. Durie, you may proceed. 08:59:41
19 MS. DURIE: Thank you. 08:59:43
20 - - - 08:59:43
21 CROSS-EXAMINATION, CONTINUED 08:59:43
22 - - - 08:59:43
23 BY MS. DURIE: 08:59:43
24 Q. Mr. Obolsky, good morning. 08:59:44

1 A. Good morning. 08:59:46
2 Q. Now, yesterday we left off in 08:59:46
3 December of 2014, and we were talking about 08:59:48
4 Chrysler. And just by way of a refresher, 08:59:52
5 Tecvox was one of Microchip's customers; 08:59:57
6 right? 09:00:00
7 A. Yes, it was. 09:00:00
8 Q. An Tecvox had been pitching the 09:00:03
9 Chrysler business with a Microchip chip; 09:00:06
10 right? 09:00:09
11 A. Yes, it was. 09:00:10
12 Q. Okay. 09:00:12
13 That was the FlexConnect chip that 09:00:12
14 did not have persistent USB; right? 09:00:14
15 A. Yes. 09:00:18
16 Q. And Tecvox had learned that it was 09:00:18
17 losing the Chrysler business; right? 09:00:22
18 A. Yes. 09:00:24
19 Q. Okay. 09:00:25
20 MS. DURIE: Let me mark for 09:00:27
21 identification TX-262. 09:00:31
22 (Whereupon, Trial Exhibit 262 was 09:00:36
23 introduced.) 09:00:40
24 BY MS. DURIE: 09:00:47

1 Q. Exhibit 262 is an email amongst a 09:00:47
2 number of individuals at Microchip regarding a 09:00:50
3 Thursday Chrysler meeting; correct? 09:00:56
4 A. Let me look at it. 09:01:00
5 Q. Sure. 09:01:01
6 A. Yes. 09:01:04
7 MS. DURIE: We offer it. 09:01:06
8 MR. SLAYDEN: No objection. 09:01:07
9 THE COURT: Okay. So received. 09:01:07
10 MS. DURIE: And, Mr. Glass, if we 09:01:11
11 can put up page 1, and start at the -- that's 09:01:13
12 perfect. 09:01:18
13 BY MS. DURIE: 09:01:19
14 Q. Now, this is an email, we see, from 09:01:19
15 Sal Canu; correct? 09:01:27
16 A. Yes, it is. 09:01:29
17 Q. And can you remind us who he is? 09:01:30
18 A. He is a salesman and applications 09:01:31
19 engineer inside of Microchip. 09:01:33
20 Q. Perfect. 09:01:35
21 Let's take a look -- let's start 09:01:36
22 at "Short-term" in the middle of the page. He 09:01:38
23 is discussing Microchip's short-term position; 09:01:41
24 right? 09:01:43

A. Yeah, where are we looking? 09:01:48
Q. Right there where it says, 09:01:51
"Short-term." 09:01:53
A. Okay. I got it. 09:01:53
Q. And if the monitor in front of you 09:01:54
is -- 09:01:56
A. Easier up here. 09:01:56
Q. Completely understand. 09:01:57
And he says, "We looked at 09:02:00
developing a solution for 1 upstream lane, 09:02:02
persistent USB data and we don't have a 09:02:06
solution. We wish we could provide a solution 09:02:08
but we don't have it." 09:02:10
That was true; right? 09:02:12
A. Yes. 09:02:13
Q. And then if we go a little bit 09:02:13
further down, he says, "We still think our 09:02:17
USB84604 solution is the best solution." 09:02:23
That was the FlexConnect solution; 09:02:28
right? 09:02:30
A. Yes. 09:02:30
Q. Okay. 09:02:31
Now, let's go up -- actually, I 09:02:32
take it back. 09:02:35

1 MS. DURIE: Let's go down, take 09:02:39
2 that down and go to "Long-term" underneath 09:02:40
3 there, if we can blow that up. Perfect. 09:02:43
4 That's what we need. That's great. 09:02:47
5 BY MS. DURIE: 09:02:49
6 Q. So he says, "Long-term: We have 09:02:49
7 Sparta in the product pipeline and will 09:02:53
8 continue on that path. This is the solution 09:02:55
9 that works with 2 upstream lanes." 09:02:58
10 So that's not a one-lane solution, 09:03:02
11 that's a two-lane solution; right? 09:03:04
12 A. That's what it says, yes. 09:03:07
13 Q. Okay. 09:03:08
14 And then he says, "We will 09:03:10
15 consider a solution for 1 upstream lane with 09:03:12
16 persistent USB data but do not have a 09:03:15
17 commitment for that now." 09:03:18
18 So 1 upstream lane with persistent 09:03:21
19 USB data, that's what Chrysler was asking for? 09:03:24
20 A. Yes. 09:03:26
21 Q. That's what Tecvox didn't have? 09:03:27
22 A. Yes. 09:03:29
23 Q. Right? 09:03:29
24 And Dave Diovardi, who is he? 09:03:31

A. Dave Diovardi is a program manager at 09:03:34
Chrysler. 09:03:39
Q. Okay. 09:03:39
MS. DURIE: Now, if we can go up, 09:03:40
Mr. Glass, to the top of the email. It says, 09:03:42
"Our position: Upper Management involvement." 09:03:48
Actually, can we go back down to 09:03:52
"Long-term," I apologize. 09:03:55
BY MS. DURIE: 09:03:56
Q. It says, "(We can ask Dave Diovardi 09:03:56
here - Is the Unwired solution certified with 09:03:59
Apple?) Certification of this system would 09:04:01
help make the case to Upper Management to put 09:04:03
this solution in the pipeline." 09:04:06
So some of the folks at Microchip 09:04:08
were trying to make the case with upper 09:04:11
management about this 1 upstream lane with 09:04:13
persistent USB data saying hey, guys, we need 09:04:15
to do this; right? 09:04:19
A. Yes. It appears so. 09:04:20
Q. And one of the road blocks was that 09:04:22
Microchip was worried that Apple wasn't 09:04:24
ultimately going to certify this? 09:04:26
A. Yes. 09:04:29

1 Q. Okay. 09:04:29
2 And so now, let's go up to the 09:04:30
3 top. "Our position: Upper Management 09:04:33
4 involvement." 09:04:37
5 Now, upper management, that's you; 09:04:39
6 right? You're part of upper management? 09:04:41
7 A. Yes. 09:04:43
8 Q. Okay. 09:04:44
9 "Upper Management is aware of the 09:04:45
10 market, the requirements, and all solutions 09:04:47
11 proposed. More information is needed for them 09:04:49
12 to make any directional changes and this will 09:04:51
13 take time. A business case providing revenue 09:04:54
14 commitments/estimates would have to justify 09:04:56
15 investment." 09:04:59
16 Now, sir, you said yesterday in 09:05:01
17 your direct examination that Microchip always 09:05:02
18 does what its customers want; right? 09:05:05
19 A. Eventually, yes. 09:05:08
20 Q. Yeah, eventually. 09:05:10
21 You knew that this was something 09:05:12
22 that Tecvox wanted; right? 09:05:13
23 A. Yes. We became aware, yes. 09:05:16
24 Q. Yeah. And your response wasn't 09:05:19

1 absolutely, we'll get right on it; your 09:05:21
2 response was yeah, we'll think about it and 09:05:23
3 see if that's something we want to do? 09:05:25
4 A. That's the response here. 09:05:28
5 Q. Right. 09:05:30
6 A. I'm not copied on this message. 09:05:31
7 Q. Okay. 09:05:33
8 So the wall that Microchip ran 09:05:33
9 into in this timeframe is that they didn't 09:05:35
10 have a solution to be able, both, to have 09:05:39
11 music at the same time as CarPlay in a single 09:05:43
12 lane format, and you weren't sure it was worth 09:05:45
13 the investment to come up with one? 09:05:47
14 A. At this point, we weren't sure we 09:05:51
15 should do this chip, yes. 09:05:53
16 Q. Right. 09:05:56
17 MS. DURIE: Mr. Glass, if we could 09:05:57
18 put up TX-36 in evidence. 09:05:59
19 BY MS. DURIE: 09:06:04
20 Q. TX-36 is an email exchange with you 09:06:06
21 and Steve Sanghi. 09:06:10
22 So who is Steve Sanghi? 09:06:14
23 A. Steve Sanghi, at the time, was the 09:06:15
24 CEO of Microchip. 09:06:17

1 Q. And there is a copy there to Ganesh 09:06:18
2 Moorthy. Who was he? 09:06:23
3 A. Ganesh was my boss immediately and 09:06:24
4 eventually has now become the CEO. 09:06:28
5 Q. Right. 09:06:30
6 So fair to say this is about as 09:06:31
7 upper management as it gets; right? 09:06:32
8 A. That's fair. 09:06:34
9 Q. Okay. 09:06:35
10 Now, if we can start at the email 09:06:37
11 that you sent, it's on the second page, and 09:06:41
12 blow up this. 09:06:48
13 So you said -- this is part of 09:06:51
14 what you wrote; right? 09:06:52
15 A. Yeah. 09:06:56
16 Q. And you're talking about a meeting 09:06:56
17 that's going to happen with Tecvox; right? 09:06:58
18 And if we go down, there is a 09:07:05
19 discussion here about Don Perkins. Who is 09:07:07
20 Don? 09:07:09
21 A. Don was one of the marketing managers 09:07:10
22 at the time. 09:07:14
23 Q. Okay. 09:07:14
24 MS. DURIE: And so let's go down, 09:07:14

1 the next page following up on your email, we 09:07:16
2 can go to page 3. There we go. 09:07:21
3 BY MS. DURIE: 09:07:21
4 Q. And so in your summary of this, you 09:07:25
5 say, "In my last meeting with Raj, he stated 09:07:28
6 that he blames Microchip for his failure at 09:07:31
7 Chrysler." 09:07:34
8 So this is the Tecvox guy saying 09:07:36
9 he thinks it's Microchip's fault that he lost 09:07:37
10 the Chrysler business; right? 09:07:39
11 A. That's what -- that is what he 09:07:42
12 thought, I guess. 09:07:43
13 Q. Yeah. 09:07:44
14 And you say, "He was trying to 09:07:45
15 make me feel guilty, and be more agreeable to 09:07:48
16 supporting them. The reality is the market is 09:07:51
17 evolving quickly. Our current solution is 09:07:54
18 good, but does not solve all problems. We are 09:07:56
19 planning to develop a next generation 09:07:58
20 solution, in part based on Tecvox's feedback. 09:08:00
21 In part in response to the Unwired solution, 09:08:03
22 which we had dismissed when they were a small 09:08:05
23 standalone company." 09:08:07
24 And that's true; right? 09:08:09

1 A. That is true. Unwired was struggling 09:08:14
2 quite a bit at the time. 09:08:17
3 Q. Yeah. They were a small stand-alone 09:08:18
4 company and so you dismissed their solution? 09:08:20
5 A. Yes. 09:08:24
6 Q. Okay. 09:08:26
7 MS. DURIE: Let's go to the first 09:08:34
8 page. Great. And actually, can you just go 09:08:29
9 back to the whole document for a second so we 09:08:36
10 can see where we're going. 09:08:39
11 BY MS. DURIE: 09:08:41
12 Q. So at the top, this is your email to 09:08:41
13 your CEO, to the guy who is going to become 09:08:43
14 your CEO, and you are responding to this email 09:08:46
15 thread; right? 09:08:48
16 A. Can you repeat your question? I was 09:08:51
17 not quite following. 09:08:54
18 Q. Sure. 09:08:55
19 This email that you wrote at the 09:08:56
20 top, you're reporting to your CEO and to the 09:08:57
21 guy who is going to become your CEO about this 09:09:00
22 email thread underneath that we were just 09:09:02
23 looking at; right? 09:09:04
24 A. Yes. 09:09:06

1 Q. Okay. 09:09:06
2 And you say, "We left with actions 09:09:07
3 relating to pricing and technology," and then 09:09:10
4 let's look at the second one. "We have been 09:09:13
5 working on the business case and technical 09:09:16
6 details to provide a single connection 09:09:18
7 solution similar to Unwired. We are still not 09:09:20
8 sure the ROI" -- that's return on investment; 09:09:24
9 right? 09:09:28
10 A. Yes. 09:09:28
11 Q. "We are still not sure the return on 09:09:29
12 investment justifies this project, but are 09:09:31
13 much more confident than when it was first 09:09:34
14 proposed. This development would be about 1.5 09:09:37
15 to $2 million." And then you go on to say, 09:09:40
16 "With limited resources." 09:09:45
17 Limited resources; I think I heard 09:09:48
18 in opening that Microchip's R & D budget is 09:09:50
19 $1.2 billion; is that right? 09:09:55
20 A. It is today, yes. 09:09:57
21 Q. Yeah. 09:09:58
22 A. It was not at this time. 09:09:59
23 Q. Right. 09:10:01
24 But if it is -- if it's 09:10:02

1 $1.2 billion today, presumably it was several 09:10:04
2 hundred million dollars back then; right? 09:10:07
3 A. That's a fair estimate. 09:10:08
4 Q. Okay. 09:10:09
5 So "with limited resources, this 09:10:10
6 project needs to return 15 to $20 million or 09:10:13
7 will not be funded." 09:10:17
8 So at this point in time, 09:10:19
9 January 6, 2015, Microchip had not yet made a 09:10:21
10 decision whether it was willing to make an 09:10:23
11 investment in order to come out with a 09:10:25
12 one-lane persistent USB solution; fair? 09:10:28
13 A. Yes, that was the Sandia chip we have 09:10:30
14 been talking about that was being analyzed, 09:10:33
15 the business plan was being worked. 09:10:35
16 Q. Okay. 09:10:37
17 Now, at this point in time, 09:10:38
18 combatting the Unwired threat was a key goal 09:10:41
19 of your business unit; right? 09:10:44
20 A. In this context, I think it was a key 09:10:49
21 to what Tecvox needed and responded to 09:10:51
22 Chrysler. 09:10:58
23 MS. DURIE: Okay. Let me mark for 09:10:58
24 identification Exhibit 272. 09:11:00

1 (Whereupon, Trial Exhibit 272 was 09:11:05
2 introduced.) 09:11:08
3 BY MS. DURIE: 09:11:14
4 Q. Okay. 09:11:15
5 Exhibit 272 is an email from you 09:11:15
6 to a number of individuals, including Mark 09:11:19
7 Bohm, January 12th, 2015; right? 09:11:21
8 A. Hang on one second. 09:11:26
9 Q. Sure. 09:11:27
10 A. Yes. 09:11:28
11 MS. DURIE: We offer it. 09:11:30
12 MR. SLAYDEN: No objection. 09:11:30
13 THE COURT: All right. It will 09:11:32
14 come in. 09:11:33
15 MS. DURIE: And we can start at 09:11:34
16 the top of the first page. 09:11:39
17 BY MS. DURIE: 09:11:41
18 Q. There's an email from you, 09:11:41
19 January 12th, 2015, "Updated Goals," and 09:11:43
20 underneath that you say, "One bonus goal 09:11:49
21 related to Unwired that was already in our 09:11:52
22 plans. In yellow." 09:11:55
23 So these are corporate goals; 09:11:57
24 right? 09:11:59

1 A. Hang on. 09:12:00
2 Yeah, these are division goals, 09:12:05
3 yes. 09:12:09
4 Q. Now, is it right that the way 09:12:10
5 Microchip worked, bonuses for employees in a 09:12:12
6 particular group or division are tied to goals 09:12:15
7 for that division or group for some period of 09:12:19
8 time? 09:12:21
9 A. No, they are not. 09:12:21
10 Q. Okay. 09:12:22
11 So bonuses are completely 09:12:22
12 unrelated to corporate performance? 09:12:24
13 A. Well, bonus is only a function of 09:12:26
14 corporate high-line revenue and growth, 09:12:28
15 period. 09:12:31
16 Q. Okay. Fair enough. 09:12:31
17 Now, let's take a look at the 09:12:33
18 goals. I take it even if you don't have 09:12:36
19 bonuses tied to them, you still care about 09:12:38
20 meeting them? 09:12:43
21 A. We set a plan and we hope to meet 09:12:43
22 that plan. 09:12:45
23 Q. Great. 09:12:46
24 MS. DURIE: Let's take a look at 09:12:46

1 the third page, Mr. Glass, and let's take a 09:12:49
2 look at what the goals were. 09:12:52
3 BY MS. DURIE: 09:12:55
4 Q. So Q4, fiscal year 2015, January to 09:12:55
5 March of 2015, Objectives and Key Results. 09:13:00
6 So this is a list of goals, and 09:13:04
7 then you're highlighting the status of 09:13:06
8 performance against those goals; right? 09:13:09
9 A. Yes. 09:13:12
10 Q. Okay. 09:13:12
11 And so green means complete, 09:13:13
12 yellow means at risk, red means likely miss, 09:13:17
13 blue is on track. 1(c) goal, initiate 09:13:21
14 business and technical actions to combat the 09:13:25
15 Unwired threat, and the status of that 09:13:27
16 particular goal is yellow, which means it was 09:13:30
17 seen as being at risk; right? 09:13:32
18 A. Yeah. It was being completed by the 09:13:35
19 end of March. 09:13:37
20 Q. There was a risk that you would not 09:13:38
21 succeed in your business and technical actions 09:13:41
22 to combat the Unwired threat by the end of the 09:13:43
23 quarter? 09:13:49
24 A. I'm sorry, by? 09:13:49

1 Q. The end of the quarter. 09:13:50
2 A. Yes. And that's what it's measuring. 09:13:51
3 Q. Right. So keep this date in mind. 09:13:54
4 Let's go back to the first page. 09:13:57
5 January 12th, 2015; did anything 09:13:59
6 else happen on January 12th, 2015, relevant to 09:14:09
7 this case? 09:14:12
8 A. I'm sorry? 09:14:13
9 Q. Did anything else happen on 09:14:14
10 January 12th, 2015, that is relevant to this 09:14:16
11 case? 09:14:19
12 A. I don't specifically remember, but... 09:14:20
13 Q. All right. Let's take a look. 09:14:23
14 MS. DURIE: TX-9 in evidence, 09:14:25
15 please. 09:14:28
16 BY MS. DURIE: 09:14:28
17 Q. January 12th, 2015, "Dear Mr. Voto," 09:14:29
18 here are our concerns. 09:14:38
19 A. Yes. 09:14:41
20 Q. So you sent the notice letter to 09:14:41
21 Delphi the same day that you sent around 09:14:44
22 internally that your goal of initiating 09:14:46
23 business and technical actions to combat the 09:14:48
24 Unwired threat was at risk; right? 09:14:51

1 A. It would appear so, yes. 09:14:56
2 Q. All right. 09:14:58
3 Now, Delphi responded to that 09:14:58
4 letter promptly; right? 09:15:00
5 A. I guess, as I understand it. 09:15:03
6 MS. DURIE: Let's take a look. 09:15:09
7 Mark for identification Exhibit 269. 09:15:11
8 (Whereupon, Trial Exhibit 269 was 09:15:13
9 introduced.) 09:15:16
10 BY MS. DURIE: 09:15:28
11 Q. Exhibit 269 is a fax, which is kind 09:15:28
12 of charming. It is a fax from 2015, and if we 09:15:31
13 take a look at the thing that was faxed, it's 09:15:36
14 a letter from Delphi to Microchip Technology 09:15:38
15 Incorporated responding to the January 12th 09:15:43
16 letter that we were just looking at; right? 09:15:45
17 A. Yes, it appears to be. 09:15:49
18 MS. DURIE: We offer 269. 09:15:50
19 MR. SLAYDEN: It's got a 09:15:57
20 limitation to it. 09:15:59
21 THE COURT: I'm sorry? 09:16:01
22 MR. SLAYDEN: Subject to a 09:16:02
23 limitation, I'll represent, giving the letter 09:16:02
24 to attorneys. 09:16:08

1 THE COURT: Okay. I'll receive 09:16:09
2 it. And, ladies and gentlemen, you'll see the 09:16:13
3 exhibit. You should not draw any inferences, 09:16:17
4 one way or another, from the fact that there 09:16:19
5 were also attorneys who received a copy of it, 09:16:22
6 which you'll see on the letter. 09:16:23
7 MS. DURIE: Terrific. 09:16:25
8 Mr. Glass, if we could see 269, 09:16:27
9 please, page 2. 09:16:31
10 BY MS. DURIE: 09:16:32
11 Q. This is the letter that Delphi faxed 09:16:33
12 back dated January 30th, 2015, responding to 09:16:35
13 the letter, and if we can go down, saying we 09:16:41
14 don't intend to use any of your intellectual 09:16:44
15 properties, we value our business 09:16:47
16 relationship, et cetera; right? 09:16:48
17 A. Yes, that appears so. 09:16:52
18 Q. Okay. 09:16:53
19 And Microchip didn't respond to 09:16:53
20 this letter from Delphi; right? 09:16:57
21 A. I don't know. I don't know what 09:16:59
22 happened next. 09:17:01
23 Q. You don't know what happened next. 09:17:02
24 All right. Well, let's take a look. 09:17:05

1 MS. DURIE: 275. 09:17:10
2 (Whereupon, Trial Exhibit 275 was 09:17:13
3 introduced.) 09:17:16
4 BY MS. DURIE: 09:17:16
5 Q. Exhibit 275, email from Mitch Obolsky 09:17:29
6 to Steve Sanghi, CEO, Ganesh Moorthy, 09:17:33
7 CEO-to-be, initial proposal for Tecvox; right? 09:17:38
8 A. Hang on. Yes. 09:17:41
9 Q. January 26, 2015? 09:17:45
10 A. Yes. 09:17:46
11 MS. DURIE: We offer 275. 09:17:47
12 MR. SLAYDEN: No objection, Your 09:17:49
13 Honor. 09:17:51
14 THE COURT: All right. It's 09:17:51
15 admitted. 09:17:52
16 MS. DURIE: Okay. So Exhibit 275, 09:17:55
17 page 1, if you can blow that up. Perfect. 09:17:57
18 Thank you. All right. 09:18:01
19 BY MS. DURIE: 09:18:03
20 Q. So this is an email from you, "The 09:18:03
21 attached slides are the heart of the 09:18:05
22 discussion with Tecvox. There have been about 09:18:07
23 20 hours of internal Microchip meetings in the 09:18:12
24 last two weeks, and many more are needed to 09:18:14

1 complete the product definition." 09:18:17
2 And then it goes on to say, "We 09:18:22
3 now believe it is technically feasible to 09:18:25
4 develop a solution that competes with 09:18:28
5 Unwired's and also can serve the European car 09:18:30
6 manufacturers whose needs differ slightly." 09:18:33
7 So now you had concluded that this 09:18:38
8 one-lane persistent USB solution was 09:18:44
9 technically feasible? 09:18:48
10 A. That's what it says. That is 09:18:51
11 correct. 09:18:54
12 Q. That, indeed, is what it says. 09:18:54
13 Now, you let your CEO know -- if 09:18:57
14 we can scroll down a little bit -- you got a 09:19:01
15 preliminary set of features, you've got a 09:19:06
16 development timeline, you've got product 09:19:09
17 costs. 09:19:11
18 Developing a chip takes a lot; 09:19:11
19 right? 09:19:13
20 A. Yes, it does. 09:19:14
21 Q. Yeah. 09:19:15
22 And you say, "It will likely take 09:19:15
23 until the end of March to fully define the 09:19:17
24 product and timeline," so you're not even 09:19:20

1 going to have a plan until the end of March, 09:19:23
2 and likely two years or more to reach 09:19:25
3 production if the business plan says we should 09:19:27
4 proceed with this project. 09:19:29
5 That's what you told your CEO at 09:19:31
6 the time; right? 09:19:34
7 A. Yes. That's what it says. 09:19:35
8 Q. Okay. 09:19:36
9 And ultimately you decided, at 09:19:40
10 this point in time, to call the thing that you 09:19:43
11 were developing a multi-host device 09:19:46
12 controller; right? 09:19:52
13 A. I guess so. I don't -- I don't know 09:19:54
14 that. 09:19:56
15 Q. Yeah. 09:19:57
16 A. I assume. 09:19:58
17 Q. It is after you've sent the notice 09:19:59
18 letter to Aptiv/Delphi; right? Right? 09:20:01
19 A. Hang on one second. You said this is 09:20:09
20 after? What's the date? I'm sorry. 09:20:11
21 Q. Yeah, this is after. January 26th; 09:20:13
22 right? 09:20:15
23 A. Yes, yes. Sorry. 09:20:16
24 Q. You're thinking about how to counter 09:20:17

1 the threat posed by the Unwired/Delphi 09:20:20
2 solution at this point in time; right? 09:20:24
3 A. Yes. 09:20:26
4 Q. And so you picked, for the product 09:20:27
5 that you were starting to develop, the name 09:20:31
6 that was in the patent that you had sent to 09:20:33
7 Delphi; right? 09:20:37
8 A. If that's true, yes. 09:20:40
9 MS. DURIE: Let's take a look. 09:20:43
10 Identification, Exhibit 273. 09:20:48
11 (Whereupon, Trial Exhibit 273 was 09:20:52
12 offered.) 09:20:55
13 BY MS. DURIE: 09:21:03
14 Q. Exhibit 273, an email from David 09:21:05
15 Sroka to Mark Bohm, among others, dated 09:21:09
16 January 12th, 2015; right? 09:21:12
17 A. Yes. 09:21:17
18 MS. DURIE: We offer it. 09:21:17
19 MR. SLAYDEN: No objection, Your 09:21:19
20 Honor. 09:21:20
21 THE COURT: All right. It is 09:21:20
22 admitted. 09:21:21
23 MS. DURIE: And, Mr. Glass, if we 09:21:23
24 can take a look at Exhibit 273, second full 09:21:25

1 paragraph, from Mr. Sroka. 09:21:29
2 BY MS. DURIE: 09:21:31
3 Q. Now, just to be clear -- 09:21:31
4 MS. DURIE: And if you can blow 09:21:33
5 that up, too. 09:21:35
6 BY MS. DURIE: 09:21:35
7 Q. So Mr. Sroka is the one we saw 09:21:37
8 yesterday who is, both, a marketing guy, but 09:21:39
9 also an engineer who was working on that 09:21:41
10 PowerPoint product definition set of slides 09:21:43
11 for the chip that Microchip was working on; 09:21:45
12 right? 09:21:47
13 A. Can you repeat that? I'm sorry, I 09:21:48
14 didn't follow the whole thing. 09:21:51
15 Q. Sure. 09:21:52
16 Yesterday we saw a PowerPoint 09:21:53
17 presentation, it had Mr. Sroka's name on it, 09:21:54
18 relating to the development of the Sandia 09:21:57
19 chip; right? That's the one-lane persistent 09:21:59
20 USB? 09:22:01
21 A. Yes, I think so. 09:22:02
22 Q. Okay. 09:22:04
23 And I think we confirmed, he is, 09:22:04
24 both, a marketing guy, but also an engineer; 09:22:07

1 right? 09:22:09
2 A. Yes. 09:22:09
3 Q. Okay. 09:22:09
4 And so Mr. Sroka, as the person 09:22:10
5 responsible for this project, says, "First we 09:22:14
6 are well positioned with USB84604," so 09:22:18
7 Microchip is still trying to sell that old 09:22:22
8 FlexConnect solution; right? 09:22:25
9 A. I don't know about old. It was brand 09:22:27
10 new at that time. 09:22:30
11 Q. All right. Fine. 09:22:30
12 Microchip was still trying to sell 09:22:31
13 the FlexConnect solution that it had already 09:22:33
14 developed; right? 09:22:36
15 A. Yes. 09:22:37
16 Q. Okay. 09:22:37
17 And he says, "but we lost against 09:22:39
18 Unwired at Chrysler, Ford, and GM. Chrysler 09:22:42
19 came to us very aggressively to look at doing 09:22:47
20 a spoofed device," and this spoofed device, 09:22:49
21 that's the Unwired solution? 09:22:53
22 A. Well, I mean, Unwired has a solution. 09:22:54
23 Q. Right. 09:22:56
24 A. Chrysler asked us for a solution. 09:22:57

1 Q. Right. 09:22:59
2 And then if we keep going, it 09:22:59
3 says, "This really kept us in the game and by 09:23:02
4 showing our experience in the area (product 09:23:05
5 brief) and legitimized our inputs and concerns 09:23:09
6 for both Sparta and MHDC," multi-host device 09:23:12
7 controller... "we use this name as it relates 09:23:15
8 to our patents"; right? 09:23:18
9 A. Yes, that's what it says. 09:23:21
10 Q. Now, in the event, Microchip didn't 09:23:23
11 actually use that name for very long, did it? 09:23:25
12 A. I'm sorry? 09:23:28
13 Q. In the event, Microchip did not use 09:23:29
14 that name for very long? 09:23:33
15 A. I'm not sure what that means, "in the 09:23:34
16 event." 09:23:36
17 Q. Sure. Let's take a look. 09:23:36
18 A. I'm not sure what those words mean. 09:23:38
19 MS. DURIE: Fair enough. I think 09:23:42
20 I can help to clarify that for you. 09:23:43
21 Exhibit 236 for identification. 09:23:46
22 (Whereupon, Trial Exhibit 236 was 09:23:48
23 introduced.) 09:23:50
24 BY MS. DURIE: 09:24:00

1 Q. So Exhibit 236 is a copy of a 09:24:00
2 Microchip specification for USB4916. That's 09:24:04
3 the Sandia chip; right? 09:24:09
4 A. Yes. That's one of the variants, 09:24:12
5 yes. 09:24:14
6 MS. DURIE: We offer 236. 09:24:14
7 MR. SLAYDEN: No objection, Your 09:24:16
8 Honor. 09:24:16
9 THE COURT: All right. It will be 09:24:18
10 received. 09:24:18
11 MS. DURIE: Okay. 09:24:19
12 BY MS. DURIE: 09:24:21
13 Q. So now, before we were looking at a 09:24:22
14 document back in 2015 when you were talking 09:24:23
15 about calling the chip the multi-host device 09:24:29
16 controller. Now we have the product spec 09:24:33
17 sheet. 09:24:35
18 MS. DURIE: Actually, if you can 09:24:36
19 go all the way to the bottom, Mr. Glass. Go 09:24:37
20 all the way to the bottom. 09:24:39
21 BY MS. DURIE: 09:24:39
22 Q. And we see 2017; right? 09:24:42
23 A. Yeah, that looks like the date on 09:24:47
24 this document. 09:24:48

1 Q. Right. 09:24:50
2 And if we go up to the top, we see 09:24:50
3 that it is now called the USB 2.0 Hi-Speed 09:24:52
4 Multi-Host Endpoint Reflector; right? 09:24:57
5 A. I guess. That's what it says, yeah. 09:25:03
6 Q. So you changed the name; right? 09:25:04
7 A. I don't know. 09:25:06
8 Q. Okay. 09:25:07
9 Fast forward to October of 2015. 09:25:08
10 So we're now roughly 10 months after that 09:25:12
11 letter that we saw notifying Delphi/Aptiv 09:25:16
12 about the patents; okay? 09:25:21
13 MS. DURIE: Mark for 09:25:24
14 identification Exhibit 270. 09:25:26
15 (Whereupon, Trial Exhibit 270 was 09:25:28
16 introduced.) 09:25:31
17 MS. DURIE: And let me also mark 09:25:45
18 271. 09:25:46
19 (Whereupon, Trial Exhibit 271 was 09:25:49
20 introduced.) 09:25:52
21 MS. DURIE: Okay. 09:26:05
22 BY MS. DURIE: 09:26:05
23 Q. So Exhibit 270, email from Keith 09:26:06
24 Barber at Microchip to you, copying some of 09:26:11

1 the other folks whose names we have seen, 09:26:15
2 attaching what is referred to as the DDC 09:26:17
3 minutes. 09:26:21
4 And 271, which is the attachment 09:26:23
5 and the minutes of that meeting. 09:26:27
6 Do you see that? 09:26:30
7 A. Yes, I do. 09:26:33
8 MS. DURIE: We offer 270 and 271. 09:26:34
9 MR. SLAYDEN: No objection, Your 09:26:37
10 Honor. 09:26:38
11 THE COURT: All right. They're 09:26:38
12 received. 09:26:39
13 MS. DURIE: Mr. Glass, if we could 09:26:40
14 go to 270, that's right, that's 270, and if we 09:26:42
15 could then put up 271. So just leave it like 09:26:47
16 that for the moment. That's perfect. 09:26:52
17 BY MS. DURIE: 09:26:54
18 Q. So this is reporting on a meeting 09:26:55
19 that took place between Microchip and Delphi; 09:26:56
20 right? 09:26:59
21 A. Yes, it appears to be. 09:27:01
22 Q. And this is a meeting that took place 09:27:03
23 in October of 2015; right? 09:27:06
24 A. Yes, that's the date on there. 09:27:11

1 Q. It took place at Delphi, Auburn 09:27:13
2 Hills, Michigan, near Detroit; right? 09:27:22
3 A. Yeah, at Delphi. I don't know the 09:27:23
4 location at all. 09:27:25
5 Q. Okay. 09:27:26
6 And you were there; right? 09:27:26
7 A. Yes. I just don't know where. 09:27:26
8 Q. Totally fair. 09:27:30
9 So folks from Delphi, including 09:27:31
10 Rob Voto, Mike Dreon; right? You recognize 09:27:33
11 Mr. Dreon? 09:27:39
12 A. I think so. 09:27:39
13 Q. Do you remember he was at the 09:27:42
14 meeting, too? 09:27:43
15 A. I wouldn't remember, but I believe 09:27:43
16 you, yes. 09:27:46
17 Q. All right. 09:27:46
18 And so you were there along with 09:27:47
19 some of the other folks from Microchip; right? 09:27:49
20 A. Yes. 09:27:51
21 Q. And Microchip took notes of what the 09:27:52
22 Delphi folks said and what the Microchip folks 09:27:56
23 said; right? 09:27:59
24 A. Do we know that those are Microchip 09:28:00

1 notes? I don't know who took the notes. I 09:28:02
2 can see that they were taken, but I don't know 09:28:04
3 who took the notes. 09:28:09
4 Q. All right. 09:28:10
5 Well, notes were taken of the 09:28:11
6 meeting in the form of minutes that were then 09:28:13
7 attached to an email and circulated internally 09:28:18
8 at Microchip? 09:28:18
9 A. Yes, they were forwarded. 09:28:18
10 Q. Sure. 09:28:20
11 You are not aware of any email 09:28:20
12 within Microchip where anyone said hey, wait a 09:28:23
13 minute, that's not what we talked about; 09:28:25
14 right? 09:28:27
15 A. I don't know. 09:28:28
16 Q. I'm sure if there is one, we'll see 09:28:28
17 it. 09:28:28
18 So let's take a look at the 09:28:31
19 minutes of the meeting. Start at the top 09:28:32
20 there. And that's actually perfect. We can 09:28:34
21 just have it there, yeah. 09:28:36
22 "Rob does not consider" -- that's 09:28:38
23 Rob Voto from Delphi; right? 09:28:39
24 A. Yes. 09:28:41

1 Q. Okay. 09:28:41
2 "Rob does not consider Delphi" -- 09:28:42
3 DDC, that's Delphi; right? 09:28:45
4 A. Yes, Delphi, Delphi, yes. 09:28:47
5 Q. Okay. 09:28:50
6 "Rob does not consider DDC as a 09:28:51
7 competent competitor to Microchip because 09:28:53
8 they're not trying to sell ASIC to the open 09:28:56
9 market." 09:28:59
10 So what Rob Voto from Delphi is 09:28:59
11 saying here is, we're not competing with you, 09:29:02
12 we're not trying to sell these chips to anyone 09:29:04
13 else; right? 09:29:07
14 A. Yeah. That was Rob's view, but I 09:29:08
15 disagree. 09:29:10
16 Q. Right. Fair enough. We're going to 09:29:11
17 get to your perspective in just a minute. 09:29:13
18 And Mr. Voto said, the next box, 09:29:15
19 "Microchip did not have a solution for the 09:29:21
20 single upstream lane that The Big 3 OEMs, 09:29:23
21 Ford, Chrysler, GM, wanted"; right? 09:29:27
22 A. Yes, that's correct. 09:29:32
23 Q. And that was true? 09:29:34
24 A. Yes. 09:29:37

1 Q. Okay. 09:29:38
2 It says in the notes, "Mitch 09:29:40
3 acknowledged that USB84604 was not adopted by 09:29:41
4 The Big 3." 09:29:46
5 That's that FlexConnect solution; 09:29:47
6 right? 09:29:49
7 A. Yeah. These are not things I said. 09:29:50
8 These are somebody else -- something people 09:29:53
9 wrote down. These are not things that I said. 09:29:55
10 Q. Well, it says, "Mitch acknowledged 09:29:57
11 that 84604, FlexConnect, was not adopted by 09:30:00
12 The Big 3." 09:30:05
13 Do you deny that you said that? 09:30:05
14 A. No, I don't deny I said that. 09:30:07
15 Q. Okay. Great. Let's go to the next 09:30:08
16 one. 09:30:11
17 MS. DURIE: No. 3 in that list, if 09:30:12
18 we can blow that up. There we go. Perfect. 09:30:14
19 BY MS. DURIE: 09:30:16
20 Q. "Rob," Rob Voto, Delphi, "said he 09:30:17
21 does not want to be a silicon developer" -- 09:30:20
22 that means making chips; right? 09:30:22
23 A. Yes. 09:30:24
24 Q. "Rob said he does not want to be a 09:30:25

1 silicon developer if he does not have to. If 09:30:27
2 Microchip has an IC" -- that's a chip; right? 09:30:30
3 A. Yes. 09:30:32
4 Q. Okay. 09:30:33
5 -- "that he can use, he would 09:30:33
6 rather use a Microchip chip. He wants to sell 09:30:35
7 modules." 09:30:38
8 And that is, in fact, what Mr. 09:30:39
9 Voto explained was his position at the 09:30:42
10 meeting; right? 09:30:44
11 A. Yes. 09:30:44
12 Q. Okay. 09:30:46
13 MS. DURIE: Let us go on to the 09:30:53
14 next page. 09:30:55
15 BY MS. DURIE: 09:30:57
16 Q. Now, this was the first time that you 09:31:00
17 had talked with the folks at Microchip about 09:31:04
18 that patent letter since they had responded to 09:31:08
19 you at the end of January; right? 09:31:12
20 A. You mean they spoke to Delphi? 09:31:14
21 Q. I'm sorry, yes, spoke to Delphi. 09:31:17
22 A. Yes. 09:31:20
23 Q. And so that patent letter came up in 09:31:20
24 this conversation; right? 09:31:23

1 A. Yes, it probably did. 09:31:25
2 Q. Okay. 09:31:28
3 And Rob, Rob Voto from Delphi, 09:31:28
4 said he "received/reviewed/responded to the 09:31:31
5 letter sent by Microchip legal in January 2015 09:31:35
6 regarding our patents." 09:31:38
7 Now, you said you weren't sure who 09:31:40
8 took those notes. The fact that it says, "our 09:31:42
9 patents," is probably a clue that these were 09:31:44
10 notes that were taken by Microchip; right? 09:31:46
11 A. I don't know. Let me read it. 09:31:51
12 Potentially, yes. 09:31:59
13 Q. Yeah. 09:32:00
14 His statement was that Delphi 09:32:01
15 believes it is not infringing. And that is, 09:32:04
16 in fact, what Mr. Voto told you; right? 09:32:07
17 A. I believe that's correct. 09:32:12
18 Q. Okay. 09:32:13
19 And it says, "Mitch," that's you, 09:32:14
20 "noted that the DDC ASIC may be infringing on 09:32:19
21 our patents. We will get a hub and test." 09:32:25
22 And that is, in fact, what you 09:32:29
23 told Mr. Voto; right? 09:32:31
24 A. Again, I don't know that to be true. 09:32:34

1 That's someone else's notes. 09:32:37
2 Q. Someone else at Microchip? 09:32:39
3 A. I guess now, yes, possibly. Yes. 09:32:41
4 Q. Do you deny that you said that? 09:32:45
5 A. I don't remember saying that, but I 09:32:47
6 don't know. Yeah, I think -- I think 09:32:51
7 certainly we were going to -- you know, we 09:32:54
8 didn't have a product, and at one point, we 09:32:57
9 would get a product and definitively prove 09:32:59
10 they were infringing, but we didn't have one 09:33:02
11 yet. 09:33:05
12 Q. So you told Mr. Voto -- he said we 09:33:05
13 don't infringe and you said we think you may 09:33:09
14 be infringing, we're going to check? 09:33:12
15 A. I think that's a matter of politeness 09:33:15
16 in a meeting face-to-face with somebody. I'm 09:33:17
17 not sure about the word "may" or what was said 09:33:19
18 exactly, but I'm sure I was polite at the 09:33:21
19 time. 09:33:24
20 Q. Did you make an effort to be polite 09:33:24
21 in the original notice letter that you sent as 09:33:26
22 well? 09:33:30
23 A. I think the letter needed to be 09:33:30
24 factual. It's a legal type letter to say, you 09:33:32

1 know, at that point, we've looked at the data 09:33:34
2 and it is actually being explained to us that 09:33:38
3 it appears to be infringing our patents, also. 09:33:40
4 Q. Okay. 09:33:45
5 Now, let's look at what happened 09:33:46
6 after this October meeting. 09:33:47
7 MS. DURIE: Let's have Exhibit 41 09:33:52
8 in evidence. 09:33:54
9 BY MS. DURIE: 09:34:01
10 Q. This is an email exchange among you 09:34:02
11 and Ganesh Moorthy; right? 09:34:04
12 A. Yes. 09:34:08
13 Q. And we are on October 18th of 2015; 09:34:10
14 right? 09:34:16
15 MS. DURIE: You can take it down. 09:34:21
16 We don't need a particular -- that should be 09:34:23
17 fine. I take it back. We can do that. 09:34:26
18 BY MS. DURIE: 09:34:28
19 Q. So in the middle of the page there, 09:34:29
20 there is an email from Mr. Moorthy; right? 09:34:30
21 A. Yes. 09:34:34
22 Q. And one of his questions to you was, 09:34:34
23 "How long does it make sense for Unwired to 09:34:38
24 not see what they are doing as competitive to 09:34:41

1 you"; right? 09:34:46
2 A. Yes. When they win, we lose. That's 09:34:48
3 the definition of a competitor. 09:34:51
4 Q. Let's take a look at your response. 09:35:03
5 Second paragraph, actually the top, you're 09:35:14
6 changing your flight plans, et cetera, and 09:35:17
7 then you say, "Unwired sees themselves as a 09:35:19
8 module maker that was forced to do a chip 09:35:22
9 because no one else would. They showed a 09:35:25
10 willingness to use our chip, especially if it 09:35:30
11 is required by each of The Big 3." 09:35:34
12 So that was your report to 09:35:36
13 Microchip's CEO-to-be of what had transpired 09:35:38
14 at that meeting; right? 09:35:43
15 A. Yes. 09:35:44
16 Q. Okay. 09:35:45
17 And then you go on and you say, 09:35:46
18 "Bottom line we missed it." First Christian, 09:35:51
19 then the crossover marketer, then Don, then 09:35:55
20 Jesse; lots of other people's fault? 09:36:00
21 A. I'm sorry? 09:36:02
22 Q. Lots of other people's fault. 09:36:04
23 A. Well, we missed it. I didn't say 09:36:09
24 they missed it. 09:36:15

1 Q. Fair enough. Fair enough. 09:36:16
2 You would include yourself in one 09:36:17
3 of the people who missed it? 09:36:18
4 A. Yes. We did not see the market 09:36:19
5 accepting a non-standard solution. 09:36:22
6 Q. You didn't say anything here about 09:36:24
7 patents, did you? 09:36:27
8 A. I'm sorry? 09:36:28
9 Q. You didn't say anything here about 09:36:29
10 patents? 09:36:32
11 A. No. We don't mention the patents in 09:36:34
12 every letter. 09:36:37
13 Q. Now, Mr. Moorthy, to whom you sent 09:36:43
14 this, he was very concerned about competition 09:36:46
15 from Delphi; right? 09:36:52
16 A. I don't know about very concerned, 09:36:55
17 but certainly concerned about, you know, 09:36:57
18 somebody winning against us. They were the 09:37:01
19 competition. 09:37:06
20 Q. Competition. 09:37:06
21 Microchip doesn't usually face 09:37:07
22 competition; right? 09:37:09
23 A. We face competition all day every 09:37:10
24 day, yeah. 09:37:12

1 Q. Really? 09:37:12
2 A. Yeah. 09:37:13
3 Q. In the automotive chip business? 09:37:14
4 A. Certainly. We're like the 8th 09:37:16
5 largest or 9th largest automotive chip 09:37:19
6 manufacturer. 09:37:22
7 Q. How about in the market area where 09:37:24
8 you're a monopolist? 09:37:27
9 A. You used the word "monopolist." I 09:37:27
10 mean, I told you before, there are many, many 09:37:29
11 hub manufacturers. We just chose to do the 09:37:31
12 automotive hub variants that others chose not 09:37:33
13 to do, but other companies could do this 09:37:36
14 easily; they just choose not to. 09:37:38
15 Q. Right. 09:37:39
16 Now, you said I chose the 09:37:39
17 word monopolist. That was actually your word 09:37:42
18 yesterday; right? 09:37:43
19 A. Well, I responded that you could use 09:37:43
20 that word, and I said possibly. 09:37:45
21 Q. Yes, right. 09:37:45
22 And you said other people could 09:37:47
23 compete with you potentially, but as a general 09:37:49
24 proposition, they don't; right? 09:37:53

1 A. Well, they have not. 09:37:54
2 Q. Okay. 09:37:55
3 MS. DURIE: Let's take a look at 09:37:55
4 Exhibit 42 for identification. 09:37:57
5 (Whereupon, Trial Exhibit 42 was 09:37:59
6 introduced.) 09:38:01
7 BY MS. DURIE: 09:38:13
8 Q. TX-42 is an email exchange among Dave 09:38:14
9 Carpenter, Ganesh Moorthy and yourself, plus a 09:38:18
10 couple of other folks, November 2015, about 09:38:23
11 Delphi; correct? 09:38:27
12 A. Say it again. 09:38:31
13 Q. Sure. 09:38:32
14 Exhibit 42 is an email exchange 09:38:33
15 among Dave Carpenter, Ganesh Moorthy, Mitch 09:38:37
16 Obolsky, and a couple of other people from 09:38:40
17 November of 2015 about Delphi? 09:38:44
18 A. Yes. 09:38:48
19 MS. DURIE: We offer it. 09:38:50
20 MR. SLAYDEN: Your Honor, that's 09:38:51
21 subject to a limiting instruction. 09:38:52
22 THE COURT: All right. So it will 09:38:54
23 be received and, ladies and gentlemen, in this 09:38:56
24 exhibit when you see it, there are some 09:38:59

1 comments that are either reported or made by 09:39:03
2 people who do not work at Microchip. And you 09:39:07
3 can consider those statements for the fact 09:39:10
4 that they were said and the impact they had on 09:39:12
5 Microchip, but you should not treat them as 09:39:15
6 true or consider them for the truth. Those 09:39:17
7 are statements made by non-Microchip 09:39:22
8 employees. You should consider them not to be 09:39:25
9 the truth of what they say. Okay? 09:39:26
10 All right. You can proceed. 09:39:28
11 MS. DURIE: Thank you. If we can 09:39:30
12 have up the last exhibit, 42. And I actually 09:39:31
13 want to start at the beginning of time in the 09:39:35
14 email exchange, but at the end of the 09:39:38
15 document. So I want to start at the bottom of 09:39:41
16 page 6, which is the first email in the 09:39:43
17 thread. 09:39:48
18 BY MS. DURIE: 09:39:48
19 Q. And we have here an email from Keith 09:39:48
20 Barber to you. 09:39:51
21 Now, who is Mr. Barber? 09:39:53
22 A. Hang on. Let me just -- 09:39:55
23 Q. Sure. Take your time. 09:39:56
24 A. Let me see where you are. 09:39:59

1 Q. No, that's fine. 09:40:00
2 A. Okay. Keith Barber is a salesman in 09:40:01
3 Detroit. 09:40:05
4 Q. Perfect. 09:40:05
5 And so let's take a look at what 09:40:06
6 he wrote, bottom of page 6. Okay. 09:40:08
7 So "Items for consideration:" 09:40:15
8 Now, above here, he's talking 09:40:19
9 about a price proposal that's being made to 09:40:21
10 Delphi; right? 09:40:25
11 A. Let me read it. 09:40:27
12 Q. Sure. 09:40:28
13 A. Where are we? 09:40:28
14 Q. "Mitch" -- 09:40:30
15 A. Hang on a minute. 09:40:32
16 Q. Take a look. 09:40:34
17 (Whereupon, the witness reviews 09:40:40
18 the exhibit.) 09:40:41
19 THE WITNESS: Okay. Yes. 09:40:42
20 MS. DURIE: Right. 09:40:44
21 BY MS. DURIE: 09:40:44
22 Q. He's talking about a price proposal 09:40:45
23 to Delphi, and he says at the bottom, "Items 09:40:47
24 for consideration: 09:40:50

1 "Unwired/Delphi developed an ASIC 09:40:51
2 to capture the model year 2016 to 2018 USB 09:40:53
3 single lane hub for Big 3 as the USB84604," 09:40:58
4 that's FlexConnect, "did not meet the single 09:41:02
5 USB lane requirement as communicated directly 09:41:05
6 to Microchip"; right? 09:41:08
7 MCHP, what does that stand for? 09:41:10
8 A. Microchip. 09:41:12
9 Q. Right. 09:41:13
10 -- "by The Big 3 engineering 09:41:14
11 teams"; true? 09:41:16
12 A. Yes, that's what it says. 09:41:17
13 Q. Okay. 09:41:18
14 MS. DURIE: Next page, one, two, 09:41:20
15 three, four, let's go to five. 09:41:25
16 BY MS. DURIE: 09:41:27
17 Q. "Rob Voto," from Delphi, "expressed 09:41:29
18 that if Microchip has a better solution, they 09:41:33
19 will entertain engaging with Microchip. He 09:41:35
20 wants to win module business and does not have 09:41:37
21 to divert -- does not have to divert 09:41:40
22 engineering resources and dollars on an ASIC. 09:41:42
23 The question is, how do we enable him to make 09:41:45
24 a decision to align with Microchip"; right? 09:41:47

1 What is UNG? 09:41:52
2 A. UNG was the name of the USB and 09:41:53
3 networking division that we've been talking 09:41:56
4 about. 09:41:58
5 Q. Okay. 09:41:59
6 Now, let's go down to the bottom 09:42:00
7 of page 7 continuing in the thread and look 09:42:02
8 what it says at the bottom, "Taking this 09:42:05
9 background into consideration." 09:42:08
10 So this is Keith Barber reporting 09:42:09
11 to you saying there is the background. Now, 09:42:12
12 here is what we want to propose to Delphi. 09:42:15
13 "Honor our 2016 LTA commitment of 09:42:18
14 2.6 million percent for all UNG products." 09:42:24
15 What does LTA mean? 09:42:28
16 A. That's long-term payment. 09:42:29
17 Q. Right. 09:42:31
18 Microchip and Delphi have a number 09:42:32
19 of long-term supply agreements; right? 09:42:34
20 A. Yes. 09:42:37
21 Q. Okay. 09:42:38
22 Some of those agreements, 09:42:39
23 Microchip is the sole source; right? 09:42:41
24 A. Almost every product we make is 09:42:44

1 proprietary, so many of our products -- well, 09:42:46
2 that product, we are the sole source. Nobody 09:42:50
3 has that product. 09:42:52
4 Q. Right. 09:42:53
5 That's why it's really important 09:42:53
6 to have these long-term supply agreements; 09:42:55
7 right? 09:42:58
8 A. I guess so, yes. As a reason, yes. 09:42:58
9 Q. Right. 09:43:03
10 From Delphi's perspective, it 09:43:03
11 would be a big problem if they've got a sole 09:43:06
12 source chip and suddenly they can't get it; 09:43:08
13 right? 09:43:10
14 A. Potentially, yes. 09:43:10
15 Q. So what Mr. Barber is proposing is 09:43:13
16 that Delphi honor its 2016 long-term agreement 09:43:17
17 commitment of 2.69 percent. 09:43:21
18 What does that mean? 09:43:23
19 A. I can guess what it means. I think 09:43:30
20 it means that they were expecting a reduction 09:43:31
21 of 2.69 percent if they hit the volumes they 09:43:34
22 had set. 09:43:38
23 Q. Right. 09:43:38
24 And that's pretty standard in 09:43:39

1 these long-term supply agreements; right? 09:43:41
2 A. To have a number that will go down, 09:43:43
3 yes. If they have a forecast that goes up, 09:43:45
4 sometimes it goes down. 09:43:48
5 Q. Right. 09:43:50
6 And if you look at what Mr. Barber 09:43:50
7 says a little further on here, he says, "We 09:43:52
8 want to create a symbiotic relationship and 09:43:54
9 the foundation is trust on both sides"; right? 09:43:57
10 A. Yes, that's what Mr. Barber says. 09:43:59
11 Yes. 09:44:01
12 Q. Okay. 09:44:02
13 MS. DURIE: Let's take a look at 09:44:04
14 your response. Page 3, middle of the page, 09:44:05
15 Mitch Obolsky, page 3, middle of the page, 09:44:15
16 part way down, further down, further down. 09:44:20
17 There we go. 09:44:23
18 BY MS. DURIE: 09:44:24
19 Q. From you, back to Keith Barber, 09:44:24
20 "After more thought and discussion, I think 09:44:26
21 the best answer is to tell Delphi there will 09:44:28
22 be no price reductions this year for those 09:44:30
23 products"; right? That's what you said? 09:44:32
24 A. Yes. 09:44:36

1 Q. Okay. 09:44:36
2 MS. DURIE: Now, let's look at 09:44:38
3 what Mr. Pennington says. He's one of the 09:44:39
4 individuals -- strike that. 09:44:41
5 BY MS. DURIE: 09:44:43
6 Q. Who is Mr. Pennington? 09:44:43
7 A. Mr. Pennington is a salesman who has 09:44:44
8 lived his whole life right there at Delphi. 09:44:48
9 Q. Okay. 09:44:50
10 He is a salesman that is working 09:44:51
11 for Microchip; right? 09:44:53
12 A. Yes, yes, yes. 09:44:54
13 Q. Okay. 09:44:55
14 Let's look at what he has to say. 09:44:55
15 MS. DURIE: Let's blow that up all 09:44:58
16 the way down to the bottom of the page. 09:44:59
17 Perfect. 09:45:01
18 BY MS. DURIE: 09:45:01
19 Q. "I'm not quite clear to what there 09:45:03
20 will be no price reductions this year for 09:45:05
21 those products. What does those products mean 09:45:07
22 exactly? Does this mean we will not honor our 09:45:11
23 CY 2016 committed price agreements with 09:45:14
24 Delphi? Is that the message, Mitch?" 09:45:18

1 And then he goes on in the middle 09:45:21
2 of the next paragraph, he says, "If that's the 09:45:23
3 message, I will support it and can carry it 09:45:26
4 back to customer." 09:45:28
5 A. Um-hmm. 09:45:30
6 Q. And then he says in the middle of 09:45:31
7 that paragraph, "There are going to be 09:45:33
8 questions; right? Questions will evolve 09:45:36
9 around when can they expect to get the 379,000 09:45:39
10 in savings that we promised them in our 09:45:42
11 long -- long term agreements." 09:45:47
12 And if we look at the very bottom, 09:45:49
13 he says, "My two cents." Last paragraph. "We 09:45:51
14 all need to realize that this decision 09:45:57
15 probably will have some type of impact on our 09:45:59
16 business going forward, not only for UNG 09:46:01
17 products but also for other divisions as well. 09:46:04
18 From Delphi's perspective it now becomes one 09:46:07
19 of supplier credibility. For me I am saddened 09:46:09
20 that it has come to this, credibility is built 09:46:13
21 over time and I am sure everyone will remember 09:46:15
22 the wild ride we have had with Delphi over the 09:46:20
23 last 25 years. Our reputation and integrity 09:46:24
24 is everything. We all know the story of 09:46:26

1 credibility and when it is lost..." 09:46:28
2 And then you responded -- 09:46:31
3 actually, I take it back. Mr. Moorthy 09:46:35
4 responded; right? Let's take a look at his 09:46:37
5 response. 09:46:44
6 MS. DURIE: Top of the second 09:46:49
7 page, if we can blow up the top of the second 09:46:46
8 page, starting at line 2. 09:46:51
9 BY MS. DURIE: 09:46:53
10 Q. "In fact, Unwired had been destroying 09:46:53
11 Microchip revenue and profits with what they 09:46:56
12 have done." 09:46:59
13 That was part of his concern; 09:46:59
14 right? 09:47:01
15 A. That's what it says, yes. 09:47:02
16 Q. And then the next bullet point, Mr. 09:47:03
17 Moorthy says, beginning in the middle of the 09:47:06
18 paragraph, "Ideally we want Delphi to cease 09:47:08
19 development of new products that continues to 09:47:12
20 destroy our business - that discussion takes 09:47:14
21 time and we need some negotiating leverage." 09:47:21
22 Do you see that? 09:47:25
23 A. Yes. 09:47:26
24 MS. DURIE: Let's go to the first 09:47:28

1 page. 09:47:29
2 BY MS. DURIE: 09:47:34
3 Q. Mr. Carpenter weighs in. Second 09:47:35
4 paragraph of his email beginning part way 09:47:38
5 down, talking about Delphi's reaction, and it 09:47:46
6 says, maybe about seven lines down, "They 09:47:49
7 still do not understand why we view them as a 09:47:52
8 competitor when we did not have a viable 09:47:55
9 solution to single lane CarPlay. They met 09:47:57
10 with us on numerous occasions before kicking 09:47:59
11 off their ASIC development to be sure they 09:48:02
12 exhausted all alternatives with us." 09:48:04
13 That was true? 09:48:09
14 A. This is -- this is Dave Carpenter's 09:48:12
15 view of their view, so yes, that is true. 09:48:14
16 That's their view, yes. 09:48:18
17 Q. It was their view and it was true? 09:48:19
18 A. I'm not sure; which part are you 09:48:23
19 asking was true? 09:48:25
20 Q. The part that's highlighted there in 09:48:26
21 yellow. 09:48:29
22 A. Yeah, that they didn't understand why 09:48:32
23 we were a competitor, yes. Well, they were 09:48:35
24 taking our business away. They are a 09:48:37

1 competitor. So yes, that was their view. 09:48:39
2 They didn't understand why taking business 09:48:43
3 from Microchip would make them a competitor. 09:48:46
4 MS. DURIE: Good. Let's go -- 09:48:51
5 BY MS. DURIE: 09:49:04
6 Q. You said in your direct testimony 09:49:05
7 yesterday that Aptiv continues to buy chips 09:49:07
8 from Microchip; right? 09:49:10
9 A. Yes. Yes. 09:49:12
10 Q. Okay. 09:49:13
11 And you would agree, though, that 09:49:14
12 in the relationship between Aptiv and 09:49:19
13 Microchip, Microchip has a fair bit of 09:49:21
14 negotiating leverage; right? 09:49:24
15 A. Well, we sell chips and they buy 09:49:28
16 chips. I'm not sure. 09:49:31
17 Q. Now, you said yesterday in your 09:49:33
18 direct testimony that Microchip was perfectly 09:49:34
19 happy to keep selling chips to Aptiv; right? 09:49:37
20 A. Yes. When we're not competing, yes. 09:49:40
21 Q. When you're not competing. 09:49:43
22 Now, Microchip and Aptiv, under 09:49:46
23 any definition of competing, are not competing 09:49:50
24 on Aptiv's safety business; right? 09:49:54

A. I'm sorry? 09:49:58
Q. Let me back up. 09:50:00
Aptiv makes a bunch of different 09:50:01
kinds of components; right? 09:50:03
A. Yes. 09:50:04
Q. It has a line of business that are 09:50:06
products for safety in automobiles; right? 09:50:09
A. Yes. I don't know that to be true, 09:50:12
but yes, that's fine. 09:50:13
Q. Okay. 09:50:14
And it buys chips from Microchip 09:50:16
on the safety side of its business; right? 09:50:20
A. Again, I don't know the names of the 09:50:22
business, but yes, they buy chips from 09:50:23
Microchip, yes. 09:50:26
Q. Okay. 09:50:26
And the safety side of the 09:50:27
business, whatever you call it, things like 09:50:29
the controllers that automatically brake the 09:50:31
car if you get too close to somebody else, you 09:50:34
would agree that's a different line of 09:50:37
business from what we're talking about in this 09:50:38
lawsuit? 09:50:41
A. Yes. 09:50:42

1 Q. Okay. 09:50:42
2 Now, you're under oath; you're a 09:50:43
3 senior vice president at Microchip. You are 09:50:48
4 an officer of the company; right? 09:50:50
5 A. Not -- I'm not -- 09:50:53
6 Q. You are an appointed officer of the 09:50:57
7 company? 09:50:59
8 A. Yes, I guess. 09:51:00
9 Q. Okay. 09:51:01
10 So let's be very clear. Will you 09:51:03
11 agree that Microchip will engage in business 09:51:07
12 as usual with Aptiv, regardless of patent 09:51:12
13 disputes between the companies, on the safety 09:51:16
14 side of the business? 09:51:19
15 A. As a general case, yeah. We are 09:51:21
16 still working with Aptiv on pretty much every 09:51:23
17 area. 09:51:26
18 Q. Okay. 09:51:26
19 I understand you're still working 09:51:27
20 with Aptiv. Will you repeat after me: 09:51:28
21 Microchip will engage in business as usual 09:51:33
22 with Aptiv, regardless of what happens in this 09:51:38
23 case? 09:51:42
24 A. Will engage with -- I'm not sure I 09:51:45

1 understand what you're saying. What is the 09:51:49
2 question? 09:51:51
3 Q. Will you agree, as an officer of 09:51:52
4 Microchip, that Microchip will engage in 09:51:58
5 business as usual with Aptiv on the unrelated 09:52:03
6 safety side of its business, regardless of 09:52:09
7 having disputes between the parties about the 09:52:14
8 dual role hub? 09:52:17
9 A. I'm not sure I understand it. It's a 09:52:19
10 very long, strange question to me, so maybe 09:52:23
11 piece it. 09:52:26
12 Q. What part of that is complicated? 09:52:26
13 A. Just, I'm trying to follow the 09:52:30
14 sequence of events directly. Yes, we will 09:52:32
15 work with Aptiv. 09:52:34
16 Q. That was not my question. Let me ask 09:52:35
17 it again. 09:52:37
18 A. I'm not sure I understand the 09:52:37
19 question. 09:52:39
20 Q. Let me ask you again. 09:52:39
21 A. Yes. 09:52:40
22 Q. Will Microchip commit to engage in 09:52:41
23 business as usual with Aptiv on the safety 09:52:47
24 side of its business where you are the sole 09:52:53

1 supplier, regardless of patent disputes about 09:52:56
2 the hub business at issue in this case? 09:53:04
3 A. I don't understand what "commit to 09:53:10
4 engage" means. 09:53:11
5 Q. You are an officer of the company. 09:53:13
6 A. Yes. 09:53:15
7 Q. That's what I mean by commit. 09:53:16
8 A. We are absolutely willing to work 09:53:20
9 with them on safety products together. 09:53:21
10 Q. Still not my question. 09:53:24
11 A. I don't understand the question. 09:53:25
12 That's the problem. I'm happy to answer. 09:53:26
13 Q. Are you willing to repeat these words 09:53:29
14 after me? 09:53:31
15 MR. SLAYDEN: Your Honor, object. 09:53:32
16 She's asking him just to repeat the words she 09:53:33
17 says? That's not a question. 09:53:37
18 THE COURT: Okay. I don't need 09:53:38
19 speaking objections. 09:53:41
20 MR. SLAYDEN: I'm sorry. 09:53:41
21 THE COURT: If you have an 09:53:42
22 objection, make an objection and if you need 09:53:44
23 to approach, approach. 09:53:46
24 The objection is sustained. 09:53:47

1 BY MS. DURIE: 09:53:53
2 Q. Let me ask the question then, Mr. 09:53:49
3 Obolsky, like this: 09:53:51
4 Are you willing to make a 09:53:53
5 commitment that Microchip will engage in 09:53:54
6 business as usual? Yes or no? 09:53:58
7 A. Yes. I guess we would do business as 09:54:02
8 usual with Aptiv. I don't really understand 09:54:06
9 the question, but yes, certainly. In our 09:54:09
10 view, we want to continue to work with them as 09:54:12
11 we always have. 09:54:14
12 Q. Business as usual? 09:54:15
13 A. Again, it's a very broad business as 09:54:19
14 usual, but yes. Yes. 09:54:22
15 Q. Good. 09:54:25
16 A. Business as usual, yes, I believe so. 09:54:26
17 MS. DURIE: Good. Thank you. No 09:54:28
18 further questions. 09:54:30
19 MR. SLAYDEN: Your Honor, we have 09:54:53
20 one housekeeping issue here. 09:54:58
21 THE COURT: Do you need to 09:55:00
22 approach? 09:55:01
23 MR. SLAYDEN: No, no, it's fine. 09:55:02
24 THE COURT: Okay. 09:55:03

1 MR. SLAYDEN: It is Exhibit 50; it 09:55:04
2 is a native document. There's no objection to 09:55:06
3 it. 09:55:09
4 THE COURT: Okay. 09:55:09
5 MR. SLAYDEN: So we move to admit 09:55:10
6 Exhibit 50, Your Honor. 09:55:12
7 THE COURT: Okay. 09:55:13
8 No objections; right? Per his 09:55:13
9 discussion, there is no objection, Ms. Durie? 09:55:16
10 MS. DURIE: No. 09:55:18
11 THE COURT: All right. So it will 09:55:19
12 be received. 09:55:21
13 (Whereupon, Trial Exhibit 50 was 09:55:21
14 introduced and admitted.) 09:55:25
15 MR. SLAYDEN: Mr. Ferrer, can you 09:55:28
16 bring up Exhibit -- no, hold on. Don't bring 09:55:32
17 it up. 09:55:35
18 May I approach? 09:55:36
19 THE COURT: Yes. 09:55:38
20 - - - 09:55:39
21 REDIRECT EXAMINATION 09:55:39
22 - - - 09:55:46
23 BY MR. SLAYDEN: 09:55:46
24 Q. Mr. Obolsky, can you identify 09:55:49

1 Exhibit 52 for us? 09:55:51
2 A. This one? 09:55:54
3 Q. 82, I'm sorry. 09:55:55
4 A. Yes. Yes. It appears to be an 09:55:57
5 internal document that I wrote. 09:55:59
6 (Whereupon, Trial Exhibit 82 was 09:55:59
7 introduced.) 09:56:03
8 MR. SLAYDEN: Okay. Move to admit 09:56:03
9 it. 09:56:05
10 MS. DURIE: No objection. 09:56:05
11 THE COURT: Okay. It is received. 09:56:06
12 (Whereupon, Trial Exhibit 47 was 09:56:06
13 introduced.) 09:56:16
14 BY MR. SLAYDEN: 09:56:16
15 Q. Mr. Obolsky, do you recognize the 09:56:36
16 document I gave you? 09:56:39
17 A. Yes. 09:56:43
18 Q. Exhibit 47? 09:56:43
19 A. Yes. 09:56:46
20 MR. SLAYDEN: Move to admit it. I 09:56:46
21 apologize for not having a copy. 09:56:48
22 MS. DURIE: No objection. 09:56:49
23 THE COURT: Okay. It is received. 09:56:51
24 Mr. Slayden, is that Exhibit 47, 09:57:01

1 the last one? 09:57:03
2 MR. SLAYDEN: Yes, sir. 09:57:04
3 THE COURT: Okay. 09:57:05
4 BY MR. SLAYDEN: 09:57:11
5 Q. Mr. Obolsky, do you recognize 09:57:12
6 Exhibit 42 that I have put in front of you? 09:57:14
7 A. Yes. This is a Microchip internal 09:57:17
8 document. 09:57:21
9 MR. SLAYDEN: Move to admit 09:57:22
10 Exhibit 42. 09:57:24
11 MS. DURIE: Sorry, 42? 09:57:27
12 MR. SLAYDEN: Yes. 09:57:29
13 THE COURT: 42, is that what you 09:57:30
14 said? 09:57:32
15 MR. SLAYDEN: 42, Your Honor. 09:57:32
16 THE COURT: Okay. 09:57:34
17 MS. DURIE: No objection. 09:57:34
18 THE COURT: Okay. It is received. 09:57:35
19 MR. SLAYDEN: I can take those 09:57:39
20 back. 09:57:40
21 (Brief pause.) 09:57:53
22 BY MR. SLAYDEN: 09:58:25
23 Q. Mr. Obolsky, yesterday you testified 09:58:26
24 concerning a period of time around 2014 when 09:58:28

1 Aptiv -- excuse me, Delphi contacted Microchip 09:58:34
2 concerning Unwired. 09:58:39
3 Do you remember that? 09:58:40
4 A. Yes, I do. 09:58:41
5 Q. And did Aptiv actually -- Delphi 09:58:42
6 actually contact Microchip and ask them to 09:58:46
7 investigate Unwired's one-lane solution? 09:58:49
8 A. Yes, they did. 09:58:51
9 MR. SLAYDEN: Mr. Ferrer, can you 09:58:57
10 bring up Exhibit 58. And can you go down 09:58:58
11 to... 09:59:20
12 BY MR. SLAYDEN: 09:59:20
13 Q. Do you have Exhibit 58 in your 09:59:21
14 notebook? 09:59:22
15 A. 58, I have -- I don't have it. 09:59:36
16 Q. That's okay. Can you see the screen? 09:59:42
17 Or I can bring you a copy. 09:59:45
18 A. Yes, I can. 09:59:46
19 MR. SLAYDEN: And, Mr. Ferrer, can 09:59:59
20 you bring up the last sentence of the first 10:00:00
21 full paragraph, please. 10:00:02
22 BY MR. SLAYDEN: 10:00:04
23 Q. And do you recognize this email? 10:00:13
24 A. Yes. 10:00:17

1 Q. And do you recognize Mr. Orlosky? 10:00:19
2 A. From the exhibit, yes. 10:00:24
3 Q. And he is a Delphi employee? 10:00:26
4 A. As I understand it, yes. 10:00:29
5 Q. And the last sentence, it says, this 10:00:32
6 is Delphi talking, "I started working on these 10:00:38
7 products a little over a year ago and am self 10:00:41
8 taught. No one existed in this position (a 10:00:44
9 guy quit and I was not engaged) and the 10:00:47
10 SMSC/Microchip guys have been outstanding in 10:00:51
11 helping me learn the technologies and make the 10:00:54
12 right product decisions. We will continue 10:00:56
13 down this road and I'm sure there will be no 10:00:59
14 further discussion." {Sic} 10:01:02
15 Isn't that Delphi giving Microchip 10:01:04
16 a compliment for helping them during this time 10:01:07
17 when Unwired starting competing with Delphi? 10:01:10
18 A. Yes. At that point, we were partners 10:01:12
19 hoping to win together, and yeah, they were -- 10:01:15
20 as I mentioned earlier, we put a lot of 10:01:17
21 technical support into any designs with our 10:01:19
22 customer. 10:01:23
23 Q. And can you please remind the jury 10:01:26
24 why Microchip raised prices on its four USB 10:01:31

1 hub products back in the timeframe of 2019? 10:01:35
2 A. It became obvious that all the prior 10:01:39
3 discussions about what the plans were were no 10:01:42
4 longer going to be true and the volumes would, 10:01:43
5 you know, start to drop dramatically as they 10:01:45
6 shifted over to an alternate solution. So the 10:01:48
7 volume was dropping and all the forecasts 10:01:51
8 didn't make any sense, so we said fine, time 10:01:53
9 to adjust, and then it all bared out, right? 10:01:56
10 We talked about it dropping from 16 million to 10:01:58
11 eight million to five million in consecutive 10:02:01
12 years, and that was not the original forecast. 10:02:04
13 Q. So Aptiv wasn't going to be this 10:02:06
14 long-term agreement commitment? 10:02:08
15 A. I'm sorry. No, Aptiv was going to 10:02:10
16 come nowhere near what they had forecast 10:02:13
17 prior. 10:02:15
18 Q. And did that turn out to be true? 10:02:15
19 A. Yes. As I just mentioned, the 10:02:17
20 revenue -- the revenue dropped dramatically 10:02:19
21 once they had their own different solution 10:02:23
22 that was no longer a partnership with the new 10:02:25
23 competing solution. 10:02:27
24 Q. And I think you testified yesterday 10:02:28

1 that Microchip supplies Aptiv over 100 other 10:02:29
2 products, approximately? 10:02:34
3 A. Yeah. 10:02:35
4 Q. To Aptiv? 10:02:36
5 A. Yes. Something just above 100, 10:02:37
6 giving broad numbers. 10:02:41
7 Q. Did Microchip raise the prices on 10:02:41
8 those products? 10:02:44
9 A. No, we did not. Only on the ones 10:02:44
10 where we were directly competing. 10:02:46
11 MR. SLAYDEN: No further 10:02:48
12 questions. 10:02:49
13 THE COURT: Ms. Durie? 10:02:51
14 MS. DURIE: Nothing further. 10:02:53
15 THE COURT: Mr. Obolsky, you can 10:02:54
16 step down. If your binder is there, why don't 10:02:56
17 you take it with you. 10:03:00
18 (Whereupon, the witness was 10:04:12
19 excused.) 10:04:14
20 (Brief pause.) 10:04:15
21 MR. FENTON: Good morning, Your 10:04:48
22 Honor. 10:04:49
23 THE COURT: Good morning. 10:04:49
24 MR. FENTON: My name is Truman 10:04:50

1 Fenton and I am an attorney on behalf of 10:04:51
2 Microchip Technology, and we are going to 10:04:54
3 present Mr. Ivan Zatkovich. 10:04:56
4 THE COURT: All right. Call Mr. 10:04:57
5 Zatkovich up to the stand, please. 10:04:59
6 THE COURT CLERK: Please state and 10:05:13
7 spell your name for the record. 10:05:20
8 THE WITNESS: Ivan Zatkovich, 10:05:23
9 I-V-A-N, Z-A-T-K-O-V-I-C-H. 10:05:24
10 - - - 10:05:38
11 DIRECT EXAMINATION 10:06:22
12 - - - 10:06:22
13 BY MR. FENTON: 10:06:24
14 Q. Mr. Zatkovich, would you introduce 10:06:25
15 yourself, please. 10:06:26
16 A. Yes. My name is Ivan Zatkovich. I 10:06:27
17 live in New York, but I was born and raised in 10:06:30
18 Pittsburgh, Pennsylvania. 10:06:32
19 Q. And, Mr. Zatkovich, did you prepare 10:06:34
20 some slides to go over with the jury today? 10:06:36
21 A. Yes. I prepared two expert reports 10:06:39
22 for this matter, and I summarized portions of 10:06:41
23 that and basically summarized them in slides. 10:06:44
24 MR. FENTON: Can we take a look at 10:06:48

1 the first slide, please. 10:06:50
2 THE WITNESS: Sure. 10:06:51
3 BY MR. FENTON: 10:06:54
4 Q. Will you briefly introduce yourself, 10:06:55
5 including your educational background. 10:06:57
6 A. Sure. I went to the University of 10:06:58
7 Pittsburgh where I received a bachelor's in 10:07:01
8 computer science. I also began my master's 10:07:03
9 study in what's called heterogeneous computer 10:07:06
10 networks. Basically it's getting computers, 10:07:10
11 microcomputers, to talk to each other. 10:07:13
12 I also minored in the design of 10:07:15
13 digital electronic circuits. 10:07:21
14 Q. And then what is your overall 10:07:23
15 background? 10:07:25
16 A. My overall background, for the 10:07:26
17 last -- actually over 30 years, has been in 10:07:29
18 computer science. Basically my career has 10:07:32
19 focused on building electronic devices, 10:07:35
20 getting computer devices to talk to computers 10:07:40
21 and getting computers to talk to each other. 10:07:43
22 So that boils down to computer networks, 10:07:45
23 digital circuit design, and software to 10:07:47
24 control those devices in that communication. 10:07:50

1 Q. And, I'm sorry, you have a bachelor's 10:07:57
2 in computer science. Did you work on your 10:08:00
3 master's? 10:08:02
4 A. I did. My master's thesis was 10:08:02
5 actually an extension of my senior year 10:08:05
6 project which University of Pittsburgh had, 10:08:08
7 and this was in the late '70s, had a 10:08:11
8 microcomputer laboratory where, back in the 10:08:13
9 '70s, we had the Radio Shack TR3, we had the 10:08:17
10 Apple 2, MSI A88. I was in heaven when I was 10:08:21
11 working in those computer labs. 10:08:25
12 So I developed a project. At the 10:08:26
13 time, none of these computers could talk to 10:08:28
14 each other. Today it's a given, but then, 10:08:30
15 back then, you couldn't do that. So I 10:08:33
16 developed my master's thesis on getting these 10:08:35
17 computers to speak to each other. 10:08:38
18 And then I developed an 10:08:40
19 application on top of that which was a game 10:08:41
20 where each user would sit on their computer 10:08:43
21 and be in a virtual matrix and try to find and 10:08:47
22 kill each other within the matrix. 10:08:51
23 Q. Now, did you complete your master's? 10:08:53
24 A. I did not. Shortly after I finished 10:08:55

1 my thesis of this project, Digital 10:08:58
2 Equipment -- Digital was the second largest 10:09:01
3 manufacturer of computers at the time. They 10:09:04
4 came along and basically gave me a job offer 10:09:06
5 to work on their computers, which I loved. So 10:09:09
6 I forego my master's study and jumped into 10:09:13
7 Digital Equipment. 10:09:16
8 Q. And what kind of a company was it 10:09:17
9 that you worked for, Digital Equipment? 10:09:18
10 A. It was fantastic. It was -- the 10:09:20
11 owner of the company was Ken Olsen, he was an 10:09:22
12 engineer, so it was a company run by engineers 10:09:25
13 for engineers. So in that company, I was 10:09:27
14 doing exactly what I loved, designing 10:09:31
15 electrical components and getting computers to 10:09:33
16 talk to each other. 10:09:36
17 Q. What is the rest of your professional 10:09:38
18 history, if you could just give a brief 10:09:40
19 overview of that? 10:09:42
20 A. Sure. Again, every -- throughout my 10:09:43
21 career, I focused on designing electronic 10:09:46
22 devices to talk to computers and getting 10:09:49
23 computers to talk to each other in different 10:09:51
24 ways. So I'll give you a brief summary of the 10:09:53

1 different jobs that I did that in. 10:09:56
2 At Digital Equipment, as I 10:09:58
3 mentioned, I designed and developed disk 10:10:01
4 devices, disk drives and tape drives; I 10:10:05
5 designed and developed communication software. 10:10:09
6 At GTE Data Services, which became 10:10:11
7 Verizon, I designed and developed 10:10:15
8 telecommunications software, again getting 10:10:17
9 computers to communicate over telephone 10:10:20
10 networks. 10:10:23
11 At Utility Partners, I was the 10:10:23
12 director of networks and we developed devices, 10:10:25
13 field devices, that could communicate via 10:10:30
14 computers over the radio network for the field 10:10:35
15 service personnel. 10:10:40
16 At Tanning Technology, I developed 10:10:41
17 eCommerce software primarily for communicating 10:10:45
18 secure financial transactions, making 10:10:50
19 transactions, ensuring transactions over 10:10:52
20 computer networks. 10:10:58
21 At Eva-tone, which was a 10:10:59
22 multimedia company, I was developing network 10:11:00
23 communications to communicate media to and 10:11:02
24 from networks, audio media, video media, 10:11:06

1 streaming media. 10:11:09
2 And at Smith & Nephew, I was a 10:11:10
3 global web manager. Smith & Nephew 10:11:14
4 manufactures medical instruments and 10:11:17
5 specialized bandages, and they have 10:11:20
6 subsidiaries all over the world. So I was 10:11:22
7 overseeing the 24 different websites that they 10:11:25
8 had over the globe and making sure they were 10:11:29
9 synchronized and communicating with each 10:11:33
10 other. 10:11:35
11 And then finally I got to start my 10:11:35
12 own company where I could take my projects and 10:11:37
13 I could design whatever devices I wanted, 10:11:40
14 well, whatever clients would hire me to 10:11:43
15 design. And I also, at the current time, I 10:11:44
16 have about a dozen consultants that I employ 10:11:49
17 within eComp Consultants. 10:11:51
18 Q. Now, you also have another slide that 10:11:54
19 talks about some specific projects. Can we 10:11:58
20 focus in on -- would you describe your work at 10:12:01
21 Utility Partners? 10:12:04
22 A. Sure. I actually cherry-picked some 10:12:06
23 of the projects from some of the different 10:12:08
24 companies that I thought were most closely 10:12:11

1 related to this. 10:12:13
2 Again, as I mentioned, at Digital 10:12:13
3 Equipment Corporation, I was doing high speed 10:12:16
4 communications. I was doing disk and tape 10:12:18
5 device drivers to communicate from a disk to 10:12:21
6 the computer. 10:12:23
7 I was also on -- at that time, I 10:12:25
8 was a member of the International Standards 10:12:28
9 Organization, ISO, and I was on two different 10:12:32
10 committees. One of the committees was 10:12:35
11 designing standards for the disk drives, for 10:12:37
12 the disk format. Another of the ISO 10:12:40
13 committees was developing standards for 10:12:44
14 Ethernet. I think you heard Mr. Bohm describe 10:12:47
15 Ethernet as a wired version, an older wired 10:12:50
16 version of WiFi. So we were developing 10:12:54
17 standards for that. 10:12:56
18 At Utility Partners, one of the 10:12:58
19 devices that I had to develop was related to 10:13:02
20 what we call mobile field terminal. These 10:13:05
21 were older, I guess you could call them older 10:13:08
22 versions of iPads. They were electric devices 10:13:12
23 that you could download work orders and upload 10:13:16
24 them to the computer. 10:13:19

1 So we rigged them up to 10:13:21
2 communicate via the radio so that field 10:13:22
3 technicians could get these guys to go out and 10:13:25
4 hook up electricity, repair the transformers; 10:13:29
5 rather than have them go to the central office 10:13:31
6 every time they needed to pick up a paperwork 10:13:34
7 order, we gave them these global field 10:13:37
8 terminals where they could download their work 10:13:40
9 orders over the radio. 10:13:43
10 When they came back into the 10:13:44
11 central office at the end of the day, they 10:13:46
12 needed to upload those computer work orders to 10:13:48
13 the computer. Well, this was 1996, '97, very 10:13:51
14 early beginnings of USB. I wanted to convince 10:13:56
15 our utility company clients to use USB because 10:14:01
16 I knew that was an up and coming thing at that 10:14:05
17 time. 10:14:08
18 Unfortunately, most of the MDT 10:14:08
19 units only communicated via these old serial 10:14:13
20 devices. So what I had to do is design a 10:14:16
21 special type of USB hub that would allow you 10:14:19
22 to connect normal USB devices, as well as 10:14:21
23 these other older terminals with serial 10:14:25
24 communications. 10:14:28

1 So we had -- in the hub, I had to 10:14:29
2 design a conversion from serial communications 10:14:31
3 to the USB communications so that everything 10:14:34
4 would go up to the host computer using USB 10:14:36
5 hub. So I thought that's quite interesting, 10:14:40
6 it worked quite well. 10:14:42
7 At Tanning Technology, that's not 10:14:43
8 a tanning booth company, Mr. Tanning was the 10:14:47
9 name of the owner of the company. We did 10:14:49
10 network infrastructure. We did a specific 10:14:52
11 project for Morgan Stanley. We were 10:14:55
12 developing mobile applications for their stock 10:14:57
13 brokers. 10:15:00
14 Again, this is well before the 10:15:01
15 iPhone and Smartphones. We were taking these 10:15:02
16 palm PDAs and these older Blackberries and 10:15:06
17 developing software where you could download 10:15:11
18 stock quotes, do stock trades and connect them 10:15:13
19 via the computer via a USB adapter. So we 10:15:17
20 designed USB adapters for the Blackberries and 10:15:23
21 the palm PDA. 10:15:27
22 And at eComp Consultants, my 10:15:28
23 company, one of the projects that we worked on 10:15:31
24 was developing a special type of WiFi called a 10:15:33

1 mesh network WiFi. That's allowing people to 10:15:36
2 take their cell phones and communicate with 10:15:40
3 each other on their cell phones creating a 10:15:43
4 network without using the telephone network. 10:15:45
5 It's called, using WiFi direct, you can 10:15:48
6 communicate directly with other phones and you 10:15:51
7 can create a network of phones using WiFi 10:15:54
8 direct. Very interesting. We developed some 10:15:57
9 applications on top of that. 10:15:59
10 Another device that we designed 10:16:01
11 was a locator tag. I don't know if you're 10:16:04
12 familiar with Apple AirTag, where you put the 10:16:08
13 tag on the device; in case you lose it, you 10:16:11
14 can look on your iPhone to where you've lost 10:16:14
15 it. 10:16:16
16 We were working on technology 10:16:16
17 similar to that before the AirTag where it 10:16:19
18 used a tag on the device that we had to 10:16:22
19 connect to it, charge it via USB, and also to 10:16:25
20 download and upload information to the tag 10:16:30
21 using a USB interface. 10:16:32
22 So those are just a sample of 10:16:35
23 projects that I thought related to the 10:16:37
24 technology here. 10:16:39

1 Q. Have you testified at trial before in 10:16:40
2 a patent case? 10:16:41
3 A. I have. 10:16:42
4 Q. And have you testified both on behalf 10:16:43
5 of plaintiffs and defendants? 10:16:46
6 A. Yes. I would say almost equal 10:16:47
7 plaintiff and defendants. 10:16:50
8 Q. Are you being compensated for your 10:16:51
9 work on this case? 10:16:52
10 A. I am. 10:16:53
11 Q. And does your compensation tie at all 10:16:54
12 to the outcome of this litigation? 10:16:57
13 A. No. I get paid the same, regardless 10:17:00
14 of the outcome. 10:17:02
15 MR. FENTON: Your Honor, we tender 10:17:03
16 Mr. Ivan Zatkovich as an expert on technical 10:17:05
17 issues in the area of system integration and 10:17:08
18 communications. 10:17:10
19 MS. DURIE: No objection. 10:17:11
20 THE COURT: Okay. He is accepted. 10:17:12
21 BY MR. FENTON: 10:17:14
22 Q. Mr. Zatkovich, what was your 10:17:14
23 assignment and what did you do to accomplish 10:17:15
24 that assignment? 10:17:18

1 A. My general assignment was to 10:17:20
2 basically examine the patents-in-suit, 10:17:22
3 specifically the '243 Patent, to analyze that 10:17:26
4 and also to look at both the Aptiv product and 10:17:30
5 the Microchip product to see how those related 10:17:34
6 to the '243 Patent. 10:17:37
7 Q. Okay. 10:17:40
8 And what kind of materials did you 10:17:40
9 consider in analyzing this process? 10:17:42
10 A. Well, first and foremost, dozens of 10:17:45
11 documents describing the specifications, 10:17:48
12 circuit diagrams, communication protocols of 10:17:51
13 the Aptiv and the Microchip devices. I looked 10:17:56
14 at the court filings, of course. I looked at 10:17:59
15 the source code. 10:18:02
16 Aptiv provided the software that 10:18:03
17 they developed that sits on both their 10:18:05
18 Boston -- it runs on both their Boston chip 10:18:08
19 and in the head unit that the Boston chip 10:18:10
20 connects to. 10:18:13
21 I looked at the expert reports of 10:18:14
22 the experts in this case, and I also read 10:18:18
23 testimony of the various witnesses that were 10:18:21
24 deposed in this matter. 10:18:23

1 Q. And did you conduct any analysis of 10:18:26
2 any systems or technologies? 10:18:30
3 A. Well, yes. One of the things that I 10:18:32
4 did was to test the Aptiv device. After 10:18:34
5 having read all the specifications, the design 10:18:38
6 and having what I felt was a clear 10:18:41
7 understanding of that device, I wanted to test 10:18:43
8 it just to make sure it matched with the 10:18:45
9 specification. 10:18:48
10 So I found a specific make and 10:18:49
11 model of a car that I knew had that Aptiv 10:18:52
12 Boston chip in it, which was a GMC Yukon. I 10:18:56
13 wanted to rent a Cadillac Escalade, but that 10:19:01
14 wasn't in the budget, so I rented the Yukon 10:19:05
15 and I hooked up a LeCroy Logic Analyzer that 10:19:07
16 would intercept the communications going from 10:19:11
17 the iPhone through the Boston chip device and 10:19:13
18 up to the head unit. 10:19:16
19 And basically my -- my objective 10:19:17
20 of that was just to verify that it was 10:19:20
21 operating consistently with the documents that 10:19:22
22 I had read. 10:19:25
23 Q. And did you research any USB 10:19:27
24 materials or other materials on your own to 10:19:29

1 make sure you understood the context of this 10:19:31
2 case? 10:19:33
3 A. Yes. Of course, I mean, while I was 10:19:33
4 developing USB devices, I was very familiar 10:19:36
5 with USB spec, but that had been a little 10:19:38
6 while, so I refreshed my memory on the USB 10:19:41
7 specifications. 10:19:44
8 Q. Did you prepare some slides to 10:19:46
9 discuss USB concepts? 10:19:48
10 A. I did. I have been sitting in court 10:19:49
11 here, so I know witnesses have been talking 10:19:55
12 about USB. I wanted to do a top-down review 10:19:58
13 of this, but hopefully it's just a quick 10:20:02
14 overview. 10:20:04
15 So USB standard, which is several 10:20:06
16 hundred pages long, basically has three 10:20:10
17 categories; it has mechanical -- actually, do 10:20:12
18 we have like a cable? 10:20:15
19 Q. I'm handing you 359 and an iPhone. 10:20:35
20 A. Great. All right. 10:20:37
21 So mechanical specifications are 10:20:39
22 basically the specifications about the 10:20:40
23 connection. This is the thing that you charge 10:20:44
24 your iPhone and you are almost always 10:20:46

1 connecting upside-down. So the mechanical 10:20:49
2 specifications define the size and the shape, 10:20:51
3 the composition of the physical items, 10:20:55
4 including the port. 10:20:58
5 And this connects into, as the 10:20:59
6 picture shows here, it connects into the port. 10:21:02
7 That's the USB port there, and the mechanical 10:21:11
8 specification covers that as well. 10:21:15
9 The second part is the electrical 10:21:17
10 specifications. Basically that's the voltages 10:21:19
11 and the signal, the types of signals that get 10:21:22
12 transmitted on the cables for the 10:21:25
13 communication. 10:21:27
14 The third part is by far the 10:21:28
15 largest part of the specification, and that's 10:21:30
16 the communications. That includes the 10:21:32
17 commands, the type of data transfer that 10:21:36
18 you're communicating back and forth. 10:21:39
19 But those three parts basically 10:21:41
20 make up the entirety of the USB 10:21:43
21 specifications. 10:21:45
22 Q. And then did you want to go over some 10:21:48
23 of the concepts within USB? 10:21:50
24 A. Yeah. Real quick, we'll go top to 10:21:52

1 bottom here. 10:21:55
2 So the green -- the green line 10:21:56
3 here -- oops, I'm pressing the wrong button. 10:21:58
4 The green line here represents the 10:22:03
5 USB bus. That's the physical connection; a 10:22:05
6 combination of all the cables is the USB bus. 10:22:09
7 That's where all the signals get transmitted 10:22:11
8 on. And if you want to connect to a host, you 10:22:15
9 would have to connect into the USB bus. 10:22:18
10 That's connected through that host. 10:22:20
11 And the host at the top, of 10:22:22
12 course, is the device that's in control. It 10:22:24
13 is the one that sends commands down to the 10:22:27
14 devices. Devices can't say anything until the 10:22:28
15 host sends a command to it; then the devices 10:22:31
16 can respond. 10:22:34
17 The devices, of course, are what 10:22:36
18 follow the commands. And in this particular 10:22:39
19 case, we have the USB host, which the computer 10:22:43
20 has, in this case, up to three ports. What 10:22:48
21 happens if we have more than three USB devices 10:22:50
22 that you want to plug in? Some of you may be 10:22:52
23 familiar. You can plug in a hub. A hub gives 10:22:56
24 you extra ports. 10:22:59

1 Q. Mr. Zatkovich, what are the little 10:23:01
2 red numbers? 10:23:03
3 A. The little red numbers are the 10:23:03
4 addresses of the devices. Every time a device 10:23:05
5 gets added to the USB hub, it has to be given 10:23:10
6 an address, and that's done by the host, and 10:23:13
7 I'll talk a little bit more in detail on that. 10:23:15
8 But even the hub has to have an 10:23:18
9 address, too, because it has to talk to the 10:23:20
10 host. So now the hub is given some more 10:23:22
11 supports so we can add some more devices. 10:23:27
12 And let's talk briefly about what 10:23:29
13 happens when we add a new device to the bus. 10:23:31
14 When we add a new device to the bus, such as a 10:23:35
15 memory stick, the first thing that happens is 10:23:37
16 it sends up basically a discovery signal up to 10:23:40
17 the host saying there's a new device here and 10:23:43
18 we don't know what it is. 10:23:45
19 So the host does what's called an 10:23:46
20 enumeration, and I think you've heard that 10:23:49
21 term, "enumeration." Basically it's the host 10:23:52
22 saying I need to know who you are. So it asks 10:23:55
23 for the device's configuration, what type of 10:23:59
24 device you are, what type of interface do you 10:24:02

1 use to communicate data. And once it receives 10:24:05
2 that information, it -- and if the host is 10:24:07
3 satisfied, it assigns a new address to that 10:24:12
4 device so that it can tell that device from 10:24:16
5 all the other devices on the USB bus. 10:24:17
6 Of course, this is the way the 10:24:20
7 standard USB network works in a standard USB 10:24:22
8 device. We're going to be looking at some 10:24:28
9 non-standard USB devices. 10:24:32
10 Q. Thank you. 10:24:35
11 Now, we've already heard a bit 10:24:36
12 about CarPlay, but do you have some slides 10:24:37
13 giving a review of CarPlay and how some of the 10:24:40
14 CarPlay issues interface with this case? 10:24:43
15 A. Sure. One item I forgot, small but 10:24:44
16 important concept, the host is considered at 10:24:49
17 the top of the triangle, so it looks at its 10:24:53
18 devices through downstream, downstream ports, 10:24:56
19 and the devices look up to the host and it 10:24:59
20 looks up to those through upstream ports. 10:25:02
21 Important concept I will be talking about 10:25:05
22 later. 10:25:07
23 All right. CarPlay. And I know 10:25:08
24 many of you have probably used CarPlay or seen 10:25:12

1 it before. Some of you may have not. So I'm 10:25:15
2 going to assume that some of you may have not, 10:25:18
3 so I'm going to talk about it from the 10:25:21
4 beginning. 10:25:23
5 So CarPlay is an invention by 10:25:24
6 Apple. We know Steve Jobs, big innovator. 10:25:27
7 His concept was create a computer in a phone 10:25:30
8 together in a smart iPhone and put an iPhone 10:25:34
9 in everybody's pocket. 10:25:36
10 Well, Apple took that one step 10:25:38
11 further and wanted to put an iPhone in 10:25:40
12 everybody's car. They saw cars coming out 10:25:42
13 with these sophisticated head units, these 10:25:45
14 screens where you can display your radio 10:25:49
15 stations, where you can show -- control your 10:25:51
16 heater, where you can show your mapping. So 10:25:53
17 iPhone wanted to get into that business and so 10:25:56
18 they invented the concept of CarPlay. 10:25:59
19 And very much like Apple, they 10:26:01
20 wanted to make sure that the CarPlay device, 10:26:03
21 the iPhone, was -- had some -- some control 10:26:05
22 over the head unit. So it wanted the iPhone 10:26:09
23 to be the host. Of course, the car 10:26:13
24 manufacturers wanted the head unit to be the 10:26:15

host. 10:26:17
So you can't have two hosts on the 10:26:18
same bus. What do you do? Well, we'll talk 10:26:20
about that. 10:26:24
Q. Before we move off this screen, the 10:26:24
head unit is showing CarPlay; is that correct? 10:26:26
A. Correct. 10:26:28
Q. And what is it? 10:26:29
A. The concept of CarPlay is to take the 10:26:30
applications that are on your iPhone and allow 10:26:34
you to access them on the screen of the car. 10:26:36
So that while you're driving, you don't have 10:26:40
to look at your phone; you can just press a 10:26:42
button on the screen. 10:26:44
Q. And, Mr. Zatkovich, what would that 10:26:46
screen look like before CarPlay started up? 10:26:50
Would it have the same icons? 10:26:56
A. It would have the normal radio 10:26:57
control, showing your radio stations, or it 10:26:59
would have your heater control or your map. 10:27:02
Once you plug in your iPhone device and it 10:27:04
becomes CarPlay, you can see the CarPlay 10:27:07
applications. 10:27:08
But you have to plug it in. So if 10:27:09

1 your car's head unit is CarPlay compatible, it 10:27:14
2 will give you USB ports to plug in. Now, some 10:27:18
3 car manufacturers only assign one USB port to 10:27:21
4 CarPlay and you have to figure out which one 10:27:24
5 it is, and usually it's labeled. Other car 10:27:26
6 manufacturers prefer that all of the USB ports 10:27:28
7 in the car be CarPlay enabled, and that's a 10:27:32
8 very desirable feature, so that you don't have 10:27:36
9 to figure it out. 10:27:38
10 But once you do plug your car -- 10:27:40
11 or your iPhone into your USB CarPlay port, the 10:27:43
12 head unit then displays your CarPlay 10:27:48
13 applications from your iPhone on the screen. 10:27:52
14 And what happens at that point -- so let's 10:27:54
15 say, for example, you touch on the Apple, play 10:27:56
16 music application. What happens? The head 10:28:01
17 unit detects that and sends that down to the 10:28:04
18 iPhone. It says somebody has touched on the 10:28:07
19 Apple play music icon, down to the iPhone. 10:28:10
20 The iPhone says fine, let me send 10:28:15
21 back up to you music selections that I have 10:28:18
22 that you can play. And that's what then 10:28:21
23 appear on the head unit. 10:28:25
24 So that's, in a nutshell, that's 10:28:27

1 the concept of CarPlay. 10:28:30
2 Q. Now, do you have some slides talking 10:28:32
3 about the '243 Patent and the invention? 10:28:35
4 A. I do. We are going to have many 10:28:40
5 slides on that. I apologize. We will be 10:28:42
6 going through a lot of claim items, but that's 10:28:44
7 my job. 10:28:49
8 So I wanted to do a brief overview 10:28:49
9 of patents in general. I've had the 10:28:53
10 opportunity, over my 30-year career, to 10:28:56
11 examine hundreds -- probably at least a couple 10:28:58
12 thousand patents. Sometimes I do them for 10:29:02
13 fun; being that there's so many patents out 10:29:07
14 there. 10:29:12
15 In other cases, companies hire me 10:29:12
16 to evaluate their patent portfolio. For 10:29:14
17 example, AT&T has about 200 telecommunication 10:29:17
18 patents. They asked me to evaluate them and 10:29:20
19 identify which ones I thought were the most 10:29:22
20 valuable so they could maintain them and 10:29:24
21 monetize them. 10:29:27
22 In other cases, I get hired to 10:29:27
23 evaluate patents for patent litigation, which 10:29:30
24 is what I'm doing today, among my other 10:29:33

1 projects. 10:29:36
2 So all patents basically have 10:29:37
3 three parts; it's the cover. On the cover, 10:29:40
4 you have the inventor who invented it; in this 10:29:43
5 case, Mr. Bohm, and his associate. We have 10:29:46
6 the history of the patent, what patents are 10:29:49
7 related to it, when it was issued and the 10:29:52
8 patent number, of course, which is important. 10:29:57
9 The next -- and the bulk of the 10:30:01
10 patent is the description of the technology. 10:30:05
11 It's actually called the specification. It 10:30:07
12 has the diagrams and the descriptions of the 10:30:09
13 technology. 10:30:13
14 It also had, as Mr. Bohm 10:30:14
15 mentioned, it has embodiments. Embodiments 10:30:17
16 are just examples of how you might use that 10:30:21
17 technology in a device or in a system. And we 10:30:23
18 can see that here at the top in the infamous 10:30:26
19 Figure 3 of the '243 Patent, and we'll be 10:30:31
20 talking about that. 10:30:35
21 The last part of the patent is the 10:30:37
22 claims, and even though the specification 10:30:40
23 talks about the background of the technology 10:30:44
24 and the embodiments, the actual invention is 10:30:46

1 defined in the claims, itself. Each -- in 10:30:50
2 fact, each claim is an invention in and of 10:30:52
3 itself, a valid claim. 10:30:55
4 And this particular patent has 25 10:30:57
5 claims. Each claim is different. They have 10:31:00
6 to be different. Many of them look similar, 10:31:02
7 but the patent will not allow you to issue a 10:31:04
8 patent if any of the claims say the same thing 10:31:08
9 or do the same thing. So they are distinct. 10:31:12
10 Sometimes differences are very 10:31:15
11 subtle. I felt for Mr. Bohm when he was up 10:31:18
12 here trying to compare two different claims. 10:31:21
13 Sometimes it takes many hours to tease out the 10:31:22
14 difference between claims, but they are 10:31:25
15 different. Trust me. 10:31:27
16 We'll be talking about claims 23, 10:31:28
17 24 and 25. All right. Should I proceed into 10:31:31
18 the rest of the patent? 10:31:41
19 Q. Please proceed. 10:31:43
20 A. All right. Okay. I know you've seen 10:31:43
21 Figure 3. We're going to walk through it 10:31:47
22 again from bottom to top. Hopefully I'll be 10:31:49
23 able to describe it in an understandable 10:31:53
24 fashion. 10:31:56

1 But let's start at the bottom. 10:31:57
2 The device/function box. What is that? Well, 10:31:59
3 that is the actual USB device or device 10:32:03
4 portion or function, such as the mouse, the 10:32:08
5 memory stick, the interface control. That's 10:32:10
6 the thing that actually does something. 10:32:13
7 But on top of that, we have the 10:32:16
8 USB multi-host device controller. What is 10:32:20
9 that? Well, every USB device has to be a USB 10:32:24
10 device controller, okay? So we have the USB 10:32:28
11 device, the mouse or the memory stick. 10:32:32
12 On top of that, we have the device 10:32:34
13 controller and it communicates -- has to 10:32:36
14 communicate with the host. So it speaks the 10:32:38
15 USB language, whereas the mouse or the memory 10:32:40
16 stick can't communicate USB language; the 10:32:43
17 microcontroller communicates USB language and 10:32:47
18 speaks to the host. 10:32:50
19 Now, this -- this time we have a 10:32:51
20 special type of USB device controller; it's a 10:32:53
21 multi-host. So basically we're taking -- 10:32:56
22 we're creating a multi-host device controller 10:32:59
23 where the controller must speak to two hosts 10:33:02
24 at the same time, and they must coordinate 10:33:05

1 together because they're both trying to access 10:33:08
2 that same device or that portion of that same 10:33:10
3 device at the same time. We have to link them 10:33:12
4 together and coordinate them, so that's what 10:33:16
5 the USB multi-host controller device is. 10:33:19
6 Above that, endpoints. Mr. Bohm 10:33:22
7 talked about the endpoints a little bit. So 10:33:26
8 we're communicating data back and forth here. 10:33:28
9 Where do we store that data? 10:33:31
10 Well, the endpoints are the memory buffers. 10:33:33
11 It stores information such as what type of 10:33:37
12 device it is, what the address of the device 10:33:42
13 is, if you want to send data up to a host, you 10:33:45
14 temporarily store that information in the 10:33:47
15 endpoint buffer before it goes to the host. 10:33:49
16 So basically the endpoints are the 10:33:51
17 memory-holding information between the device 10:33:53
18 and the host. 10:33:55
19 And in this particular case, we 10:33:56
20 have two sets of memory, two sets of endpoints 10:33:57
21 reserved for each host because they are 10:34:00
22 separate and distinct. All right. 10:34:03
23 So we've got the device, we've got 10:34:04
24 the controller that can talk USB to both hubs, 10:34:07

1 and we've got the memory to hold the data to 10:34:10
2 go back and forth on the hub's bus. 10:34:13
3 How do we actually get that data 10:34:16
4 out onto the bus? We have to have an upstream 10:34:18
5 port. That's the thing that actually connects 10:34:20
6 the device to the USB bus, to communicate with 10:34:22
7 the host. 10:34:27
8 And you'll see the designation 10:34:28
9 PHY, P-H-Y; that's basically shorthand for 10:34:32
10 physical. It's the physical signals that gets 10:34:35
11 transported over the USB bus cable to 10:34:37
12 communicate with the first host. But we also 10:34:42
13 call it the port. In this case, since we're 10:34:44
14 talking upstream to the host, it's an upstream 10:34:47
15 port. So those are the components. 10:34:51
16 And what I'm going to do now is 10:34:54
17 basically walk through the claim language and 10:34:56
18 describe how the claim language describes what 10:34:58
19 those components have to do. 10:35:02
20 Q. And, Mr. Zatkovich, at the top here, 10:35:04
21 you have a head unit and an iPhone. Those are 10:35:06
22 not in the patent, are they? 10:35:08
23 A. Those are not in the patent. Those 10:35:09
24 are just two example hosts. An iPhone is a 10:35:11

1 computer and a head unit is a computer. They 10:35:14
2 are valid hosts. So these are valid examples 10:35:18
3 of what type of hosts might communicate. 10:35:21
4 Q. And we'll see those annotations on 10:35:24
5 later slides? 10:35:27
6 A. Right. I am using those throughout 10:35:27
7 because they are basically the hosts that will 10:35:30
8 be connecting to the accused devices. All 10:35:32
9 right. 10:35:34
10 So the patent claim is laid out in 10:35:34
11 elements. So we have multiple -- basically 10:35:39
12 three paragraphs here, each of which is a 10:35:43
13 claim element in and of itself. 10:35:45
14 At the top, that line that says, 10:35:47
15 "USB multi-host device comprising," that's 10:35:49
16 called a preamble. There is a little note 10:35:52
17 there. In this particular case, the preamble, 10:35:55
18 the Court has decided that the preamble is not 10:35:58
19 limited, meaning it's not necessary, it is not 10:36:00
20 a requirement, it is not part of the 10:36:03
21 invention; it is basically just an 10:36:05
22 introduction to the rest of the claim 10:36:07
23 elements. 10:36:09
24 So I am going to start proceeding 10:36:09

1 through the claim elements. All right. What 10:36:12
2 is on the first claim element? A shared USB 10:36:14
3 device block. 10:36:17
4 So we talked about the device 10:36:19
5 block down here, but in this case, it's not 10:36:24
6 just USB device or USB function; it is a USB 10:36:27
7 device block. 10:36:30
8 What is a device block? Well, 10:36:31
9 fortunately, the Court has given us a special 10:36:34
10 definition of what the USB device block is. 10:36:37
11 It is a USB device or segments of a USB 10:36:41
12 device. We'll stop there. So it can be an 10:36:47
13 entire USB device, like USB printer or a USB 10:36:50
14 memory stick, or it can be just a portion, a 10:36:53
15 segment, any part of that device. 10:36:55
16 So, for example, if the USB device 10:36:57
17 was a memory stick, a USB device block may be 10:37:01
18 just a portion of that that doesn't read, 10:37:06
19 memory reads or storage or memory rights, or 10:37:09
20 it might be the whole memory stick. So that's 10:37:11
21 an example of what a USB device block might 10:37:14
22 be. 10:37:17
23 So the claim has a shared USB 10:37:18
24 device block, and now it's going to be 10:37:21

1 operable to be simultaneously configured by 10:37:23
2 two or more USB hosts. Basically it means 10:37:27
3 once hosts are connected and configured, they 10:37:32
4 will be simultaneously, at the same time, they 10:37:35
5 will be connected to that shared USB device 10:37:38
6 block. 10:37:42
7 And I have a little -- well, 10:37:43
8 that's the essence of that. We'll talk more 10:37:45
9 about the simultaneously configured. 10:37:47
10 So now we've talked about the 10:37:54
11 shared USB device block. Let's talk about the 10:37:56
12 controller. As I mentioned, this is that 10:37:59
13 special controller that must control two hosts 10:38:02
14 at the same time. So we have a controller 10:38:05
15 configured to establish concurrent respective 10:38:08
16 dedicated USB connections. All right. 10:38:11
17 So what is a respective dedicated 10:38:15
18 USB connection? The Court has given us a 10:38:16
19 definition for that, too. And it is simple. 10:38:20
20 It's a USB connection that is not shared. 10:38:24
21 There are some exceptions to that, but in this 10:38:28
22 case, they are really -- the exceptions don't 10:38:31
23 apply. 10:38:35
24 So basically a respective 10:38:35

1 dedicated USB connection is just a USB 10:38:36
2 connection that is not shared. And I am 10:38:39
3 illustrating that here by saying the first 10:38:42
4 host has a dedicated connection and the second 10:38:45
5 host has a separate dedicated connection. 10:38:48
6 That's basically all that claim element means. 10:38:52
7 What are they connected to? Well, 10:38:55
8 they are connected between the shared USB 10:38:59
9 device block and the two or more hosts, 10:39:03
10 naturally. All right. 10:39:05
11 So a lot of complicated language, 10:39:06
12 but basically we have a shared USB device 10:39:09
13 block that's going to be connected via two 10:39:11
14 separate connections to the two hosts. All 10:39:14
15 right. 10:39:17
16 The next claim element is a very 10:39:17
17 special claim element. It is -- in fact, it 10:39:20
18 describes a function, and this function is 10:39:24
19 only in this claim; it's in none of the other 10:39:26
20 claims in the patent. So this is why it is a 10:39:28
21 special claim, so let's focus on this one. 10:39:32
22 All right. In this claim element, 10:39:35
23 it says, "Wherein the controller" -- I have a 10:39:40
24 little animation here. Try to enjoy that for 10:39:44

1 the time being. I'll explain what that is. 10:39:46
2 "The controller is operable to receive and 10:39:49
3 respond to simultaneous respective USB access 10:39:51
4 requests." Okay. 10:39:54
5 What does that mean? All right. 10:39:54
6 So we know the controller, that controller 10:39:56
7 must be able to respond to simultaneous USB 10:40:00
8 access requests; in other words, receive and 10:40:05
9 respond, both. 10:40:08
10 So if I have two hosts and they're 10:40:10
11 both trying to talk to this device at the same 10:40:12
12 time, this special controller has to be able 10:40:14
13 to receive those requests and respond to them 10:40:16
14 at the same time, if necessary. Okay? It 10:40:19
15 doesn't mean they are going to get access to 10:40:22
16 the device, okay. Depending on the device, 10:40:24
17 you can't -- sometimes a device won't take -- 10:40:27
18 can't serve as two hosts at the same time, but 10:40:30
19 the controllers have to process -- have to 10:40:33
20 arbitrate that, in a sense, okay? 10:40:35
21 And who are those accesses coming 10:40:38
22 from? They're coming from the two or more USB 10:40:40
23 hosts. 10:40:43
24 And what do they want to do? They 10:40:43

1 want to access the function of the shared 10:40:45
2 device. 10:40:47
3 So again, a complicated claim 10:40:47
4 element, very simple. We have the control, 10:40:52
5 special controller, which has to handle 10:40:54
6 simultaneous requests and responses to that 10:40:56
7 USB device block. 10:40:57
8 Q. And, Mr. Zatkovich, you have a memory 10:41:00
9 stick annotated on this one as well? 10:41:02
10 A. Yeah. Before we get to that, the 10:41:05
11 reason why I put in this funky animation is I 10:41:07
12 want to illustrate the fact that in real life, 10:41:09
13 how USB controller works is that it -- again, 10:41:12
14 since the device can't talk to the host, the 10:41:16
15 host has to keep polling the device, do you 10:41:18
16 have data, do you have data, do you have data. 10:41:21
17 It does that hundreds of times a second. 10:41:23
18 So for a normal USB, it would have 10:41:27
19 to be able to accept requests and responses 10:41:30
20 from one host to a device hundreds of times a 10:41:32
21 second. In this case, if you have two hosts, 10:41:36
22 that special microcontroller multi-host device 10:41:39
23 controller has to accept requests and 10:41:43
24 responses hundreds of times a second from both 10:41:45

1 hosts at the same time. That's why this claim 10:41:48
2 is so special. I think that takes care of 10:41:51
3 that one. 10:42:01
4 Now let's talk about the memory 10:42:02
5 stick. So let's give an example of what a 10:42:03
6 memory stick would -- how it would operate if 10:42:05
7 it were a multi-host device. 10:42:08
8 I've got a memory stick. I plug 10:42:12
9 it into both hosts, and remember, we have to 10:42:15
10 have a shared device box. So let's pretend 10:42:18
11 that the portion -- that segment of that 10:42:21
12 device that we're going to share will be the 10:42:25
13 ability to read from that memory stick; not 10:42:27
14 necessarily write, but read. 10:42:30
15 So let's say one of the hosts 10:42:31
16 doesn't have the possibility to read and 10:42:37
17 write. So the first host will write 10:42:38
18 photographs to that memory stick and the 10:42:42
19 second host could read photographs from that 10:42:45
20 memory stick. 10:42:47
21 So both devices could read from 10:42:48
22 that memory stick, but only one device could 10:42:51
23 write. That would be an example of a memory 10:42:54
24 stick that has two functions, to read and to 10:42:56

1 write, but only the read function is shared 10:43:00
2 between the two. That would be -- a USB 10:43:01
3 device block would be the portion of that. 10:43:05
4 Q. Now, we talked a lot about the patent 10:43:08
5 and we talked about basic concepts. Should we 10:43:11
6 talk about the Aptiv product? 10:43:15
7 THE COURT: Before we do that, Mr. 10:43:17
8 Fenton, why don't we take a mid-morning break. 10:43:19
9 It is a good point anyway since you were going 10:43:22
10 to change topics. 10:43:24
11 So, same caution as always; don't 10:43:28
12 go back and start talking about anything 10:43:30
13 you're hearing at this point. You have to 10:43:31
14 wait until we're done. But just take a short 10:43:34
15 5 to 10-minute break, and then we'll resume as 10:43:37
16 soon as everybody is ready. Okay? 10:43:40
17 (Whereupon, the jury was excused 10:43:42
18 from the courtroom.) 10:43:45
19 THE COURT: Okay. Take a short 10:44:08
20 break and try to be back somewhere between 10 10:44:10
21 of and 5 of. Okay? Stand in recess. 10:44:13
22 (Whereupon, a 10-minute recess was 10:44:18
23 taken at 10:45 a.m.) 10:44:20
24 THE COURT CLERK: All rise. 10:54:07

1 THE COURT: All right. Have a 10:55:00
2 seat, please, and you can get the jury. 10:55:03
3 (Whereupon, the jury entered the 10:55:06
4 courtroom.) 10:55:08
5 THE COURT: Mr. Fenton, you may 10:55:34
6 proceed. 10:55:36
7 BY MR. FENTON: 10:55:37
8 Q. Mr. Zatkovich, one housekeeping 10:55:38
9 matter that I missed. I want to go back to 10:55:40
10 it. Will you take a look in your binder at 10:55:43
11 Exhibit 94? 10:55:46
12 A. Exhibit? 10:55:46
13 Q. 94. 10:55:47
14 A. 94. I have that. 10:55:49
15 (Whereupon, Trial Exhibit 94 was 10:55:49
16 introduced.) 10:55:49
17 BY MR. FENTON: 10:55:54
18 Q. And what is Exhibit 94? 10:55:54
19 A. That's my resume. 10:55:55
20 MR. FENTON: Your Honor, at this 10:55:58
21 time we offer Exhibit 94 for admission. 10:56:00
22 MS. DURIE: No objection. 10:56:03
23 THE COURT: All right. Received. 10:56:04
24 BY MR. FENTON: 10:56:08

1 Q. Before the break, we were talking 10:56:09
2 about the general concepts. So do you have 10:56:11
3 slides prepared today to talk about the Aptiv 10:56:13
4 product? 10:56:15
5 A. Yes. I'll start with a very high 10:56:16
6 level overview of the Aptiv product. It is -- 10:56:19
7 well, there's some exhibits that I think we 10:56:24
8 want to introduce. 10:56:26
9 Q. Will you pause one second? Just real 10:56:37
10 quick, let's just walk through this real 10:56:38
11 quick. 10:56:40
12 Exhibits 5, 6 and 7 in your 10:56:40
13 binder, will you look real quick at those? 10:56:45
14 A. Yes. Exhibit 5 -- I have them, yes, 10:56:47
15 those are the right ones. 10:56:51
16 Q. And what are those documents? 10:56:52
17 A. Those are documents from Aptiv 10:56:53
18 describing their device. Among many other 10:56:58
19 items that I reviewed, I chose those to pull 10:57:01
20 specific extracts out so I can explain the 10:57:04
21 device. 10:57:07
22 (Whereupon, Trial Exhibits 5, 6 10:57:07
23 and 7, respectively, were introduced.) 10:57:07
24 MR. FENTON: And to the extent 10:57:07

1 that those haven't been admitted, we offer 10:57:09
2 those into evidence, Exhibits 5, 6 and 7. 10:57:11
3 MS. DURIE: No objection. 10:57:13
4 THE COURT: Okay. Received. 10:57:14
5 MR. FENTON: Okay. 10:57:16
6 THE WITNESS: There we go. All 10:57:28
7 right. 10:57:29
8 So Exhibit 5 is basically a 10:57:29
9 presentation that Unwired/Aptiv put together 10:57:33
10 to provide a high level description of what 10:57:38
11 their Boston chip did. And we'll be looking 10:57:42
12 at this diagram in more detail. 10:57:47
13 One of the things I wanted to 10:57:49
14 point out that I thought was interesting, up 10:57:51
15 here it says, "Digital iPod out OTG." That's 10:57:53
16 Apple's original name for the CarPlay product. 10:57:58
17 Fortunately, they changed it. It was a little 10:58:01
18 more descriptive. 10:58:04
19 There we go. Exhibit 6 is a large 10:58:07
20 document describing the specifications of the 10:58:11
21 Boston chip, itself. This is how this 10:58:16
22 functions. 10:58:18
23 BY MR. FENTON: 10:58:18
24 Q. Before you move on from that 10:58:19

1 document, there are a couple words on here 10:58:21
2 that I think it's worth talking about. 10:58:22
3 ASIC, what is an ASIC? 10:58:25
4 A. ASIC stands for Application Specific 10:58:26
5 Integrated Circuit. Integrated circuit is a 10:58:28
6 chip. Application specific means if you want 10:58:31
7 to design a custom device for a particular 10:58:33
8 function that's not normally a function, you 10:58:37
9 would develop what's called an application 10:58:41
10 specific integrated chip. 10:58:42
11 Q. And this document doesn't have 10:58:45
12 Unwired or Aptiv or Delphi on it; it has 10:58:46
13 something in the corner, IDK. 10:58:49
14 Do you see that? 10:58:51
15 A. Yes. 10:58:51
16 Q. What is that? 10:58:52
17 A. That is a separate company that Aptiv 10:58:52
18 used to design and develop this particular 10:58:55
19 ASIC chip, the Boston chip. 10:58:59
20 The last document, Exhibit 7, is a 10:59:04
21 fairly complex diagram showing the internal 10:59:10
22 logic, the internal function of the Boston 10:59:13
23 chip product. There is a lot of pieces on 10:59:16
24 there that we don't need to talk about, so I 10:59:18

1 will be focusing on some of them, but we'll go 10:59:21
2 back to the highest level diagram that I like, 10:59:25
3 which is at this level. 10:59:27
4 So over here, we have the host 10:59:31
5 side. It's not on the Boston chip, of course; 10:59:34
6 this represents the head unit. 10:59:39
7 On the other side, we have the 10:59:40
8 iPhone, which is going to be the other host, 10:59:42
9 and that, of course, is not part of the chip. 10:59:46
10 But everything in between is on the Boston 10:59:48
11 chip. 10:59:50
12 So the first thing that's on the 10:59:52
13 Boston chip is a hub. It connects to the host 10:59:53
14 via, of course, the upstream port because it 10:59:57
15 is the host. That gives the hub unit 11:00:00
16 additional ports that it can use to 11:00:03
17 communicate with the USB devices. 11:00:05
18 So in this particular case, we are 11:00:07
19 showing the iPhone and gray box which 11:00:09
20 represents another device, such as a memory 11:00:13
21 stick, that you can plug into the Boston chip 11:00:16
22 device. 11:00:19
23 And the next slide is the same 11:00:22
24 thing, but as I mentioned before, the iPhone 11:00:25

1 wants to be the host when it is talking to the 11:00:27
2 head unit. 11:00:29
3 So this diagram, it's the same 11:00:31
4 thing, only it represents what happens when 11:00:34
5 the iPhone does what's called role reversal. 11:00:35
6 You heard that term, "role reversal." That's 11:00:39
7 when the iPhone first connects as a device and 11:00:41
8 it says, I want to do CarPlay and it reverses 11:00:44
9 its role, and as a result of that, the Boston 11:00:48
10 chip routes its downstream port to the bridge 11:00:51
11 so that it can be a host. 11:00:55
12 So we saw it switching from this 11:00:59
13 connection as a downstream port to routing the 11:01:02
14 iPhone via upstream port to this thing in the 11:01:07
15 middle, which is the bridge. And we're going 11:01:10
16 to talk a lot about the bridge. 11:01:13
17 The bridge has two sides. The 11:01:15
18 device A side of the bridge talks to the head 11:01:19
19 unit host and the device B side of the bridge 11:01:22
20 talks to the iPhone host. And we'll talk -- 11:01:25
21 we'll switch to a more detailed version of 11:01:28
22 this, this diagram. 11:01:30
23 Q. And this diagram that you have been 11:01:32
24 talking about is on Exhibit 5; is that 11:01:33

1 correct? 11:01:35
2 A. Pardon? This is Exhibit 5, correct. 11:01:35
3 All right. 11:01:42
4 We're going to explain how I found 11:01:43
5 the elements of the claim 23, how they were 11:01:46
6 operated within the Aptiv device, but we're 11:01:49
7 going to continue looking at the device first. 11:01:52
8 Here is that big diagram. The 11:01:56
9 bridge part that I pointed out on the other 11:01:58
10 device, on the other diagram, this is where 11:02:01
11 the bridge is. 11:02:05
12 Q. And, Mr. Zatkovich, this is 11:02:05
13 Exhibit 7; is that correct? 11:02:07
14 A. This is Exhibit 7. 11:02:07
15 Q. And this is Aptiv's figure? 11:02:08
16 A. All these documents came from Aptiv, 11:02:11
17 that is correct. 11:02:13
18 So what we are going to do is 11:02:15
19 we're going to kind of isolate on that, I'm 11:02:17
20 outlining specific pieces of that and then 11:02:26
21 we're going to load that. There you go. All 11:02:28
22 right. 11:02:38
23 So this is the bridge product of 11:02:38
24 the last diagram that we talked about. So 11:02:41

1 what is the bridge? Well, we see the two 11:02:43
2 green boxes on either side. One of those 11:02:46
3 boxes is the side that talks to the head unit, 11:02:50
4 one of those boxes is the side that talks to 11:02:53
5 the iPhone. 11:02:55
6 Those are UDCs, USB device 11:02:56
7 controllers. Remember I said every USB device 11:03:01
8 has a USB device controller? That's what 11:03:03
9 those are. 11:03:06
10 And separately, each of those USB 11:03:07
11 device controllers could talk -- the one USB 11:03:11
12 device controller could talk to the head unit 11:03:14
13 all by itself, the other USB device controller 11:03:16
14 could talk to the iPhone all by itself, but as 11:03:18
15 soon as you connect those together and you 11:03:21
16 coordinate them, put them together with some 11:03:24
17 glue, we now have what? We have a multi-host 11:03:26
18 USB device controller, assuming that it can 11:03:30
19 simultaneously connect to and talk to two 11:03:34
20 different hosts and have coordinated together 11:03:36
21 in a fashion so that they can talk to a shared 11:03:39
22 USB device block. 11:03:41
23 All right. What is -- what is the 11:03:43
24 glue that holds it together? The glue that 11:03:45

1 holds it together is this MCU, that's the 11:03:48
2 microcontroller unit, and that's basically the 11:03:52
3 microprocessor. It has a bunch of software on 11:03:54
4 it and I am kind of color-coding it. 11:03:57
5 The blue software is related to 11:04:00
6 the device function and the green -- I'm 11:04:02
7 sorry, the blue software is what glues the two 11:04:03
8 halves of the controller together to create 11:04:07
9 one multi-host device controller. All right. 11:04:09
10 So what is the controller 11:04:11
11 controlling? It's controlling the bridge in 11:04:14
12 the middle, which is the FIFO buffers. All 11:04:19
13 right. What is FIFO? FIFO stands for first 11:04:23
14 in/first out. And the purpose of those FIFO 11:04:25
15 buffers is to allow the Apple host, the iPhone 11:04:30
16 host, to talk to the head unit host. 11:04:33
17 So a FIFO, first in/first out. 11:04:35
18 The Apple sends memory into that buffer. The 11:04:39
19 first thing that comes out will be that same 11:04:41
20 data that goes to the head unit host. So we 11:04:43
21 have multiple FIFO buffers together being 11:04:47
22 controlled by these two UDCs glued together. 11:04:51
23 All right. So that's a quick overview. 11:04:58
24 We also see some black boxes 11:05:01

1 there, small black boxes at the bottom. Those 11:05:03
2 are the P-H-Ys, the PHYs. If you remember, 11:05:06
3 those are the upstream ports. That's how they 11:05:10
4 connect to the host. That's how they connect 11:05:12
5 to the host via the USB hub. All right. 11:05:14
6 Well, let's take that segment and 11:05:24
7 go back to the claim. All right. So if you 11:05:31
8 remember, the first thing we have is the 11:05:36
9 shared USB device block. It is operable to be 11:05:38
10 simultaneously configured by two or more USB 11:05:41
11 hubs. Shared USB device block can be any 11:05:44
12 portion of the USB device. And I have 11:05:47
13 summarized what I consider all of the aspects 11:05:52
14 of that is. 11:05:55
15 The USB device block at the bottom 11:05:56
16 is the function of transferring data between 11:06:01
17 the two hosts, and the microprocessor, the MCU 11:06:04
18 logic, that coordinates the data transfers 11:06:09
19 through the FIFO buffers. 11:06:11
20 So again, we have the multi-host 11:06:13
21 controller, we have the FIFO buffers. This is 11:06:16
22 the shared function, the shared USB device 11:06:20
23 block that's used to connect the one host to 11:06:23
24 the other host with the assistance of the 11:06:26

1 microprocessor software. 11:06:30
2 All right. That, I believe, 11:06:32
3 covers that. 11:06:36
4 Q. Okay. 11:06:37
5 Mr. Zatkovich, do you have an 11:06:37
6 opinion as to whether or not the first element 11:06:39
7 of claim 23 is satisfied by the Boston 11:06:42
8 product? 11:06:45
9 A. Yes, the Aptiv product does practice 11:06:45
10 the first element, including the USB device 11:06:48
11 block. The Boston chip includes a shared USB 11:06:50
12 device block operable to be simultaneously 11:06:55
13 configured by two or more USB hosts. 11:06:57
14 And again, for the record, all of 11:07:00
15 this is occurring on exhibit -- 11:07:02
16 Q. This is coming out of Exhibit 7, is 11:07:05
17 it not? 11:07:07
18 A. 7, yes. Thank you. 11:07:07
19 All right. So let's take that off 11:07:10
20 and let's go into the next thing. 11:07:13
21 All right. So we have the 11:07:16
22 controller, and remember, this is the special 11:07:17
23 controller, the multi-host device USB 11:07:19
24 controller configured to establish concurrent 11:07:22

1 respective dedicated USB connections. 11:07:25
2 And we know that the Aptiv Boston 11:07:27
3 chip will allow you to have the head unit and 11:07:30
4 the iPhone connected and configured at the 11:07:34
5 same time. We tested it. 11:07:37
6 And what are they connected 11:07:39
7 between? The controller establishes the 11:07:42
8 connection between that shared USB device 11:07:46
9 block, the FIFO buffers and the logic, and the 11:07:49
10 two hosts. 11:07:53
11 Okay. I have checked that off. 11:07:57
12 Q. Mr. Zatkovich, do you have an opinion 11:07:59
13 as to that claim limitation? 11:08:01
14 A. Yes. The Boston chip practices the 11:08:03
15 second claim element of a controller 11:08:06
16 configured to establish concurrent respective 11:08:09
17 dedicated USB connections between the shared 11:08:12
18 USB device block and the two or more USB 11:08:15
19 hosts. All right. 11:08:20
20 So the last element to claim 23, 11:08:21
21 again, that's the special one; that's the one 11:08:24
22 that has the simultaneous accesses. So we 11:08:27
23 have the special multi-host USB device 11:08:30
24 controller. It's operable to receive and 11:08:34

1 respond to simultaneous respective USB 11:08:37
2 accesses sent by two or more USB hosts for 11:08:40
3 accessing function of the shared USB device 11:08:45
4 block. 11:08:48
5 Well, I know that it does that, 11:08:48
6 but how do you know that it does that? I put 11:08:50
7 together another little animation using 11:08:54
8 Spotify as an example. So let's take the 11:08:59
9 scenario where I am a user in the car, I 11:09:03
10 select the Spotify music icon. 11:09:06
11 What happens next? The head unit 11:09:10
12 sends the message back down to the iPhone that 11:09:13
13 says, they have selected the Spotify icon. 11:09:17
14 That's a request. When it receives an 11:09:20
15 acknowledgment, that's a response. 11:09:22
16 The iPhone says, I got your 11:09:25
17 message. I am going to send you a song or a 11:09:27
18 list of songs to be played. That's a request 11:09:31
19 to respond, not necessarily simultaneously. 11:09:34
20 Then what happens? Well, we have 11:09:38
21 to start playing music; right? So the user 11:09:40
22 requests the song to be played, and we have a 11:09:43
23 little animation here. What happens is the 11:09:46
24 iPhone takes this music file and chops it up 11:09:48

1 into little parts, okay, so thousands -- the 11:09:52
2 song is broken up into thousands of parts that 11:09:57
3 get sent one at a time, again, hundreds of 11:10:00
4 times a second, and again, the iPhone is 11:10:02
5 hundreds of times a seconds requesting what's 11:10:06
6 called a data out, data out, data out, data 11:10:08
7 out. And that was what gets sent to the USB 11:10:12
8 shared device block, which again, the purpose 11:10:16
9 of that is to transfer data from one host to 11:10:18
10 the other. 11:10:21
11 And, of course, it's doing its 11:10:21
12 job. It receives that data out packet from 11:10:23
13 the phone, transfers it across the bridge to 11:10:27
14 the other side so that the other half of the 11:10:30
15 controller can receive that and send it to the 11:10:32
16 head unit. 11:10:36
17 Now, the head unit with the green 11:10:37
18 double line is now doing data in, data in, 11:10:40
19 data in. And they are -- again, they are both 11:10:43
20 doing that hundreds of times a second, and 11:10:47
21 that is one example of simultaneous requests 11:10:49
22 and responses. That's -- and that's how you 11:10:53
23 play music from an iPhone. 11:10:58
24 Q. Just to clarify, when the -- you said 11:11:00

1 when the data is being sent from the UDC-US to 11:11:04
2 the head unit, what is the -- what is 11:11:08
3 happening there? Is it just sending it? 11:11:10
4 A. You mean for the head unit on the 11:11:14
5 right? 11:11:16
6 Q. Correct. 11:11:17
7 A. It's -- the head unit is continually 11:11:18
8 requesting, do you have any data, do you have 11:11:21
9 any data, and the right side of the controller 11:11:22
10 is saying yes, I have data, I have data. 11:11:25
11 Now, the data that's being sent 11:11:28
12 from the iPhone will be sent faster than it 11:11:31
13 can play. So in that case, at some point, 11:11:35
14 these FIFO buffers are going to full up faster 11:11:38
15 than the head unit can pull them off. So 11:11:42
16 again, part of the glue between controlling 11:11:44
17 access to the device is the MCU, the MCU logic 11:11:46
18 up here. 11:11:54
19 When the FIFO buffers fill up, it 11:11:54
20 gets interrupted. When the FIFO buffer is 11:11:57
21 filled up, what are we going to do? It will 11:11:59
22 start pausing the iPhone. It says, don't 11:12:02
23 play, don't play, don't play. And eventually, 11:12:04
24 those FIFO buffers will be cleared and the 11:12:07

1 iPhone will continue sending the items. 11:12:09
2 Did that answer your question? 11:12:15
3 Q. Yes, it did. 11:12:17
4 A. Okay. And that's basically where the 11:12:17
5 Boston chip includes the controller is 11:12:25
6 operable to receive and respond to 11:12:29
7 simultaneous respective USB access requests 11:12:30
8 sent by the two or more USB hubs for accessing 11:12:34
9 a function of the shared device block. Again, 11:12:38
10 the function of the shared device block is 11:12:41
11 transferring data from one host to another. 11:12:44
12 Now, in this example I showed data 11:12:46
13 going from the iPhone to the head unit. The 11:12:48
14 head unit can do exactly the same thing. 11:12:51
15 There is actually two sets -- we see the -- in 11:12:53
16 the middle there, we see bulk in, bulk out. 11:12:56
17 Can you see that? Bulk in, bulk out, 11:13:00
18 interrupt in, interrupt out. These are the 11:13:04
19 different FIFO buffers. 11:13:07
20 So there is one set of bulk out 11:13:08
21 and bulk in FIFO buffers that go in this 11:13:10
22 direction, and there's one pair of FIFO bulk 11:13:14
23 in bulk out FIFO buffers that go in this 11:13:16
24 direction. So basically both the host and the 11:13:20

1 iPhone can perform the same shared USB device 11:13:23
2 block functions. 11:13:27
3 Q. Okay. 11:13:28
4 Mr. Zatkovich, do you have an 11:13:29
5 opinion about this last claim element? 11:13:30
6 A. Yes. As I mentioned, the Boston chip 11:13:32
7 includes the controller -- where the 11:13:36
8 controller is operable to receive and respond 11:13:38
9 to simultaneous respective USB access requests 11:13:40
10 sent by the two or more USB hosts for 11:13:43
11 accessing a function of the shared USB device 11:13:46
12 block. 11:13:49
13 Q. And, Mr. Zatkovich, do you have an 11:13:49
14 opinion as to whether the Aptiv product 11:13:51
15 practices claim 23? 11:13:54
16 A. Yes, it practices each individual 11:13:55
17 claim, and therefore, it practices the claim 11:13:58
18 as a whole. 11:14:01
19 Q. Thank you. Should we look at claim 11:14:02
20 24 then? 11:14:09
21 A. Claim 24. We're having fun. All 11:14:10
22 right. So I am going to walk through claim 24 11:14:14
23 just like I did claim 23. 11:14:17
24 The difference -- claim 23 is 11:14:19

1 what's called an independent claim. It sits 11:14:21
2 all by itself. Those three claim elements all 11:14:24
3 by themselves constitute an invention, okay? 11:14:28
4 But you can have what's called 11:14:31
5 dependent claims which tack on additional 11:14:33
6 claims. So if you want to add more functions 11:14:36
7 to that invention, you can create a dependent 11:14:39
8 claim, and that's what we have here. 11:14:42
9 So we can see it starts out with 11:14:43
10 "USB multi-host function of claim 23," so we 11:14:47
11 start with all the same functions that we had 11:14:50
12 in claim 23 and we add onto that. We'll walk 11:14:52
13 through what we're adding. 11:14:55
14 Q. And, Mr. Zatkovich, what is that 11:14:56
15 first line of the claim called? 11:14:58
16 A. That's the preamble. And again, we 11:14:59
17 know that the preamble is not limiting, which 11:15:02
18 means it's not really describing a requirement 11:15:05
19 of the invention, itself, it's just an 11:15:07
20 introduction. 11:15:09
21 All right. So this might look 11:15:11
22 familiar because this is an exact copy of an 11:15:14
23 element from the previous, it is just giving 11:15:18
24 us context. It is saying "wherein 11:15:19

1 establishing the concurrent respective 11:15:23
2 dedicated connections between the shared USB 11:15:25
3 device block and the two or more hosts." 11:15:28
4 So where claim 23 establishes two 11:15:32
5 separate dedicated connections from the host 11:15:36
6 to the device, keep that context in mind, what 11:15:38
7 happens next? In this particular context, we 11:15:43
8 have the controller, again, that special 11:15:47
9 controller, is operable to maintain respective 11:15:49
10 dedicated address, configuration and response 11:15:52
11 information for each of the two hosts. All 11:15:56
12 right. What is that? All right. 11:15:59
13 So the dedicated address 11:16:02
14 configuration and response information. So as 11:16:05
15 I mentioned, whenever you add a USB device to 11:16:08
16 the -- I'm sorry, to the USB bus. Sorry. 11:16:14
17 Each one -- each host has to have its own 11:16:22
18 address. Each host will actually have a 11:16:25
19 separate configuration and each host will have 11:16:28
20 the ability to have a separate response to 11:16:32
21 information. 11:16:35
22 Where do we store that? Well, we 11:16:36
23 talked about storing that at the endpoint. 11:16:39
24 That's not required here, but we'll see that. 11:16:41

1 All this claim requires is that each host of 11:16:43
2 the multi-host device controller has the 11:16:49
3 ability to maintain a separate address and 11:16:51
4 configuration and response information for 11:16:55
5 each host. And, in fact, this illustrates 11:16:59
6 what that means. 11:17:01
7 So let's go to an example of what 11:17:02
8 this means. So this example, I'm choosing a 11:17:05
9 printer/scanner as the example device. So the 11:17:10
10 first host is going to configure the 11:17:14
11 printer/scanner and the second host is going 11:17:18
12 to configure the printer/scanner. If you 11:17:20
13 remember the term that we used was 11:17:22
14 enumeration. We're going to enumerate that 11:17:25
15 device. 11:17:28
16 So the first host sends an 11:17:28
17 enumeration, starts the enumeration process by 11:17:30
18 sending a request down to this multi-host 11:17:33
19 device, and it responds with, I am a printer. 11:17:37
20 I am a printer, Item 1002, and that gets sent 11:17:45
21 back to the host. 11:17:51
22 And then the second host comes 11:17:52
23 along and says, I want to discover you and 11:17:54
24 configure you, but in this case, the second 11:17:56

1 host gets a configuration of printer/scanner, 11:17:59
2 all right? So we have potentially a shared 11:18:03
3 function between the two of which is a portion 11:18:06
4 of that device, the printer, where, in the 11:18:08
5 case of the second host, it might have an 11:18:12
6 additional function called the scanner. 11:18:14
7 Why would we have two different 11:18:16
8 hosts configure them separately? Several 11:18:18
9 reasons. The most important thing is that the 11:18:21
10 patent claim allows for that. It allows you 11:18:24
11 to enumerate the device and have two separate 11:18:28
12 addresses, two separate configurations, and 11:18:31
13 one response to information. 11:18:37
14 One example would be that first 11:18:38
15 host doesn't have the proper drivers or 11:18:40
16 software to talk to the scanner, so it only 11:18:42
17 chooses to talk to the printer. 11:18:44
18 The second host does, however, 11:18:46
19 have that special printer/scanner software so 11:18:48
20 that it gets configured as a full 11:18:51
21 printer/scanner. So that would be an example. 11:18:53
22 And that basically is the extent of claim 24. 11:19:01
23 All right. 11:19:05
24 So now I'll show how the Aptiv 11:19:05

1 product practices that with a new item. All 11:19:09
2 right. As I mentioned before, that claim 11:19:15
3 language there comes directly from claim 23. 11:19:18
4 We already know what claim 23 does, but it's 11:19:20
5 the process of establishing concurrent 11:19:24
6 separate connections between the hosts and the 11:19:28
7 shared device block. And we know that the 11:19:32
8 iPhone and the head unit can both talk to the 11:19:34
9 device block at the same time. But we are 11:19:37
10 going to add something to that, as we 11:19:41
11 discovered. 11:19:44
12 The controller is operable to 11:19:45
13 maintain respective dedicated address 11:19:47
14 configuration and response information for 11:19:49
15 each of the two hosts. So I tested this, but 11:19:52
16 the documentation supports this, but I've 11:19:55
17 tested this as well. 11:19:58
18 When the head unit does the 11:19:59
19 enumeration of the Boston chip, it returns, 11:20:02
20 for example, a product ID. You see on the 11:20:06
21 side there, product ID host-to-host bridge. 11:20:10
22 Sounds logical. That's basically what Aptiv 11:20:14
23 chose to call the product ID where they 11:20:19
24 configured it from the head unit. 11:20:21

1 But when an iPhone connects to 11:20:24
2 discover that device, it gets back at 11:20:31
3 potentially a different address with a product 11:20:35
4 ID of iAP2 NCM accessory. What is that? 11:20:38
5 Well, again, that's the product ID 11:20:44
6 that Aptiv chose to put in there, but it 11:20:51
7 represents what Apple requires that it talk 11:20:54
8 to. In other words, Apple will not talk to a 11:20:56
9 device in CarPlay unless it's iAP compatible 11:20:59
10 and NCM compatible. 11:21:02
11 IAP is the method for 11:21:06
12 authenticating the device. Apple doesn't want 11:21:07
13 to talk to just any device. It has to be a 11:21:09
14 registered authorized device that Apple has 11:21:12
15 approved. And that's the process that you go 11:21:15
16 through getting iAP to verify that it is an 11:21:18
17 authentic Apple CarPlay device. 11:21:22
18 NCM is how it -- for example, when 11:21:24
19 we did the Spotify data transfer, it is using 11:21:28
20 the NCM protocol to do that music transfer. 11:21:31
21 And that pretty much is an example of how the 11:21:36
22 controller -- remember, there is the special 11:21:39
23 multi-host controller. It maintains two 11:21:43
24 separate addresses, two separate 11:21:45

1 configurations and two separate response 11:21:48
2 information for each host. 11:21:50
3 Q. So, Mr. Zatkovich, do you have an 11:21:52
4 opinion as to that last element of claim 24? 11:21:54
5 A. Yes. The Boston chip includes the 11:21:56
6 controller that's operable to maintain 11:22:00
7 respective dedicated address configuration and 11:22:02
8 response information for each of the two or 11:22:05
9 more USB hosts. 11:22:07
10 Q. Okay. 11:22:08
11 So because this is a dependent 11:22:09
12 claim, I am adding a couple more questions 11:22:11
13 here. It cites back to claim 23. 11:22:13
14 So again, did you have an opinion 11:22:17
15 as to whether the Boston chip practices claim 11:22:19
16 23? 11:22:23
17 A. Yeah. As I mentioned, it practices 11:22:23
18 all the claim elements of claim 23, so the 11:22:25
19 Boston chip practices claim 23, and now we 11:22:28
20 tack on the additional requirements, and I 11:22:31
21 checked through those, so in total, the Boston 11:22:36
22 chip practices the entirety of claim 24. 11:22:38
23 Q. Thank you. 11:22:40
24 Now, before you said you were 11:22:41

1 testing the -- testing the system, what was 11:22:43
2 the test like? Did you test both sides of the 11:22:47
3 system? How did that work? 11:22:49
4 A. Well, when I rented the Yukon GMC, I 11:22:51
5 didn't want to rip out the -- it was an 11:22:57
6 expensive car. I didn't want to rip out the 11:23:00
7 dash and rip out the device, potentially 11:23:02
8 damaging the device, but it wasn't necessary. 11:23:05
9 I was able to plug the analyzer into the port 11:23:07
10 and then plug the iPhone into that, and the 11:23:10
11 analyzer could see every -- all the signals 11:23:12
12 going back and forth from the iPhone to the 11:23:15
13 bridge which would then be relayed to the head 11:23:18
14 unit. 11:23:22
15 And again, the purpose was not to 11:23:23
16 determine exactly how it worked from that; it 11:23:26
17 was just to verify that all the documentation 11:23:29
18 that I had read on how it worked and how it 11:23:31
19 communicated was consistent with how I tested 11:23:33
20 the device. 11:23:36
21 Q. Now, you also mentioned the iAP2 and 11:23:37
22 NCM interfaces? 11:23:41
23 A. Yep. 11:23:43
24 Q. Let's just pick one since that's a 11:23:44

1 lot to talk through. The NCM interface is 11:23:47
2 only listed on the left side and not on the 11:23:50
3 right side. What is your understanding of how 11:23:52
4 the NCM interface works? 11:23:56
5 A. Well, again, as I mentioned, the NCM 11:23:57
6 interface is what's used to do the bulk of 11:24:00
7 data transfers in the example that I provided. 11:24:03
8 It's how the music data gets transferred from 11:24:06
9 one end to another, for example, among other 11:24:09
10 types of transfers. 11:24:12
11 Q. And which of the UDCs are involved in 11:24:12
12 completing the NCM transfer? 11:24:15
13 A. Both of them. Both the head unit 11:24:17
14 side and the iPhone side, both have to be NCM 11:24:19
15 compatible and both have to be iAP compatible 11:24:23
16 in order for this CarPlay device to work 11:24:25
17 correctly. 11:24:28
18 So again, just because they have a 11:24:29
19 different product ID doesn't mean they don't 11:24:32
20 perform the same function. 11:24:35
21 Q. Should we turn to claim 25? 11:24:39
22 A. All right. Last claim. Only two 11:24:46
23 elements. All right. 11:24:50
24 So the first claim element, a 11:24:55

1 respective USB interface circuit for each of 11:24:58
2 the two or more USB hosts. All right. 11:25:01
3 So we talked -- well, I don't know 11:25:04
4 if I specifically used the term "innovate 11:25:08
5 circuit," but it's how the USB device, in this 11:25:11
6 case, the multi-host USB device, communicates 11:25:13
7 with the bus. 11:25:17
8 And if you'll recall, that's the 11:25:18
9 upstream port, also called the PHY. So this 11:25:20
10 is an example in the patent of how the -- 11:25:24
11 where the interface circuit is, which is the 11:25:29
12 upstream port to connect these guys to the 11:25:32
13 bus. 11:25:35
14 All right. The next part of that 11:25:38
15 is wherein each respective USB interface 11:25:40
16 circuit, the ports, enable the USB multi-host 11:25:44
17 device to transmit and/or receive data over 11:25:47
18 the USB bus, which is basically what I just 11:25:50
19 said. 11:25:55
20 So we have the ports. The ports 11:25:55
21 allow you to transmit and receive data between 11:25:58
22 the -- transmit and receive data over the USB 11:26:01
23 bus. Pretty simple. 11:26:07
24 All right. 11:26:12

1 Q. Wait, Mr. Zatkovich, before we move 11:26:12
2 on, do you have an opinion as to the second 11:26:14
3 element of claim 25? I'm sorry. 11:26:16
4 A. I will when we get to the Aptiv 11:26:20
5 device. 11:26:22
6 Q. Does Figure 3 infringe claim 25? 11:26:22
7 A. Right now I'm just still going 11:26:26
8 through the claim. 11:26:28
9 So the next part of that is 11:26:29
10 respective endpoint buffer; in other words, 11:26:30
11 the separate endpoint buffer for each of the 11:26:33
12 two or more hosts. And we talked about that 11:26:36
13 briefly before. 11:26:39
14 The endpoint buffer is the memory 11:26:40
15 that holds the information going back and 11:26:43
16 forth, such as the device time, the address, 11:26:45
17 temporarily holds the music data while the 11:26:48
18 music data is being transmitted. 11:26:50
19 So the key point is that each host 11:26:52
20 has a separate -- has a respective endpoint 11:26:55
21 buffer to hold information. And the next 11:26:58
22 part, of course, is we have that endpoint 11:27:03
23 buffer, which is the memory, and its purpose 11:27:06
24 is to store the respective -- the separate 11:27:07

1 dedicated address, the separate configuration 11:27:10
2 and the separate response information leading 11:27:13
3 to the two hosts. 11:27:15
4 And again, as part of the testing, 11:27:17
5 we know that this endpoint buffer contains 11:27:19
6 this respective -- this separate information 11:27:23
7 for this host and this endpoint buffer would 11:27:26
8 maintain separate information for this host. 11:27:29
9 That would be an example. All right. 11:27:33
10 Let's see about -- I think you can 11:27:35
11 pretty much guess how that's going to match to 11:27:38
12 the Aptiv device, but we'll walk through that. 11:27:41
13 All right. 11:27:45
14 So we have respective USB 11:27:46
15 interface circuit, and I pointed that out 11:27:50
16 before. It's these PHYs. That's the upstream 11:27:54
17 port which connects to each of the hosts. And 11:28:00
18 the purpose of that interface circuit is 11:28:02
19 for -- enable the USB multi-host device, this 11:28:07
20 entire device, to transmit and receive data 11:28:11
21 over the USB bus. Of course, that's the 11:28:17
22 purpose of the upstream port. 11:28:20
23 All right. Therefore, it's my 11:28:22
24 opinion that the Boston chip includes a 11:28:27

1 respective USB interface circuit for each of 11:28:31
2 the two or more USB hosts wherein each of the 11:28:34
3 respective USB interface circuits enables the 11:28:38
4 multi-host device to transmit and receive data 11:28:42
5 over a USB bus. All right. 11:28:44
6 One last point now. We have 11:28:48
7 the -- 11:28:52
8 Q. All right. Before we move on -- 11:28:52
9 A. Sure. 11:28:53
10 Q. -- do you have an opinion as to the 11:28:54
11 second element of -- or the first element of 11:28:55
12 claim 25? 11:28:58
13 A. I do. I stated that language 11:28:59
14 already. 11:29:01
15 Q. Let me back up before that, though. 11:29:01
16 What is that top -- the preamble, 11:29:03
17 your opinion of the preamble? 11:29:06
18 A. Again, this is another preamble, I 11:29:07
19 forgot to mention it, but the same as with the 11:29:10
20 others. This preamble is not limiting; 11:29:12
21 meaning, it is just an introduction to provide 11:29:15
22 context for the claim. 11:29:16
23 All right. So the last claim 11:29:18
24 element, a respective endpoint buffer. Again, 11:29:21

1 we have the memory buffer for each of the two 11:29:24
2 hosts that will each store a separate address, 11:29:27
3 a separate configuration, and separate 11:29:31
4 response information. 11:29:33
5 And we know that EP0 is the 11:29:34
6 endpoints memory for both sides of the 11:29:40
7 controller that store separate address 11:29:44
8 information, separate configuration 11:29:49
9 information and separate response information 11:29:51
10 for sending data to the two hosts. Pretty 11:29:52
11 straightforward. 11:30:01
12 So the bottom line is the Boston 11:30:02
13 chip includes a respective endpoint buffer for 11:30:05
14 each of the two or more USB hosts for storing 11:30:10
15 respective dedicated address, configuration 11:30:13
16 and response information for each of the two 11:30:16
17 or more USB hosts. 11:30:18
18 Q. Okay. So -- 11:30:20
19 A. And as a reminder, this is all -- 11:30:21
20 claim 23 is done on Exhibit 7. 11:30:24
21 Q. All right. 11:30:26
22 So I think -- so again, Mr. 11:30:27
23 Zatkovich, what was your opinion as to whether 11:30:29
24 the Aptiv product practiced claim 23? 11:30:31

1 A. As we mentioned, the Aptiv product 11:30:35
2 practices claim 23. 11:30:38
3 Q. And do you have an opinion as to 11:30:39
4 whether the Aptiv Boston 2 chip practices 11:30:41
5 claim 25 in its entirety? 11:30:44
6 A. And because it practices the elements 11:30:46
7 of claim 25, it also practices that claim as a 11:30:48
8 whole. 11:30:52
9 Q. All right. 11:31:00
10 We've gone through a lot of claim 11:31:02
11 language. Can we get out of the claims for a 11:31:05
12 few minutes? 11:31:07
13 A. Let me get a drink of water. We're 11:31:07
14 almost done. 11:31:10
15 Q. Okay. 11:31:13
16 Mr. Zatkovich, we heard before, we 11:31:13
17 heard Mr. Bohm talking about some benefits. 11:31:16
18 Do you want to talk through some of the 11:31:19
19 benefits of the '243 having a multi-host 11:31:21
20 device in the context of this case? 11:31:23
21 A. Yes. So we talked about, briefly, at 11:31:25
22 least one or two of those already. But again, 11:31:28
23 this is for car manufacturers. Certain car 11:31:36
24 manufacturers are looking for certain 11:31:38

1 features. I call these The Big 3. The Big 3 11:31:41
2 features are single lane to the head unit, 11:31:47
3 CarPlay enabled on all downstream ports and 11:31:50
4 persistent USB connections when CarPlay is 11:31:53
5 activated. 11:31:56
6 I'll walk through those. 11:31:57
7 So single lane to the head unit, 11:31:59
8 you might have heard the term "single 11:32:02
9 upstream, single cable." That, again, allows 11:32:05
10 the head unit to be connected to the bridge by 11:32:09
11 a single cable. It's cheaper, less wiring, 11:32:12
12 less prone to failure. Very desirable. 11:32:16
13 Therefore, the fact that the bridge unit 11:32:20
14 connects to the head unit with a single 11:32:25
15 upstream port, a single cable, provides that 11:32:26
16 feature. 11:32:30
17 Next one: CarPlay enabled on all 11:32:32
18 downstream ports. If you remember, we have 11:32:35
19 this little gadget here that regardless of 11:32:38
20 which port you plug into the iPhone, it -- the 11:32:42
21 microcontroller will detect that and allow you 11:32:47
22 to route that hub to the bridge so that it 11:32:50
23 becomes CarPlay port. So that allows you to 11:32:54
24 plug your USB cable from your iPhone into any 11:32:57

1 of the ports and any of them will be able to 11:33:00
2 switch into CarPlay mode. 11:33:03
3 Again, very desirable feature; you 11:33:05
4 don't have to figure out which port to plug 11:33:07
5 in. Manufacturers love it. 11:33:10
6 Last but not least, persistent USB 11:33:11
7 connections when CarPlay is activated. What 11:33:16
8 does that mean? Well, in many circumstances, 11:33:19
9 when the iPhone takes over as a host, some of 11:33:24
10 these port functions are disabled. What 11:33:28
11 manufacturers require, if you have a USB 11:33:31
12 device already plugged into one of the ports, 11:33:35
13 such as a memory stick, and you decide to plug 11:33:38
14 your iPhone into another USB port and it 11:33:40
15 switches the host mode, what the manufacturers 11:33:43
16 want is that USB memory stick is still 11:33:45
17 connected to the head unit and still active, 11:33:48
18 so that's what persistence means. 11:33:51
19 And we know that Aptiv provides 11:33:54
20 all of those features. In fact, it was a 11:33:57
21 requirement of their clients to provide all 11:33:59
22 those features. 11:34:02
23 Q. Now, Mr. Zatkovich, do you have an 11:34:02
24 opinion as to whether or how those features 11:34:04

1 relate to the '243 Patent? 11:34:06
2 A. I do. My opinion is that if you 11:34:08
3 provide each and every one of those features, 11:34:12
4 then you necessarily have to practice the 11:34:15
5 claims of the patent. 11:34:17
6 Q. Did you take a look at the Microchip 11:34:20
7 Sandia product? 11:34:22
8 A. I did. I did a similar analysis on 11:34:23
9 that for the Microchip product. So -- 11:34:26
10 Q. And before we get into this one -- 11:34:31
11 A. Sure. 11:34:33
12 Q. -- what figure is this in this 11:34:33
13 drawing from? 11:34:35
14 A. This is Exhibit 292 at page 3. I 11:34:35
15 believe Mr. Bohm, the inventor, used this 11:34:39
16 diagram as well. And it's probably a good 11:34:41
17 idea to just point out some features here. 11:34:45
18 So this is the Sandia bridge, 11:34:47
19 okay? The Sandia bridge, we have it plugged 11:34:50
20 in here and we would have the iPhone or USB 11:34:56
21 devices connected here. So it has a bridge as 11:34:58
22 well. It's basically the same function 11:35:03
23 designed a little bit differently. It has the 11:35:05
24 multi-host controller here identified in these 11:35:08

1 boxes. 11:35:11
2 I am not going to go through the 11:35:11
3 detail, but it has the ports down here which 11:35:13
4 can be configured as downstream or upstream 11:35:18
5 ports. 11:35:21
6 Q. And then the other box in the corner 11:35:21
7 down there, the microcontroller, is that a box 11:35:23
8 also? 11:35:27
9 A. That's the microprocessor, just like 11:35:27
10 the Apple device has the microprocessor to 11:35:30
11 allow the logic of the two ports together. 11:35:34
12 So the Sandia Microchip device 11:35:38
13 also provides a single-lane capability where 11:35:41
14 its bridge device gets connected to the host 11:35:43
15 units with a single cable feature. 11:35:46
16 When you plug the iPhone into any 11:35:51
17 of the ports, in this case this device has 11:35:54
18 four ports, you plug the iPhone into any of 11:35:56
19 those four ports, it will be routed to the 11:35:58
20 bridge and become an upstream host port. 11:36:01
21 And last but not least, if I have 11:36:06
22 a memory stick or some other USB device 11:36:08
23 already plugged into one of the ports and I 11:36:10
24 plug in my iPhone and switch to a host mode, 11:36:13

1 that memory stick device will remain connected 11:36:16
2 and functional to the head unit. So 11:36:19
3 therefore, by association, the Sandia bridge 11:36:25
4 device practices its own invention. 11:36:29
5 Q. Now, Mr. Zatkovich, did you also do a 11:36:32
6 detailed analysis, you know, on the more 11:36:34
7 detailed documents as well to show that the 11:36:37
8 Sandia product practices the '243 Patent? 11:36:39
9 A. Yes. I have about 30, 40 pages 11:36:43
10 discussing each component and many other 11:36:45
11 diagrams of how they practice -- how Sandia 11:36:49
12 practices its own invention. 11:36:52
13 Q. So do you have summary slides? 11:36:55
14 A. Yeah. I wanted to wrap up with just 11:37:00
15 two basic concepts; the multi-host controller 11:37:03
16 and the shared USB device. I'm pretty sure 11:37:08
17 you remember what I'm talking about, but 11:37:13
18 again, we have the controller here, the 11:37:16
19 multi-host device controller, which again, is 11:37:19
20 this special controller which must connect to 11:37:22
21 both hosts at the same time. 11:37:24
22 So if we have, on the right side, 11:37:27
23 the two green boxes, as you recall, each green 11:37:29
24 box is plugged together as a single multi-host 11:37:33

1 controller in a coordinated fashion so they 11:37:36
2 can simultaneously talk to the iPhone and the 11:37:40
3 host. That's the multi-host device controller 11:37:42
4 or the controller. 11:37:45
5 And last but not least is the USB 11:37:50
6 device block. The USB device is the FIFO 11:37:53
7 buffers in between the controller that provide 11:37:57
8 the ability to transfer data; specifically 11:37:59
9 transferring data between the two hosts which 11:38:04
10 includes the microprocessor logic that 11:38:07
11 coordinates the data transfers through those 11:38:10
12 FIFO buffers. And that's it. 11:38:12
13 MR. FENTON: I pass the witness. 11:38:17
14 - - - 11:38:30
15 CROSS-EXAMINATION 11:38:30
16 - - - 11:38:31
17 BY MS. DURIE: 11:38:31
18 Q. Mr. Zatkovich, good morning. 11:38:31
19 A. Good morning. 11:38:33
20 Q. We have not met before, but I am 11:38:35
21 Daralyn Durie, obviously one of the lawyers 11:38:38
22 representing Aptiv. 11:38:41
23 I'd like to start where you 11:38:42
24 started with TX-94 in evidence, if we could 11:38:45

1 please put that up. This is the resume that 11:38:51
2 you submitted in connection with this case; 11:38:53
3 right? 11:38:56
4 A. Correct. 11:38:56
5 Q. And it says, "eComp Consultants," at 11:38:57
6 the top. That's your consulting company; 11:39:01
7 right? 11:39:04
8 A. It is. 11:39:04
9 Q. And you do information, technology 11:39:04
10 and patent litigation consulting? 11:39:06
11 A. That's correct. 11:39:08
12 Q. Now, you talked a little bit about 11:39:08
13 your professional background. The last time 11:39:10
14 you had a full-time technical job at a company 11:39:13
15 was before 2000; right? 11:39:18
16 A. Meaning a company other than my own? 11:39:20
17 Q. Right. 11:39:22
18 A. No, actually the last time I had 11:39:23
19 full-time employment at a company was 2008. 11:39:24
20 Q. Okay. 11:39:31
21 And which company was that? 11:39:32
22 A. That was Smith & Nephew. 11:39:34
23 Q. Okay. Fair enough. 11:39:37
24 And you founded your consulting 11:39:38

1 company in 2000? 11:39:41
2 A. Correct. I was doing part-time 11:39:42
3 consulting while I was working for other 11:39:44
4 companies. 11:39:46
5 Q. Okay. 11:39:46
6 Now, starting on page 6 of your 11:39:47
7 resume, you list the cases in which you have 11:39:49
8 testified as an expert; right? 11:39:52
9 A. Sample cases. 11:39:53
10 Q. Oh, this is just a sample? 11:39:55
11 A. I have probably been retained for 11:39:57
12 over 60 cases. 11:39:59
13 Q. Okay. 11:40:00
14 MS. DURIE: Well, let's just 11:40:00
15 scroll through, if we can, Mr. Glass. 11:40:01
16 BY MS. DURIE: 11:40:06
17 Q. So this goes on for quite awhile; 11:40:07
18 right? 11:40:10
19 A. Um-hmm. 11:40:11
20 Q. 13, 14, 15, 16, 17, 18. So that's 11:40:12
21 just a sample? 11:40:18
22 A. That's at least all the cases in the 11:40:19
23 last five years, but I think it's the majority 11:40:22
24 of them. 11:40:25

1 Q. Okay. 11:40:26
2 So let's talk some of the subject 11:40:26
3 matter of the cases that you have testified 11:40:29
4 in. 11:40:31
5 MS. DURIE: And if we can have the 11:40:32
6 slide. 11:40:33
7 BY MS. DURIE: 11:40:34
8 Q. You have testified about kiosks for 11:40:34
9 hotel business centers; right? 11:40:36
10 A. Correct. 11:40:38
11 Q. You've testified about media 11:40:39
12 streaming? 11:40:41
13 A. Correct. 11:40:41
14 Q. Playlists? 11:40:42
15 A. Correct. 11:40:43
16 Q. Geolocation technology? 11:40:44
17 A. Yes. 11:40:46
18 Q. Speech recognition software? 11:40:46
19 A. Speech recognition specifically 11:40:48
20 linked to telecommunications, yes. 11:40:51
21 Q. Okay. 11:40:53
22 Call processing centers? 11:40:53
23 A. Again, specifically related to 11:40:54
24 communications. 11:40:57

1 Q. Okay. 11:40:57
2 Supply chain management software? 11:40:58
3 A. Mainly regarding network transactions 11:41:01
4 for supply chain. 11:41:03
5 Q. Manufacturing automation? 11:41:06
6 A. Yes, device controlling electronic 11:41:08
7 devices. 11:41:11
8 Q. Sales projection system software? 11:41:12
9 A. Oh, yes. That was a number of 11:41:15
10 transactions for doing financial transactions. 11:41:19
11 Q. Online payment security? 11:41:22
12 A. Yes, again, network communications 11:41:24
13 for financial transactions. 11:41:27
14 Q. Damages for copyright infringement? 11:41:28
15 A. No, I have not done any damages for 11:41:31
16 copyright. 11:41:33
17 Q. Let's take a look back at your CV, 11:41:35
18 TX-94, page 8. 11:41:41
19 Let's take a look at the entry for 11:41:43
20 Cohen vs. United States. It's at the bottom 11:41:48
21 and I guess it runs over to page 9. 11:41:50
22 You testified in a case, Cohen vs. 11:41:53
23 United States, copyright infringement 11:41:56
24 testifying expert for Cohen, provide expert 11:41:59

1 report, damages and deposition; is that right? 11:42:03
2 A. I'm sorry, could you do a blowup of 11:42:06
3 that? 11:42:08
4 MS. DURIE: Sure. Let's blow it 11:42:09
5 up there if we can. Bottom of 8, top of 9. 11:42:10
6 It's at the very top of 9. Copyright 11:42:20
7 infringement, there we go. 11:42:23
8 THE WITNESS: Yes. 11:42:26
9 MS. DURIE: No, no, if you can 11:42:27
10 blow up the whole entry, Mr. Glass, so we can 11:42:30
11 see it. And it would be the next page, 11:42:32
12 page 9. There you go, at the top. 11:42:46
13 THE WITNESS: Yes, I remember this 11:42:51
14 case. I was doing the publishing transactions 11:42:52
15 and identifying what material in that 11:42:56
16 published material transactions were 11:43:00
17 infringed. 11:43:06
18 I also provided support for 11:43:06
19 damages, again, identifying the value of 11:43:10
20 publishing transactions. But I did not 11:43:13
21 provide, for example, specific damage numbers 11:43:16
22 or estimates. 11:43:19
23 MS. DURIE: Okay. Fair enough. 11:43:20
24 We can go back to the slides, Mr. 11:43:21

1 Glass. 11:43:24
2 BY MS. DURIE: 11:43:24
3 Q. You testified about media publishing 11:43:25
4 practices? 11:43:27
5 A. Again, in regards to network 11:43:27
6 communications for distributing media, yes. 11:43:30
7 Q. Content licensing? 11:43:33
8 A. Again, related to distributing 11:43:34
9 content over the Internet. 11:43:37
10 Q. Web content customization? 11:43:39
11 A. Same thing, distributing web content 11:43:41
12 over the network. 11:43:43
13 Q. Right. 11:43:44
14 Social media user content? 11:43:45
15 A. Yes. So that was transactions for 11:43:47
16 distributing social media content. 11:43:52
17 Q. Right. 11:43:54
18 The "like" feature? 11:43:55
19 A. That was for Facebook. I was an 11:43:57
20 expert for Facebook. They wanted to discuss 11:44:01
21 how information was transmitted between the 11:44:05
22 Facebook application, for example, on a mobile 11:44:08
23 device and the Facebook server. And one of 11:44:11
24 the examples that we looked at was what 11:44:14

1 happened when you pressed the "like" feature, 11:44:16
2 what transactions occurred. 11:44:19
3 Q. You testified about video 11:44:20
4 conferencing technology? 11:44:23
5 A. Yes, media communications. 11:44:24
6 Q. You testified about systems for 11:44:25
7 pricing construction projects? 11:44:27
8 A. I think that's correct. 11:44:31
9 Q. Let's take a look back at TX-94, 11:44:33
10 page 16. 11:44:38
11 MS. DURIE: And if we can go, Mr. 11:44:38
12 Glass, to the entry for Uniloc vs. Autodesk. 11:44:40
13 Right in the middle, two-thirds of the way 11:44:47
14 down, further down. Uniloc vs. Autodesk. 11:44:50
15 There we go. 11:44:56
16 BY MS. DURIE: 11:44:57
17 Q. Non-infringement of two patents about 11:44:57
18 systems that facilitate the pricing of 11:45:00
19 construction projects? 11:45:03
20 A. Right. So Autodesk is a CAD system. 11:45:04
21 In this particular case, the CAD system, once 11:45:08
22 you design a construction project, it breaks 11:45:11
23 that down into separate transactions to allow 11:45:15
24 a server, for example, to price that project. 11:45:19

1 I wasn't involved in the aspect of 11:45:23
2 pricing or how those transactions do pricing, 11:45:26
3 only in the aspect of how the transactions 11:45:29
4 from Autodesk are implemented and transmitted. 11:45:32
5 Q. Now, in the resume that you submitted 11:45:38
6 for this case, you included various references 11:45:40
7 to USB; right? 11:45:42
8 A. Correct. 11:45:44
9 Q. You also have a bio of yourself on 11:45:45
10 your website; right? 11:45:50
11 A. Yes. 11:45:52
12 MS. DURIE: Okay. I'd like to 11:45:54
13 mark this for identification as 373. 11:45:56
14 (Whereupon, Trial Exhibit 373 was 11:46:03
15 introduced.) 11:46:08
16 BY MS. DURIE: 11:46:17
17 Q. Exhibit 373 is your website bio; 11:46:18
18 correct? 11:46:21
19 A. Yes. 11:46:22
20 MS. DURIE: We offer it. 11:46:23
21 MR. FENTON: No objection. 11:46:25
22 THE WITNESS: I'm sorry? 11:46:26
23 THE COURT: I'm sorry, Mr. Fenton? 11:46:28
24 MR. FENTON: No objection. 11:46:30

1 THE COURT: Okay. It's admitted. 11:46:32
2 BY MS. DURIE: 11:46:34
3 Q. So this is how you market yourself on 11:46:35
4 your website; right? 11:46:36
5 A. Yes, I think this is correct. 11:46:40
6 Q. Okay. Ivan Zatkovich, expert 11:46:42
7 witness. 11:46:46
8 And you list your focus areas on 11:46:46
9 your website; right? 11:46:50
10 A. Yes. 11:46:51
11 Q. Bank/sweep accounts, billing and 11:46:51
12 payment processing, call and contact center 11:46:54
13 automation, content personalization, credit 11:46:57
14 card prepaid card processing, eCommerce 11:46:59
15 Internet marketing, electronic transactions, 11:47:02
16 ERP supply chain, high volume content 11:47:05
17 websites, insurance claims process, Internet 11:47:10
18 publishing, IVR speech recognition, search 11:47:12
19 engine optimization and software copyright. 11:47:15
20 You do not list USB specifically 11:47:18
21 on your website; right? 11:47:20
22 A. Well, those are specific examples of 11:47:23
23 projects. Again, each of these relate to 11:47:28
24 financial network transactions, eCommerce 11:47:31

1 network transactions, or in the case of 11:47:33
2 electronic devices, electronic transactions. 11:47:37
3 Q. Okay. 11:47:41
4 Well, you've never written an 11:47:42
5 article about USB; right? 11:47:44
6 A. I've written internal documentation 11:47:48
7 for my companies, but no, nothing published. 11:47:51
8 Q. You are not the inventor on any 11:47:54
9 patents that relate to USBs? 11:47:56
10 A. That's correct. 11:47:57
11 Q. In fact, you are not an inventor on 11:47:58
12 any patents at all? 11:48:00
13 A. I have not invented any patents 11:48:02
14 myself, no. 11:48:04
15 Q. Now, the patents in this case 11:48:04
16 reference the USB specification; right? 11:48:06
17 A. Correct. 11:48:08
18 Q. That is the USB 2.0 specification? 11:48:09
19 A. That's correct. 11:48:13
20 MS. DURIE: I am going to hand you 11:48:27
21 what has been marked as Exhibit 186. 11:48:30
22 (Whereupon, Trial Exhibit 186 was 11:48:34
23 introduced.) 11:48:40
24 THE WITNESS: Looks about right. 11:48:42

1 BY MS. DURIE: 11:48:44
2 Q. Now, Exhibit 186 is a copy of the USB 11:48:44
3 2.0 specification; right? 11:48:48
4 A. Yes. 11:48:53
5 MS. DURIE: We offer it. 11:48:54
6 MR. FENTON: No objection. 11:48:55
7 THE COURT: It is admitted. 11:48:57
8 MS. DURIE: Mr. Glass, if we can 11:48:58
9 put that up, start with the first page, 11:49:00
10 perfect. And then let's go to page 3. 11:49:03
11 And if we can blow up the top half 11:49:06
12 of the page. 11:49:09
13 BY MS. DURIE: 11:49:12
14 Q. There is an acknowledgment of the 11:49:12
15 individuals who contributed to the USB 2.0 11:49:13
16 technical specification; right? 11:49:16
17 A. Yes, that's what it appears to be. 11:49:19
18 Q. And there is a hub working group and 11:49:21
19 there is an individual who was the chair 11:49:24
20 editor of the hub working group. 11:49:27
21 Do you see that? 11:49:29
22 A. Yes, that would be similar to the ISO 11:49:30
23 committee that I sat on. 11:49:33
24 Q. All right. Well, let's start with 11:49:34

1 USB for now. 11:49:36
2 So Mr. Garney is identified here 11:49:37
3 as the chair/editor of the hub working group 11:49:40
4 that contributed to the USB 2.0 specification; 11:49:44
5 right? 11:49:48
6 A. Yes, correct. 11:49:48
7 Q. Okay. 11:49:49
8 And you know who Mr. Garney is, 11:49:49
9 right? He's our expert in this case. 11:49:51
10 A. That's my understanding, yes. 11:49:53
11 Q. Now, you are not listed here; right? 11:49:55
12 A. I am not. 11:49:57
13 Q. In fact, you are not listed in any of 11:49:58
14 the groups of people who contributed to the 11:50:01
15 2.0 specification; right? 11:50:03
16 A. No, not to my knowledge. 11:50:04
17 Q. You never attended any standard 11:50:05
18 setting meetings for USB; right? 11:50:07
19 A. Conferences or standards committees? 11:50:11
20 Q. Standard-setting meetings for the 11:50:15
21 USB. 11:50:17
22 A. No, only for the ISO. 11:50:18
23 Q. Now, before you agree to take on a 11:50:20
24 case, do you do anything to make sure that you 11:50:22

1 agree with the side that you are going to be 11:50:24
2 testifying for? 11:50:27
3 A. Not necessarily. Most times when I 11:50:32
4 interview for a case, I will provide my 11:50:36
5 qualifications and I will -- if there is a 11:50:40
6 patent involved, I will take a look at the 11:50:44
7 patent and indicate whether I feel comfortable 11:50:46
8 expressing opinions on that technology. 11:50:48
9 Q. Okay. 11:50:50
10 So you served as an expert in, 11:50:51
11 what, roughly 60 to 70 cases over the last 11:50:55
12 decade or so? 11:50:58
13 A. Yes, over the last 11 years or so. 11:51:01
14 Yes. 11:51:05
15 Q. And the Court has disagreed with your 11:51:05
16 opinions in about half of those cases; right? 11:51:07
17 A. I have never done any scorekeeping on 11:51:12
18 that, but I wouldn't be surprised. I don't 11:51:16
19 know if you have done the research or not. 11:51:20
20 Q. Half sound about right? 11:51:23
21 A. I don't know. I have never done any 11:51:24
22 bookkeeping, but I wouldn't disagree if you've 11:51:27
23 already done the research. 11:51:29
24 MS. DURIE: I'd like, Your Honor, 11:51:31

1 to read from the witness's deposition, 11:51:32
2 page 34, lines 11 through 16. 11:51:35
3 Would the Court like a copy? 11:51:38
4 THE COURT: Are you going to put 11:51:39
5 it up or are you just going to read? 11:51:40
6 MS. DURIE: I am just going to 11:51:42
7 read it. 11:51:43
8 THE COURT: You can read it. 11:51:43
9 MS. DURIE: Thank you. 11:51:44
10 BY MS. DURIE: 11:51:45
11 Q. At your deposition, sir, you were 11:51:45
12 asked the following questions and gave the 11:51:47
13 following answer: 11:51:48
14 "QUESTION: Has any Court ever 11:51:49
15 disagreed with your opinions? 11:51:51
16 "ANSWER: Certainly. 11:51:52
17 "QUESTION: Do you remember which 11:51:54
18 ones? 11:51:55
19 "ANSWER: Any Court that didn't 11:51:56
20 rule for the party that I was representing. I 11:51:57
21 would say approximately half." 11:52:00
22 So your record, sir, is 11:52:03
23 basically half? 11:52:10
24 A. Again, I haven't done the research. 11:52:10

1 I was asked how many and I gave a brief 11:52:12
2 estimate. It could be much higher than that, 11:52:15
3 it could be lower than that. I don't know. 11:52:18
4 Q. Now, you are charging Microchip $525 11:52:19
5 an hour for your time; right? 11:52:22
6 A. I believe that's my rate, right. 11:52:24
7 Q. You said a Cadillac Escalade wasn't 11:52:26
8 in the budget? 11:52:30
9 A. Correct. 11:52:30
10 Q. How much have you billed total for 11:52:31
11 your time today in this case? 11:52:34
12 A. Including the time on the trial? 11:52:35
13 Q. Sure. 11:52:37
14 A. I don't know. I haven't done the 11:52:38
15 math on that. 11:52:39
16 Q. Ballpark. 11:52:40
17 A. I would say more than 100 hours and 11:52:42
18 less than 200 hours. 11:52:45
19 Q. Okay. 11:52:46
20 More than 100 hours, so that would 11:52:47
21 be, let's see, at least $50,000? 11:52:53
22 A. That -- that math sounds correct. 11:52:56
23 Q. 50 to 100? 11:52:58
24 A. Yeah. Over the last three years, 11:52:59

1 that would be about right. 11:53:01
2 Q. Okay. 11:53:02
3 Now, in order to offer an opinion 11:53:03
4 about infringement, you need to understand 11:53:08
5 what the claims cover; right? 11:53:11
6 A. Yes. 11:53:13
7 Q. Okay. 11:53:14
8 You also, therefore, need to 11:53:15
9 understand what the claims don't cover; right? 11:53:16
10 A. I'm not sure I understand the 11:53:20
11 question. 11:53:21
12 Q. Well, I mean, you need to understand 11:53:22
13 what they cover and what they don't cover; 11:53:23
14 right? 11:53:26
15 A. I guess in general, that would be 11:53:29
16 true. 11:53:31
17 Q. All right. 11:53:31
18 So for the jury to find for 11:53:32
19 Microchip in this case, the jury has to find 11:53:34
20 that at least one of the claims is both valid 11:53:37
21 and infringed; right? 11:53:43
22 A. That would be my understanding, yes. 11:53:44
23 Q. Okay. 11:53:46
24 And the patent needs to mean the 11:53:46

1 same thing for purposes of validity and 11:53:49
2 infringement; right? 11:53:57
3 A. That would be my understanding as 11:53:57
4 well. 11:53:59
5 Q. A patent owner can't say a patent 11:53:59
6 means one thing when you are analyzing 11:54:02
7 infringement and a different thing when you're 11:54:04
8 analyzing validity; right? 11:54:06
9 A. I would say that's correct. 11:54:11
10 Q. So it's important for Microchip to 11:54:12
11 take consistent positions with respect to 11:54:14
12 validity and infringement; right? 11:54:17
13 MR. FENTON: Objection. Calls for 11:54:20
14 a legal conclusion. 11:54:21
15 THE COURT: Sustained. 11:54:22
16 BY MS. DURIE: 11:54:23
17 Q. Well, the validity of patents is 11:54:23
18 something you've been asked to look at in 11:54:26
19 other cases; right? 11:54:27
20 A. I have done validity analysis in 11:54:28
21 other cases. 11:54:30
22 Q. You have testified in other cases 11:54:30
23 that patents are valid; right? 11:54:32
24 A. Correct. 11:54:34

1 Q. In other cases you have done an 11:54:34
2 analysis of the prior art; right? 11:54:36
3 A. I have. 11:54:38
4 Q. And indeed, in other cases, some 11:54:39
5 other cases, you have testified that patent 11:54:41
6 claims are not valid; right? 11:54:44
7 A. I have in certain cases. 11:54:46
8 Q. Okay. 11:54:47
9 Now, in this case, Microchip 11:54:48
10 didn't ask you to look at the prior art; 11:54:50
11 right? 11:54:52
12 A. I was not requested to do that, no. 11:54:53
13 Q. They did not ask you to look at 11:54:56
14 whether the claims are valid or not; right? 11:54:58
15 A. No, they did not. 11:55:00
16 Q. Microchip hired someone else to 11:55:01
17 address questions of patent validity; right? 11:55:04
18 A. That is correct. 11:55:08
19 Q. That is Dr. Levy sitting right there; 11:55:09
20 right? 11:55:11
21 A. Yes. 11:55:11
22 Q. Okay. 11:55:12
23 He is the invalidity expert; 11:55:12
24 right? 11:55:16

1 A. Correct. 11:55:17
2 Q. Now, you said, I think, in your 11:55:17
3 direct examination that you read the expert 11:55:20
4 reports in this case; is that right? 11:55:22
5 A. Correct. The expert reports of 11:55:23
6 opposing experts. 11:55:27
7 Q. Right. 11:55:27
8 But you didn't read all of the 11:55:28
9 expert reports when you were putting your 11:55:29
10 opinions together; right? 11:55:31
11 A. Well, all the reports that pertain to 11:55:32
12 the practicing of the claims by the accused 11:55:36
13 product. 11:55:38
14 Q. Right. 11:55:38
15 So when you were putting together 11:55:39
16 your opinions on infringement, you didn't 11:55:41
17 review a copy of Dr. Levy's opinions on 11:55:43
18 validity; right? 11:55:49
19 A. Correct. I wanted to provide 11:55:50
20 objective independent opinions. 11:55:52
21 Q. Right. 11:55:53
22 And you made no effort to have 11:55:53
23 your opinions on infringement be consistent 11:55:57
24 with Dr. Levy's opinions on validity; right? 11:55:59

1 A. That's the definition of being 11:56:03
2 objective, yes. 11:56:05
3 Q. Okay. 11:56:05
4 So you don't know whether they are 11:56:06
5 consistent or not? 11:56:08
6 A. I don't. 11:56:09
7 Q. Okay. 11:56:09
8 Now, you know that there was a 11:56:10
9 proceeding before a patent office about the 11:56:13
10 '243 Patent that is called an Inter Partes 11:56:17
11 Review proceeding; right? 11:56:21
12 A. Yes, I was aware there were IPRs. 11:56:22
13 Q. Right. 11:56:25
14 And Microchip hired yet another 11:56:26
15 expert for that proceeding; right? 11:56:27
16 A. That's my understanding, yes. 11:56:30
17 Q. Right. 11:56:31
18 That was a gentleman by the name 11:56:32
19 of Mr. Knapen; {ph} right? 11:56:33
20 A. I don't know -- I don't know that 11:56:35
21 name. 11:56:36
22 Q. Okay. 11:56:37
23 I take it then that you never 11:56:38
24 spoke with Mr. Knapen? 11:56:40

1 A. I have not. 11:56:41
2 Q. Or reviewed his opinions? 11:56:42
3 A. No. 11:56:43
4 Q. You know that Microchip did have an 11:56:45
5 expert who provided expert testimony to the 11:56:47
6 patent office? 11:56:51
7 A. I would expect that. That's -- that 11:56:52
8 occurs in most IPRs, yes. 11:56:54
9 Q. Right. 11:56:57
10 But you didn't review it? 11:56:57
11 A. I did not. 11:56:59
12 Q. And you, therefore, made no effort to 11:57:00
13 have your opinions be consistent with the 11:57:02
14 positions that Microchip's expert had provided 11:57:05
15 to the patent office? 11:57:07
16 A. Correct. I wanted my opinions to be, 11:57:08
17 again, independent and objective. 11:57:10
18 Q. Right. 11:57:11
19 So as far as you knew, you and Dr. 11:57:12
20 Levy and Mr. Knapen were all saying different 11:57:15
21 things about what the patent claims covered? 11:57:17
22 A. It's conceivable, yes. 11:57:19
23 Q. Now, I want to be clear, in the 11:57:20
24 patent office proceeding that we have been 11:57:22

1 talking about, this Inter Partes Review 11:57:25
2 proceeding that you called an IPR, the patent 11:57:28
3 office does not look at infringement; right? 11:57:30
4 A. Right. 11:57:33
5 MR. FENTON: Objection. Outside 11:57:34
6 the scope of the direct. 11:57:35
7 THE COURT: Sustained. 11:57:42
8 BY MS. DURIE: 11:57:42
9 Q. Well, let me ask it this way: 11:57:43
10 Are you aware of any proceeding in 11:57:45
11 which anyone has made any judgment about 11:57:47
12 infringement before this? 11:57:49
13 MR. FENTON: Objection, vague. 11:57:51
14 THE COURT: Overruled. 11:57:52
15 THE WITNESS: I'm sorry, could you 11:57:57
16 ask the question again? 11:57:58
17 BY MS. DURIE: 11:57:59
18 Q. Are you aware of any prior proceeding 11:57:59
19 in which anyone considered the question of 11:58:01
20 whether Aptiv infringes a patent before this 11:58:03
21 one, this trial, this case? 11:58:06
22 A. I don't believe so, no. 11:58:08
23 Q. Now, Microchip didn't give you a copy 11:58:11
24 of the decision from the patent office when 11:58:15

1 you were coming up with your opinions; right? 11:58:19
2 A. No. I would have had access to it 11:58:21
3 anyway, but again, I wanted to provide 11:58:23
4 objective opinions. 11:58:25
5 Q. Okay. 11:58:26
6 Now, you conducted an infringement 11:58:27
7 analysis; right? 11:58:33
8 A. Correct. 11:58:34
9 Q. And your opinions are set forth in 11:58:36
10 your expert reports; right? 11:58:38
11 A. Correct. 11:58:40
12 Q. You submitted two expert reports? 11:58:41
13 A. I did. 11:58:43
14 Q. Right? An opening report and then 11:58:44
15 you got to see what Dr. Garney had to say -- 11:58:46
16 what Mr. Garney had to say and you got to 11:58:49
17 respond to that; right? 11:58:52
18 A. That's correct. 11:58:53
19 Q. And those expert reports were then 11:58:54
20 provided to us so that we would know what all 11:58:56
21 of your opinions were; right? That's the 11:58:59
22 reason we have expert reports in these 11:59:01
23 proceedings. 11:59:03
24 A. Correct. 11:59:04

1 Q. So you did your best to make sure 11:59:05
2 that your expert reports were comprehensive; 11:59:08
3 right? 11:59:10
4 A. As best as I could. 11:59:10
5 Q. Right. 11:59:11
6 And detailed? 11:59:11
7 A. Right. 11:59:12
8 Q. You set forth all of your opinions? 11:59:12
9 A. Yes. 11:59:14
10 Q. Tried to be scrupulously accurate; 11:59:15
11 right? 11:59:18
12 A. There's about 400 pages, as I recall. 11:59:18
13 Q. Yes, they are quite thick, indeed. 11:59:20
14 And in your expert reports, you 11:59:23
15 said that claim 1 is representative of all of 11:59:27
16 the claims in the '243 Patent; right? 11:59:31
17 MR. FENTON: Objection, scope. 11:59:34
18 THE COURT: Overruled. 11:59:35
19 THE WITNESS: It's representative 11:59:38
20 in the fact that it has claim elements, some 11:59:39
21 aspects of claim elements that would be 11:59:43
22 consistent across multiple claims. Again, the 11:59:46
23 patent does not allow duplicate claims. 11:59:50
24 MS. DURIE: Right. 11:59:53

1 BY MS. DURIE: 11:59:54
2 Q. But in your expert report, you chose 11:59:54
3 to structure your expert report by identifying 11:59:57
4 one claim as a representative claim; right? 12:00:00
5 A. I actually analyzed each and every 12:00:04
6 asserted claim, but yes, I picked one as to 12:00:06
7 illustrate the concepts of the patent. 12:00:09
8 Q. Right. 12:00:11
9 And the claim that you picked as a 12:00:12
10 representative claim of the '243 Patent was 12:00:14
11 claim 1? 12:00:17
12 A. Correct. Again, just to illustrate 12:00:18
13 the general capabilities of the patent. 12:00:20
14 Q. Okay. 12:00:23
15 Now, you testified a little bit 12:00:25
16 earlier about what you consider to be the 12:00:27
17 three main features of the Aptiv CarPlay 12:00:31
18 solution; right? 12:00:35
19 A. Yes. 12:00:36
20 MS. DURIE: And if we can have, 12:00:37
21 Mr. Glass, NCD2-69. 12:00:40
22 BY MS. DURIE: 12:00:52
23 Q. This was the slide that you put up; 12:00:52
24 right? 12:00:54

1 A. Correct. 12:00:55
2 Q. And it is your opinion that any hub 12:00:56
3 supporting those three features would 12:01:01
4 necessarily infringe the '243 Patent; right? 12:01:03
5 A. Correct. In at least the claim 23, 12:01:09
6 24, 25. 12:01:13
7 Q. Well, you're saying now at least 12:01:14
8 claim 23, but that was not a distinction that 12:01:16
9 you drew in your expert report; right? 12:01:19
10 A. Correct. I was just illustrating for 12:01:22
11 this particular proceeding. 12:01:23
12 Q. Right. 12:01:25
13 A. But I would agree, it would apply to 12:01:25
14 all of them. 12:01:27
15 Q. Right. 12:01:28
16 In your expert report, you said 12:01:29
17 any hub supporting these three features would 12:01:30
18 necessarily infringe the '243 Patent 12:01:33
19 generally; right? 12:01:37
20 A. Yes. 12:01:38
21 Q. Okay. 12:01:38
22 And you identified what you 12:01:39
23 thought was required in order to provide those 12:01:41
24 three main features; right? 12:01:45

1 A. Yes. 12:01:49
2 Q. And in conducting that analysis, you 12:01:50
3 did not distinguish between claim 1 and claim 12:01:55
4 23; right? 12:02:00
5 A. No. There are common elements 12:02:02
6 between the two, but there are also 12:02:04
7 differences. 12:02:06
8 Q. Right. 12:02:06
9 And each of the things that you 12:02:06
10 identified in your report as being necessary 12:02:09
11 for these three features is something that is 12:02:13
12 present in claim 1; right? 12:02:16
13 A. Yes, I believe that's correct. 12:02:18
14 Q. Now, let's talk a little bit about 12:02:22
15 the Aptiv product. 12:02:26
16 MS. DURIE: And if we could go to 12:02:28
17 slide 21. 12:02:29
18 BY MS. DURIE: 12:02:32
19 Q. This image comes from your report; 12:02:33
20 right? 12:02:36
21 A. Correct. 12:02:36
22 Q. And you labeled this -- 12:02:38
23 MS. DURIE: If we can go to slide 12:02:40
24 22. 12:02:42

1 BY MS. DURIE: 12:02:43
2 Q. In your report, you added some 12:02:43
3 labeling to this; right? The first host is on 12:02:45
4 the left, the second host, the phone, is on 12:02:48
5 the right; correct? 12:02:51
6 A. Correct. 12:02:52
7 Q. And you see that Aptiv's dual role 12:02:54
8 hub has two device controllers; right, in the 12:02:58
9 bridge? 12:03:04
10 A. Correct, two device controllers 12:03:04
11 joined together. Correct. 12:03:06
12 Q. Right. 12:03:07
13 And you have another diagram in 12:03:08
14 your report that shows this in a little bit 12:03:10
15 more detail? 12:03:12
16 MS. DURIE: If we could go to 12:03:13
17 slide 24. There we go. Perfect. 12:03:15
18 BY MS. DURIE: 12:03:21
19 Q. This is also from your expert report; 12:03:21
20 right? 12:03:24
21 A. Yes. 12:03:25
22 Q. Okay. 12:03:26
23 And you see here two device 12:03:26
24 controllers that have been identified with 12:03:31

1 purple boxes around them, device controller 12:03:34
2 UDC_US and device controller UDC_DS; right? 12:03:37
3 A. That's correct. 12:03:44
4 Q. And UDC_US stands for USB device 12:03:44
5 controller upstream; right? 12:03:49
6 A. Yes. 12:03:50
7 Q. And UDC_DS stands for USB device 12:03:50
8 controller downstream; right? 12:03:54
9 A. Yes. 12:03:56
10 Q. And in the dual role hub, the 12:03:57
11 upstream controller responds to USB requests 12:03:59
12 from the head unit which is one host; right? 12:04:03
13 A. I'm sorry, could you repeat that? 12:04:05
14 Q. Sure. 12:04:06
15 In the dual role hub, the upstream 12:04:07
16 controller responds to USB requests from the 12:04:09
17 first host, the head unit? 12:04:11
18 A. Correct. 12:04:13
19 Q. And in the dual role hub, the 12:04:15
20 downstream controller responds to USB requests 12:04:17
21 from the iPhone, which is a second host; 12:04:21
22 right? 12:04:23
23 A. Correct. That would be the second 12:04:24
24 dedicated connection. 12:04:25

1 Q. Now, configuration is a standard part 12:04:27
2 of USB; right? 12:04:31
3 A. Yes. Enumeration to process to 12:04:33
4 determine configuration, yes. 12:04:36
5 Q. And configuration is a request to a 12:04:37
6 device to ask the device to identify what type 12:04:43
7 of device it is and what capabilities it has; 12:04:47
8 right? 12:04:51
9 A. Yes, that sounds right. 12:04:52
10 Q. Okay. 12:04:53
11 And the device, in response to 12:04:54
12 that request, sends back information about 12:04:57
13 what its capabilities are, this is what I am; 12:05:02
14 right? 12:05:04
15 A. Correct. 12:05:04
16 Q. And that includes the device's 12:05:05
17 descriptors? 12:05:07
18 A. Yes. 12:05:08
19 Q. And device descriptors include the 12:05:09
20 class of the device, like an audio device; 12:05:12
21 right? 12:05:16
22 A. That's correct. 12:05:16
23 Q. Now, a device descriptor is different 12:05:17
24 from an address; right? 12:05:19

1 A. It is. 12:05:20
2 Q. The host assigns an address to the 12:05:21
3 device; right? 12:05:25
4 A. Yes, the host must assign the 12:05:26
5 address. 12:05:29
6 Q. Right. 12:05:30
7 But the device descriptor comes 12:05:30
8 from the device to the host; right? 12:05:32
9 A. Correct. 12:05:34
10 Q. The device -- the host says 12:05:35
11 basically, like, what are you, and then the 12:05:38
12 device says, I am a printer and I have these 12:05:40
13 capabilities? 12:05:42
14 A. Yes. 12:05:43
15 Q. Okay. 12:05:44
16 A. There's -- 12:05:45
17 Q. The device -- sorry, go ahead. 12:05:47
18 A. I'm sorry, with some exceptions. 12:05:49
19 Q. Okay. 12:05:51
20 But the device descriptor always 12:05:52
21 comes from the device; right? 12:05:54
22 A. Correct. 12:05:55
23 Q. Okay. 12:05:56
24 And the device doesn't really know 12:05:56

1 anything -- 12:06:02
2 A. Now, I'm sorry, are we talking about 12:06:03
3 standard USB devices or are we talking about 12:06:05
4 the non-standard devices here? 12:06:07
5 Q. Well, we're going to get there, but 12:06:08
6 now we're talking about how USB works. 12:06:10
7 A. Standard. 12:06:13
8 Q. Standard USB, yep. 12:06:13
9 A. Got it. 12:06:15
10 Q. The device is responding to the 12:06:16
11 request from the host and it is just saying, 12:06:17
12 this is what I am. Okay. 12:06:19
13 And this idea of the device 12:06:21
14 descriptor, this is discussed in the USB 12:06:23
15 specification; right? 12:06:25
16 A. Yes, it is. 12:06:26
17 Q. So if we can take a look, 12:06:29
18 Exhibit 186, it is page 289, there is a 12:06:32
19 Section 9.6.1. 12:06:35
20 And it says, "A device descriptor 12:06:36
21 describes general information about a USB 12:06:39
22 device. It includes information that applies 12:06:41
23 globally to the device and all of the device's 12:06:43
24 configurations. A USB device has only one 12:06:47

1 device descriptor." 12:06:50
2 Now, this was true about how USB 12:06:51
3 worked in 2006; right? 12:06:55
4 A. For standard USB devices, correct. 12:06:58
5 Q. Right. 12:07:02
6 So one device, one device 12:07:02
7 descriptor? 12:07:05
8 A. That's correct. 12:07:05
9 Q. Okay. 12:07:05
10 Now, in the Aptiv system, each of 12:07:07
11 the USB device controllers has its own device 12:07:10
12 descriptor; right? 12:07:12
13 A. Yes. As would the multi-host device 12:07:14
14 controller. 12:07:17
15 Q. Well, we are going to get there, but 12:07:17
16 let's just stick with the Aptiv system for the 12:07:19
17 moment. 12:07:21
18 And each controller in the Aptiv 12:07:22
19 system reports a different function; right? 12:07:24
20 A. Correct. 12:07:29
21 Q. Right. 12:07:29
22 So the iPhone's controller says, I 12:07:31
23 have NCM and iAP2 functions; right? 12:07:37
24 A. Correct. 12:07:40

1 Q. And those are the interfaces that are 12:07:41
2 required by CarPlay; right? 12:07:43
3 A. Yes. 12:07:46
4 Q. And the head unit controller responds 12:07:46
5 that it has a vendor specific function; right? 12:07:47
6 A. Correct. But it does -- the upstream 12:07:50
7 controller also supports those same functions. 12:07:53
8 Q. But a vendor-specific function, 12:07:56
9 that's a custom function basically; right? 12:07:58
10 A. Right. It's just a non-standard USB 12:08:01
11 device to begin with, so that is correct. 12:08:04
12 Q. Right. 12:08:06
13 Now -- 12:08:07
14 MS. DURIE: Your Honor, may I just 12:08:08
15 ask what the Court's -- I'm about to change 12:08:09
16 the line up a little bit and I am just 12:08:12
17 wondering about the lunch break. I am happy 12:08:13
18 to keep going, or we can break here. 12:08:15
19 THE COURT: Assuming it is okay 12:08:16
20 with the jury, I was thinking we would go 12:08:17
21 until 12:30. 12:08:20
22 MS. DURIE: Perfect. That's 12:08:22
23 great. 12:08:23
24 THE COURT: Is that okay with the 12:08:23

1 jury? Okay. 12:08:26
2 MS. DURIE: Perfect. So if we 12:08:27
3 could have NCD1-28, Mr. Glass. 12:08:28
4 BY MS. DURIE: 12:08:33
5 Q. This is a slide that you prepared to 12:08:33
6 illustrate this point about device 12:08:35
7 descriptors; right? 12:08:40
8 A. Correct. 12:08:40
9 Q. But this is not the slide that you 12:08:41
10 just showed the jury; right? 12:08:43
11 A. I think this is one of the older 12:08:46
12 drafts that I prepared. 12:08:49
13 Q. This was a slide that you prepared 12:08:50
14 and produced a couple days ago; right? 12:08:52
15 A. Correct. 12:08:55
16 Q. And that was before Mr. Bohm had 12:08:56
17 testified; right? 12:08:58
18 A. Correct. 12:09:00
19 Q. Right. 12:09:01
20 And so -- 12:09:04
21 A. I'm sorry. 12:09:04
22 Q. Go ahead. 12:09:06
23 A. I am trying to remember when we 12:09:07
24 submitted the slides. Was it the night 12:09:11

1 before? 12:09:12
2 Q. I will represent that we received the 12:09:14
3 slides before Mr. Bohm testified. 12:09:16
4 A. Okay. 12:09:17
5 MS. DURIE: And, counsel, I think 12:09:19
6 you will agree, the original slides were sent 12:09:20
7 over. 12:09:23
8 THE WITNESS: Okay. 12:09:23
9 BY MS. DURIE: 12:09:24
10 Q. Now, here you showed the device 12:09:24
11 function, a printer/scanner; right? 12:09:29
12 A. Correct. 12:09:31
13 Q. And you showed the two sets of 12:09:32
14 endpoints that were associated with that 12:09:34
15 printer/scanner; right? 12:09:36
16 A. Right. 12:09:38
17 Q. And you showed one as having an 12:09:39
18 address and then a DEV class. 12:09:41
19 Now, what is that? 12:09:43
20 A. A DEV class is the USB designation 12:09:44
21 for any type of device. 12:09:48
22 Q. Right. 12:09:49
23 And so here what you showed is 12:09:50
24 that the printer/scanner was telling one host, 12:09:52

1 I am a printing device, and was telling the 12:09:57
2 other host, I am a miscellaneous DEV class; 12:09:59
3 right? 12:10:02
4 A. Correct. 12:10:03
5 Q. Okay. 12:10:03
6 And that's sort of analogous to 12:10:04
7 the Aptiv scenario where you've got NCM and 12:10:06
8 iAP2 on the one side and you have got a custom 12:10:10
9 function on the other side? 12:10:12
10 A. Right. It illustrates the concept of 12:10:13
11 having a separate dedicated address 12:10:15
12 configuration, a response information. 12:10:17
13 Q. And so in this hypothetical that you 12:10:19
14 were showing here, this printer/scanner is 12:10:21
15 saying -- get asks by the host saying, what 12:10:25
16 are you, and it's saying to one host, I am a 12:10:27
17 printer, I am in the printing class, and it's 12:10:29
18 saying to the other host, I am a miscellaneous 12:10:32
19 device; right? 12:10:37
20 A. Correct. 12:10:38
21 Q. Now, in your expert reports, you did 12:10:38
22 not identify any USB device that existed in 12:10:41
23 2006 as of the date of the invention that 12:10:46
24 reported more than one device descriptor; 12:10:49

1 right? 12:10:52
2 A. I'm sorry, could you ask that 12:10:54
3 question again? 12:10:56
4 Q. Sure. 12:10:56
5 In your expert report, you did not 12:10:57
6 identify any USB device that existed out there 12:11:00
7 in 2006 that, for a single device, reported 12:11:04
8 more than one device descriptor? 12:11:09
9 A. A standard USB device, no, it 12:11:12
10 wouldn't be allowed to do that. 12:11:14
11 Q. Well, in fact, in your expert report, 12:11:16
12 you didn't identify any non-standard USB 12:11:17
13 devices that existed out in the world at the 12:11:20
14 time that Microchip filed its patent 12:11:23
15 application that reported more than one device 12:11:25
16 descriptor? 12:11:28
17 A. Correct. I wasn't aware of any 12:11:28
18 devices that would have the capabilities of 12:11:30
19 the multi-host device. 12:11:33
20 Q. Okay. 12:11:34
21 So let's talk about that point and 12:11:35
22 the patent. The patent actually describes USB 12:11:38
23 devices that were available in 2006; right? 12:11:42
24 A. Yes. 12:11:45

1 Q. Okay. 12:11:45
2 And if we can take a look at 12:11:46
3 Exhibit 1, and let's just start with the first 12:11:48
4 page. Just sort of for orientation, in case 12:11:51
5 people want to follow along at home. 12:11:57
6 Let's go to page 4. Actually, I 12:11:59
7 apologize, let's go to page 6, column 4, and 12:12:06
8 just for people's orientation, you've got the 12:12:11
9 column numbers at the top, right, 3 and 4. 12:12:14
10 And we patent people refer to the column and 12:12:17
11 then the line numbers when we are calling 12:12:20
12 things; right? 12:12:22
13 So column 4, lines 5 through 9. 12:12:23
14 And it says, "Peripheral device/function 312, 12:12:28
15 which may comprise of a main consumer 12:12:33
16 component, such as an Ethernet controller, 12:12:35
17 mass storage drive, et cetera, may not be 12:12:38
18 aware of the multi-host capability of the USB 12:12:40
19 component, and may be a standard off-the-shelf 12:12:43
20 item." 12:12:46
21 So what the patent is saying is 12:12:46
22 the device in this two-host, one-device setup 12:12:49
23 may be a standard off-the-shelf USB device; 12:12:53
24 right? 12:12:57

1 A. Correct. That would be one example 12:12:57
2 of a device that you could incorporate. 12:12:59
3 Q. Right. 12:13:01
4 And a standard off-the-shelf USB 12:13:01
5 device, like an Ethernet controller or a mass 12:13:04
6 storage drive or something along those lines, 12:13:06
7 would be -- have been, in 2006, compliant with 12:13:09
8 USB spec; right? 12:13:11
9 A. Correct. You would have to alter it 12:13:12
10 in some fashion in order to connect to all the 12:13:16
11 other circuitry of the multi-host device, but 12:13:18
12 yes, the core of it could be initiated by a 12:13:20
13 standard device. 12:13:25
14 Q. Right. 12:13:26
15 Well, this standard off-the-shelf 12:13:27
16 USB device would have one device descriptor; 12:13:28
17 right? 12:13:32
18 A. Again, as a stand-alone standard USB 12:13:32
19 device, it would only have one device 12:13:37
20 descriptor. But the patent, of course, allows 12:13:40
21 that device to have separate descriptors for 12:13:42
22 each host. 12:13:45
23 Q. Well, let's talk about that. 12:13:45
24 You were here for Mr. Bohm's 12:13:47

1 testimony; right? 12:13:49
2 A. I was. 12:13:49
3 Q. And if we could go to slide 30, you 12:13:50
4 heard Mr. Bohm testify that he did not invent 12:13:54
5 a new type of device function; right? 12:13:57
6 A. Correct. 12:14:02
7 Q. Okay. 12:14:02
8 And if we go to slide 31, you also 12:14:03
9 heard Mr. Bohm testify that the patent does 12:14:06
10 not describe any device function that reports 12:14:09
11 different device descriptors to different 12:14:13
12 hosts; right? It doesn't say in the patent, 12:14:14
13 here's an example of a device that could do 12:14:17
14 that? 12:14:19
15 A. Again, to be specific, he said he 12:14:20
16 didn't -- he wasn't aware of any specific 12:14:22
17 embodiment -- 12:14:24
18 Q. Right. 12:14:25
19 A. -- any examples of the technology. 12:14:25
20 Q. Right. 12:14:28
21 A. He did speak to the claims, of 12:14:28
22 course. 12:14:30
23 Q. Right. 12:14:30
24 In the body of the '243 Patent and 12:14:30

1 the description of the invention, there is not 12:14:33
2 an example where it says, here's an example of 12:14:35
3 a device that can report two different device 12:14:38
4 descriptors? 12:14:41
5 A. Correct, not in the body, they didn't 12:14:41
6 discuss the language. 12:14:46
7 Q. Well, actually he did, but we're 12:14:47
8 going to get to that. 12:14:48
9 So slide 32, we also heard 12:14:50
10 testimony from Mr. Bohm about Figure 3 of the 12:14:53
11 patent; right? 12:14:57
12 A. Yes. 12:15:00
13 Q. And Mr. Banner, during that 12:15:00
14 testimony, had highlighted Figure 3 like this, 12:15:04
15 so we saw one portion running from one host 12:15:06
16 through the endpoint and status, the endpoint 12:15:11
17 buffers associated with the multi-host device 12:15:15
18 controller; right? 12:15:17
19 A. Yes, I recall that. 12:15:18
20 Q. Okay. 12:15:19
21 And if we go to slide 33, Mr. Bohm 12:15:20
22 testified that if you were to erase the 12:15:23
23 highlighted portion, you would be -- of 12:15:25
24 Figure 3, you would be left with a standard 12:15:29

1 USB device; right? 12:15:31
2 A. That would be a very much 12:15:34
3 generalization. For example, you would still 12:15:36
4 have some type of multi-host device 12:15:38
5 controller, which would clearly not be 12:15:40
6 standard. 12:15:43
7 So I think that was a 12:15:44
8 generalization, but as a general concept, I 12:15:45
9 don't necessarily disagree with that. 12:15:48
10 Q. A standard USB device would report 12:15:49
11 one device descriptor? 12:15:53
12 A. If we are going to go down into 12:15:54
13 detail, I think we would have to ask that 12:15:56
14 question specifically to Mr. Bohm. But 12:15:58
15 again -- 12:16:00
16 Q. All right. Well -- 12:16:00
17 A. -- trying to create a general outline 12:16:01
18 here. 12:16:04
19 Q. Let's continue with what Mr. Bohm 12:16:04
20 said. Go to slide 34. He was asked about 12:16:06
21 that box that sits at the bottom of figure -- 12:16:09
22 actually, let's go back to 33 for a moment. 12:16:13
23 So the device function box, that's 12:16:16
24 312; right? 12:16:18

1 A. Correct. 12:16:19
2 Q. So if we go to the next slide, 12:16:20
3 please, slide 34, Mr. Bohm was asked about 12:16:21
4 that Box 312, and he said 312 is referring to 12:16:24
5 the device or function, and in this case, 12:16:29
6 really probably the easiest way to think of it 12:16:30
7 is, is whatever the product was that you 12:16:35
8 bought. 12:16:36
9 So if you bought a mouse, whatever 12:16:37
10 makes that mouse a mouse, that's the device or 12:16:39
11 function. If you buy a printer, you know, the 12:16:41
12 intelligence takes the data and turns it into 12:16:43
13 the words on the page, again, that would be 12:16:47
14 the device or function. It varies depending 12:16:49
15 on what the actual product was that you 12:16:49
16 bought. 12:16:49
17 So what he is talking about here 12:16:51
18 is buying an off-the-shelf computer; right? 12:16:53
19 A. Right. He is identifying what a 12:16:56
20 standard device function would be, yes. 12:16:57
21 Q. It is whatever makes a mouse a mouse, 12:16:59
22 whatever makes a printer a printer; right? 12:17:01
23 A. Sure. 12:17:04
24 Q. Now, let's go to slide 35. 12:17:04

1 On the right, we have the version 12:17:07
2 of your graphic that was sent over to us 12:17:09
3 before Mr. Bohm testified. On the left, we 12:17:12
4 have the version of your graphic that you 12:17:15
5 presented in court today. And they are a 12:17:17
6 little bit different; right? 12:17:19
7 A. Yes. I wanted to clean it up. It 12:17:21
8 was getting a little busy with a lot of stuff 12:17:24
9 in it, so I wanted to trim it down. 12:17:26
10 Q. And so the thing that you cleaned up 12:17:29
11 was the reference to the USB device as part of 12:17:31
12 the device descriptor identifying itself as 12:17:36
13 having different device descriptors in 12:17:38
14 reference to those two different device 12:17:41
15 classes; right? 12:17:43
16 A. Correct. I wanted to save some time 12:17:44
17 rather than going through describing what a 12:17:47
18 DEV class was, different categories of device 12:17:49
19 classes. I wanted to simplify the slide of 12:17:53
20 it. 12:17:58
21 Q. Now, a printer/scanner was a known 12:17:58
22 USB type of device in 2006; right? There were 12:18:01
23 printer/scanners? 12:18:04
24 A. Yes. 12:18:05

1 Q. And a printer/scanner would report 12:18:05
2 different device descriptors for the different 12:18:08
3 functions, for the printing function and the 12:18:11
4 scanning function; right? 12:18:14
5 A. It could, yes. 12:18:15
6 Q. Okay. 12:18:16
7 But that doesn't mean that it's 12:18:16
8 saying different things to different hosts; 12:18:18
9 right? 12:18:19
10 A. Again, we're talking about a 12:18:21
11 printer/scanner that is a multi-host device, 12:18:24
12 as opposed to a standard off-the-shelf scanner 12:18:28
13 that's not connected to a multi-host 12:18:31
14 controller. 12:18:33
15 Q. I am actually just talking about a 12:18:33
16 standard printer/scanner. 12:18:37
17 MS. DURIE: Let's take a look at 12:18:39
18 the USB specification, Exhibit 186 in 12:18:40
19 evidence, page 57, please, Mr. Glass. 12:18:43
20 BY MS. DURIE: 12:18:48
21 Q. And if we take a look at the bottom 12:18:49
22 and we blow that up, it says, "Multiple 12:18:50
23 functions may be packaged together in what 12:18:53
24 appears to be a single physical device. For 12:18:56

1 example, a keyboard and a trackball might be 12:18:58
2 combined in a single package. Inside the 12:19:00
3 package, the individual functions are 12:19:03
4 permanently attached to a hub and it is the 12:19:04
5 hub that is connected to the USB." 12:19:09
6 So in this example, it is saying 12:19:11
7 you have two USB functions, you have a 12:19:14
8 keyboard, you have a trackball, there is a 12:19:16
9 hub. Both of those devices are connected to 12:19:17
10 that hub; right? 12:19:20
11 A. I think I am following your scenario. 12:19:21
12 Q. Okay. 12:19:23
13 A. I'm not sure. 12:19:23
14 Q. And the hub is then connected to the 12:19:24
15 host; right? 12:19:26
16 A. That sounds right. 12:19:27
17 Q. Okay. 12:19:28
18 And it says, "When multiple 12:19:29
19 functions are combined with a hub in a single 12:19:32
20 package, they are referred to as a compound 12:19:34
21 device." 12:19:37
22 You are familiar with the concept 12:19:39
23 of a compound device; right? 12:19:42
24 A. I am. Again, we are talking about 12:19:43

1 USB standard devices based on the 12:19:45
2 specification. 12:19:47
3 Q. Absolutely. The USB devices that 12:19:47
4 were available in the world, not talking about 12:19:51
5 the patent, but like in the world in 2006 when 12:19:53
6 Microchip filed its application. 12:19:57
7 A. Correct. 12:19:58
8 Q. So the hub and each function attached 12:19:59
9 to the hub within the compound device is 12:20:02
10 assigned its own device address. So that 12:20:04
11 means there is going to be one device address 12:20:07
12 for the keyboard and one device address for 12:20:10
13 the trackball; right? 12:20:12
14 A. Right. 12:20:14
15 Q. And it says, keep going a little bit, 12:20:14
16 "From the host's perspective, a compound 12:20:19
17 device is the same as a separate hub with 12:20:21
18 multiple functions attached." 12:20:24
19 So basically what this is saying 12:20:26
20 is the host is seeing two different devices; 12:20:28
21 right? It's seeing a hub and it's then seeing 12:20:31
22 two devices that are attached to that hub? 12:20:34
23 A. I guess as a general description, 12:20:38
24 that would be correct. 12:20:41

1 Q. Okay. 12:20:42
2 Now, the printer/scanner in a 12:20:43
3 standard USB, or we'll use this keyboard and 12:20:46
4 trackball, this keyboard and trackball, it 12:20:49
5 doesn't, in standard USB, report different 12:20:53
6 device descriptors to different hosts; right? 12:20:55
7 A. I'm sorry, can you ask that question 12:20:58
8 again? 12:21:01
9 Q. Sure. 12:21:01
10 In standard USB, if you've got a 12:21:02
11 compound device that has a keyboard and a 12:21:04
12 trackball, that's going to report to every 12:21:07
13 host, hello, I've got keyboard functionality 12:21:09
14 and I've got trackball functionality; right? 12:21:13
15 A. Correct. Not a multi-host device, 12:21:15
16 but a standard USB device. 12:21:18
17 Q. Right. 12:21:19
18 This standard compound device is 12:21:20
19 going to say, hello, I have both a keyboard 12:21:23
20 and a trackball? 12:21:25
21 A. Correct. 12:21:26
22 Q. Okay. 12:21:27
23 So every host is going to get the 12:21:27
24 same device descriptor information from the 12:21:30

1 device. 12:21:33
2 A. Yes. 12:21:35
3 Q. Okay. Let me just check on one 12:21:37
4 thing. 12:21:43
5 Now, today, you were talking about 12:21:45
6 the difference between claim 1 and claim 23; 12:21:48
7 is that right? In your testimony on direct, 12:21:53
8 you talked about claim 23 and what made it 12:21:58
9 special? 12:22:01
10 A. Correct. 12:22:01
11 Q. Right? 12:22:02
12 A. Yes. 12:22:02
13 Q. Okay. 12:22:03
14 And special, I mean, using claim 1 12:22:03
15 as an example, but special relative to what 12:22:06
16 you described as exemplary claim 1 -- 12:22:08
17 A. Right. It has features that are not 12:22:10
18 present in any of the other claims. 12:22:12
19 Q. Okay. 12:22:13
20 And if I understood your testimony 12:22:14
21 correctly, the thing that you were saying was 12:22:16
22 the special feature in claim 23 is that it can 12:22:19
23 simultaneously -- is that it can 12:22:23
24 simultaneously respond to access requests; is 12:22:26

1 that right? 12:22:30
2 A. Well, it would be better if we 12:22:30
3 brought up the claim language. 12:22:33
4 Q. Let's do that. 12:22:34
5 A. If we could do that. 12:22:35
6 MS. DURIE: Let's put up claim -- 12:22:37
7 if we can, Mr. Glass, pick one and go to the 12:22:38
8 end claim 23 or put up claim 23. Great. 12:22:41
9 BY MS. DURIE: 12:22:49
10 Q. So claim 23 says the controller, and 12:22:51
11 you said that's the multi-host device 12:22:56
12 controller; right? 12:22:57
13 A. Correct. 12:22:58
14 Q. The multi-host device controller is 12:22:59
15 operable to receive and respond to 12:23:01
16 simultaneous respective USB access requests 12:23:03
17 sent from the two or more USB hosts for 12:23:09
18 accessing a function of the shared USB device 12:23:12
19 block. 12:23:15
20 So this might be easier to 12:23:15
21 understand in the context of Figure 3. 12:23:17
22 MS. DURIE: And, Mr. Glass, if we 12:23:22
23 can now go to TX-1, page 4, and pull up 12:23:24
24 Figure 3. 12:23:29

1 BY MS. DURIE: 12:23:29
2 Q. So, controller is operable to receive 12:23:32
3 and respond simultaneous access requests. So 12:23:33
4 what that means here is both of the hosts can 12:23:36
5 issue access requests at the same time down at 12:23:39
6 the multi-host device controller; right? 12:23:44
7 A. It doesn't really discuss what the 12:23:48
8 hosts do; it's describing what the controller 12:23:50
9 has to be capable of doing. 12:23:52
10 Q. Fine. 12:23:53
11 The controller is capable of 12:23:53
12 receiving those two requests for access at the 12:23:55
13 same time? 12:23:57
14 A. Correct. 12:23:58
15 Q. And it is capable of responding to 12:23:59
16 those two requests for access at the same 12:24:01
17 time? 12:24:03
18 A. Correct. 12:24:03
19 Q. Right? 12:24:04
20 Now, you talk about this a little 12:24:05
21 bit in your expert report; right? 12:24:09
22 A. I do. 12:24:12
23 MS. DURIE: And let me mark this 12:24:22
24 for identification as 374. 12:24:23

1 MR. FENTON: Your Honor, sidebar. 12:24:35
2 MS. DURIE: I am not going to 12:24:37
3 admit it, it is just for identification. 12:24:38
4 MR. FENTON: All right. 12:24:41
5 (Whereupon, Trial Exhibit 374 was 12:24:41
6 introduced.) 12:24:51
7 MS. DURIE: And, Mr. Zatkovich, 12:24:51
8 this is just so you have it in front of you if 12:24:52
9 you have any questions. 12:24:55
10 THE WITNESS: Good. Okay. 12:24:56
11 MS. DURIE: It wouldn't be fair to 12:25:03
12 ask you questions about the report and not 12:25:06
13 give it to you. 12:25:07
14 So, 374 marked for identification. 12:25:09
15 MR. FENTON: I'm sorry, one more 12:25:11
16 objection. Is this incomplete? 12:25:12
17 MS. DURIE: I am going to get to 12:25:14
18 the claim charts, I have them separately, but 12:25:16
19 I wanted to start with the body of your 12:25:17
20 report. And I know there was a set of claim 12:25:19
21 charts that were attached to your report. And 12:25:21
22 if you want them now, I can give them to you 12:25:23
23 now. 12:25:25
24 MR. FENTON: Yes, I would like for 12:25:25

him to have the complete report. 12:25:27

MS. DURIE: Sure. Let's mark this 12:25:29

for identification as 375. 12:25:33

(Whereupon, Trial Exhibit 375 was 12:25:37

introduced.) 12:25:40

THE WITNESS: Thank you. 12:25:54

MS. DURIE: Okay. 12:26:04

BY MS. DURIE: 12:26:04

Q. So in front of you, you have 374, 12:26:05

that's your opening expert report, 375, that 12:26:07

is the claim charts that were attached to it; 12:26:10

right? 12:26:14

A. That's correct. 12:26:14

Q. Okay. 12:26:15

Now, I wanted to start by talking 12:26:16

about your expert report. Let's take a look 12:26:19

at paragraph 138. It appears on page 63. 12:26:24

And in paragraph 138 on page 63, 12:26:40

you are talking about the configuration of the 12:26:46

bridge; right? 12:26:49

A. I am, I believe. Hang on. 12:26:52

Q. Go ahead. Take your time or go ahead 12:26:55

and read it to yourself. That's fine. That's 12:26:57

why you have it. 12:26:59

1 (Whereupon, the witness reviews 12:27:02
2 the exhibit.) 12:27:04
3 BY MS. DURIE: 12:27:25
4 Q. Are you with me? 12:27:25
5 A. I am. 12:27:26
6 Q. Okay. 12:27:26
7 So in paragraph 138, you say the 12:27:27
8 configuration -- you're talking about the 12:27:30
9 configuration of the bridge and you say, "It 12:27:31
10 continues with the back and forth of requests 12:27:33
11 and replies between the iPhone and the head 12:27:35
12 unit through the bridge. It continues 12:27:38
13 sequentially down the diagram," and this is 12:27:42
14 referring to a diagram that's in your report, 12:27:44
15 "until the iPhone has completed its 12:27:46
16 configuration of the EP Bridge device. This 12:27:49
17 is another example of simultaneous access of 12:27:51
18 requests and replies from the phone and the 12:27:54
19 head unit to the dual role hub." 12:27:57
20 So what you're talking about here 12:27:59
21 is a set of messages that go back and forth 12:28:01
22 from the iPhone and the head unit in the 12:28:05
23 process of configuration; right? 12:28:07
24 A. Well, it's describing that during 12:28:10

1 that process, both sides of the bridge -- both 12:28:13
2 hosts will continue, as I mentioned, hundreds 12:28:17
3 of times a second to be doing requests. 12:28:19
4 Q. Right. 12:28:23
5 Back and forth, requests and 12:28:23
6 replies? 12:28:26
7 A. Well, the first part of that refers 12:28:26
8 to the enumeration process where you said get 12:28:28
9 the descriptor, save descriptor, get 12:28:31
10 interface, put interface. During that whole 12:28:35
11 process, though, there are additional requests 12:28:37
12 for both hosts to, again, hundreds of times a 12:28:41
13 second, to request information from the shared 12:28:44
14 device. 12:28:47
15 Q. Right. 12:28:47
16 There are requests and there are 12:28:48
17 replies; right? 12:28:49
18 A. Right. 12:28:50
19 Q. And what you say in your report is 12:28:51
20 there are simultaneous requests and replies; 12:28:53
21 right? 12:28:56
22 A. Correct. 12:28:56
23 Q. So one of the features of the system 12:28:56
24 you're saying here is that can happen 12:28:59

1 simultaneously? 12:29:01
2 A. It can happen simultaneously. 12:29:02
3 Q. Okay. 12:29:03
4 A. It may happen alternately. 12:29:04
5 Q. Now, we are going to talk more about 12:29:06
6 that a little while later, but is there 12:29:08
7 anywhere in your -- anywhere else in the body 12:29:10
8 of your report -- we are going to talk about 12:29:13
9 the claim chart in a second, but is there 12:29:15
10 anywhere else in the body of your report that 12:29:18
11 you can point me to where you talked about 12:29:20
12 this idea of simultaneous responses -- 12:29:22
13 simultaneous accesses I totally get, but 12:29:28
14 simultaneous responses? 12:29:31
15 Do you know whether you talked 12:29:32
16 about that anywhere else? 12:29:33
17 A. Again, it might be in the claim 12:29:34
18 chart. 12:29:36
19 Q. Okay. 12:29:36
20 A. Again, I don't recall. It is a big 12:29:36
21 report. 12:29:38
22 Q. We'll get to the claim chart. 12:29:39
23 MS. DURIE: If we can put up claim 12:29:41
24 1, for a moment, Mr. Glass. 12:29:43

1 BY MS. DURIE: 12:29:46
2 Q. So claim 1 has this idea of 12:29:47
3 simultaneous requests for access in it; right? 12:29:52
4 A. I'm sorry, could you point to that? 12:29:57
5 Q. Sure. 12:29:59
6 Two-thirds of the way down, 12:30:00
7 simultaneously request access to the USB 12:30:02
8 device; right? 12:30:05
9 So part of claim 1 is that you've 12:30:05
10 got a multi-host device controller and it 12:30:08
11 allows the first and second host to 12:30:11
12 simultaneously request access to USB device; 12:30:14
13 right? 12:30:17
14 A. Correct. It is not talking about the 12:30:17
15 capability of the controller; it is talking 12:30:19
16 about the capability of the host. So in this 12:30:20
17 particular case, the host may send 12:30:23
18 simultaneous requests, but it doesn't 12:30:26
19 necessarily say that they weren't -- the 12:30:27
20 multi-host controller would have to either 12:30:31
21 accept or respond to them. 12:30:33
22 Q. Okay. 12:30:34
23 But here, we have the controller; 12:30:34
24 it's coupled to the USB device function block 12:30:37

1 to two upstream ports. It can establish 12:30:43
2 concurrent respective dedicated connections 12:30:46
3 between the device block and the first and 12:30:50
4 second upstream ports, and those concurrent 12:30:53
5 respective dedicated connections allow the 12:30:57
6 first and second host to simultaneously 12:31:01
7 request access to the USB device; right? 12:31:05
8 A. Correct. In other words, the host 12:31:07
9 basically can speak or send requests as fast 12:31:09
10 as they want. The controller doesn't 12:31:13
11 necessarily have to accept and respond to 12:31:16
12 those. 12:31:18
13 Q. Okay. 12:31:18
14 So the distinction that you were 12:31:19
15 drawing between claim 1 and claim 23 is claim 12:31:21
16 1, the two hosts can ask at the same time, but 12:31:24
17 you're saying claim 1 doesn't make it explicit 12:31:27
18 that the controller -- or it doesn't allow the 12:31:30
19 device to respond to those access requests at 12:31:32
20 the same time? 12:31:34
21 A. Correct. 12:31:35
22 Q. Okay. 12:31:35
23 A. Significant difference. 12:31:36
24 Q. Okay. 12:31:36

1 Now, you were referring to your 12:31:37
2 claim charts, so let's take a look at those. 12:31:41
3 And let's take a look at what you set it up as 12:31:46
4 in your claim charts. 12:31:49
5 Now, claim charts are thick, and 12:31:51
6 in the claim charts, you talk both about claim 12:31:53
7 1, I apologize -- both about claim 1 -- I feel 12:31:57
8 like I should just say, I get a scratchy 12:32:05
9 throat; I promise, I'm not sick. 12:32:08
10 You talk both about claim 1 and 12:32:11
11 about claim 23; right? 12:32:13
12 A. I do. 12:32:15
13 Q. And I want to talk specifically 12:32:16
14 about -- 12:32:18
15 MR. FENTON: Objection, Your 12:32:19
16 Honor. We are now comparing claim charts. 12:32:20
17 THE COURT: Well, hold on. 12:32:22
18 MR. FENTON: I'm sorry. 12:32:22
19 THE COURT: I don't want speaking 12:32:24
20 objections. 12:32:25
21 MR. FENTON: I'm sorry. 12:32:26
22 THE COURT: If you want a 12:32:27
23 sidebar... 12:32:29
24 MR. FENTON: Yes, sidebar, please. 12:34:10

1 (Whereupon, a discussion was held 12:34:10
2 at sidebar as follows: 12:34:10
3 THE COURT: Go ahead. 12:34:10
4 MR. FENTON: Counsel is seeking 12:34:10
5 testimony to compare different claim charts. 12:34:10
6 Mr. Zatkovich has not testified about in his 12:34:10
7 claim charts for claim 1. It is outside of 12:34:10
8 the scope of what he has testified about 12:34:10
9 during his direct testimony. This is improper 12:34:10
10 cross-examination. 12:34:10
11 MS. DURIE: He testified about the 12:34:10
12 difference between claim 23 and 1. He said 12:34:11
13 there is a difference. He said it's a special 12:34:11
14 claim and the special claim would be 12:34:11
15 different. So I asked about what he said in 12:34:11
16 his report about what that difference is. 12:34:11
17 MR. FENTON: He was testifying on 12:34:11
18 direct about the language, itself, the claim 12:34:11
19 language itself. 12:34:11
20 THE COURT: I heard him on direct 12:34:11
21 explain that. I mean, amongst other things, 12:34:11
22 he specifically said on direct that the claims 12:34:11
23 would all have to be distinct, that they 12:34:11
24 wouldn't be allowed. He also -- and so, you 12:34:11

1 know, that coupled with the fact that he was 12:34:11
2 pointing out certain things about the claims, 12:34:11
3 I think this is fair game, so I am going to 12:34:11
4 overrule the objection. 12:34:11
5 (Whereupon, the discussion at 12:34:15
6 sidebar concluded.) 12:34:16
7 BY MS. DURIE: 12:34:16
8 Q. So what I wanted to do, Mr. 12:34:17
9 Zatkovich, is talk to you about what you said 12:34:19
10 in your claim charts you attached in your 12:34:21
11 expert report about claim 1 and claim 23. 12:34:23
12 MS. DURIE: I am mindful, Your 12:34:25
13 Honor, that it is 12:35 and you wanted to 12:34:26
14 break for lunch. 12:34:29
15 THE COURT: I don't know how long 12:34:30
16 it is. If it's more than a couple minutes -- 12:34:31
17 MS. DURIE: It is more than a 12:34:33
18 couple minutes. 12:34:34
19 THE COURT: Okay. Then let's take 12:34:35
20 a break for lunch. 12:34:35
21 Same caution during the break; 12:34:37
22 don't go back and talk about what you're 12:34:38
23 hearing, don't go back and talk about the 12:34:41
24 testimony you've heard this morning. The time 12:34:44

1 to discuss it will be later after you've heard 12:34:46
2 all the evidence. 12:34:48
3 So with that, we'll take a lunch 12:34:48
4 break. Try to be back, let's say, at like 10 12:34:50
5 after 1, just so we can keep moving and get 12:34:56
6 things done. Is that enough time for 12:34:59
7 everybody? Okay. All right. 12:35:00
8 So let's do that. 12:35:01
9 (Whereupon, the jury was excused 12:35:03
10 from the courtroom.) 12:35:05
11 THE COURT: Okay. Let's try to be 12:35:27
12 back here in about a half hour, a little more 12:35:29
13 than that. Enjoy your lunch. 12:35:33
14 MS. DURIE: Thank you. 12:35:35
15 (Whereupon, a 35-minute luncheon 12:35:36
16 recess was taken at 12:35 p.m.) 12:35:38
17 THE COURT CLERK: All rise. 13:05:03
18 THE COURT: All right. Have a 13:05:06
19 seat, please, everyone. 13:12:21
20 The jury, Mr. Koehler. 13:12:26
21 (Whereupon, the jury entered the 13:12:29
22 courtroom.) 13:12:31
23 THE COURT: Have a seat, please. 13:13:00
24 Welcome back, everybody. 13:13:01

1 Continue, Ms. Durie. 13:13:03
2 MS. DURIE: Thank you. 13:13:06
3 BY MS. DURIE: 13:13:08
4 Q. Now, Mr. Zatkovich, before lunch, we 13:13:10
5 were talking about the fact that you provided 13:13:14
6 an expert report and then you provided what we 13:13:17
7 have been calling claim charts as an 13:13:21
8 attachment to your expert report; right? 13:13:23
9 A. Correct. 13:13:25
10 Q. And the claim charts are where you 13:13:26
11 take each of the claims, and every single one 13:13:28
12 of the requirements of the claims, and you 13:13:31
13 show what it is about Aptiv's product that you 13:13:34
14 think satisfies those requirements; right? 13:13:36
15 A. Yes, that's correct. 13:13:39
16 Q. Okay. 13:13:40
17 And you provided claim charts for 13:13:41
18 a number of different claims in the '243 13:13:44
19 Patent; right? 13:13:49
20 A. That's correct. 13:13:50
21 Q. You provided a claim chart for claim 13:13:50
22 1 and you provided a claim chart for claim 23? 13:13:54
23 A. That's correct. 13:13:58
24 MS. DURIE: And, Your Honor, what 13:13:58

1 I would like to do is, for demonstrative 13:14:00
2 purposes only, put up a side-by-side of claim 13:14:02
3 1 and claim 23 to run through them, but I am 13:14:05
4 not proposing to introduce them into evidence, 13:14:07
5 but merely show them for demonstrative 13:14:09
6 purposes. 13:14:11
7 THE COURT: Okay. 13:14:12
8 BY MS. DURIE: 13:14:21
9 Q. So, Mr. Zatkovich, while we are 13:14:22
10 getting that in, in order to assist you in 13:14:23
11 orienting, your discussion of claim 1 begins 13:14:26
12 on page 1, but I want to start down at 13:14:34
13 page 14, which is where you talk about the 13:14:39
14 requirement in claim 1 for simultaneously 13:14:42
15 requesting access to the USB device. 13:14:47
16 A. Page 14, did you say? 13:14:49
17 Q. Are you with me? Yes. 13:14:51
18 A. Yes, I have it. 13:14:58
19 Q. With me? 13:15:01
20 A. I am. 13:15:02
21 Q. Thank you. 13:15:02
22 MS. DURIE: Now, Mr. Glass, 13:15:03
23 side-by-side, next to that, if we could put 13:15:05
24 up, beginning at page 122, we have here claim 13:15:09

1 23, and we have the requirement wherein the 13:15:19
2 controller is operable to receive and respond 13:15:22
3 to simultaneous respective USB access requests 13:15:26
4 sent by two or more hosts. 13:15:33
5 BY MS. DURIE: 13:15:34
6 Q. That is that third requirement of 13:15:35
7 claim 23 that we have been discussing; 13:15:37
8 correct? 13:15:39
9 A. 122. 13:15:40
10 Q. Yes, 122. 13:15:43
11 A. Yes, I have that. 13:15:46
12 Q. Okay. Great. 13:15:48
13 Now, in each case at the 13:15:50
14 beginning, you have a sentence that says, "The 13:15:53
15 USB dual role hub" -- I'm sorry, "the dual 13:15:58
16 role hub allows," and then you basically quote 13:16:03
17 the claim language; right? 13:16:05
18 A. Correct. 13:16:07
19 Q. And then for claim 1, you say, "The 13:16:07
20 simultaneous access allows data to be, for 13:16:11
21 example," and I am just going to pause there. 13:16:16
22 And for claim 23 -- 13:16:18
23 MS. DURIE: You don't have to 13:16:19
24 highlight it, Mr. Glass. 13:16:20

1 BY MS. DURIE: 13:16:22
2 Q. -- for claim 23, you say, "for 13:16:22
3 example, access requests allow data to be." 13:16:24
4 So simultaneous access, and the last access 13:16:26
5 request on the right. 13:16:34
6 But continuing on, I just want you 13:16:35
7 to read the language to yourself and confirm 13:16:37
8 that it is the same on these two pages for 13:16:38
9 both claim 1 and claim 23. 13:16:43
10 (Whereupon, the witness complies 13:16:46
11 with counsel's request.) 13:16:48
12 THE WITNESS: Correct. I provided 13:16:54
13 the same examples that actually means both. 13:16:56
14 MS. DURIE: Right. Two next 13:17:01
15 pages, 15 and 123. 13:17:03
16 BY MS. DURIE: 13:17:05
17 Q. So it continues for both claim 1 and 13:17:06
18 claim 23, same text appears for both claims; 13:17:08
19 right? 13:17:12
20 A. Correct. 13:17:12
21 Q. Okay. 13:17:12
22 Next two pages, 16 and 124. Take 13:17:13
23 a look here. Please confirm for me that the 13:17:19
24 same text appears for both claims. 13:17:24

1 A. Yes. Again, two examples that -- the 13:17:37
2 same example in both claim numbers. 13:17:42
3 Q. Yeah. And I just want to pause for 13:17:44
4 one moment. 13:17:46
5 The point of these claim charts is 13:17:47
6 for you to set out in detail what your 13:17:49
7 infringement analysis is; right? 13:17:51
8 A. Yes. 13:17:55
9 Q. Okay. 13:17:55
10 Next two pages, 17 and 125, 13:17:56
11 please. Please confirm for me that these are 13:18:00
12 also the same. 13:18:03
13 A. Yes. 13:18:07
14 Q. Okay. 13:18:08
15 Next two pages, 18 and 126, and 13:18:09
16 now they are a little bit different; right? 13:18:15
17 A. A little bit, yes. 13:18:19
18 Q. Okay. Right. 13:18:20
19 So for claim 1, it stopped after, 13:18:20
20 "the use of interrupt allows the simultaneous 13:18:24
21 request for access by both hosts," and it 13:18:27
22 continues. 13:18:31
23 MS. DURIE: And, Mr. Glass, if we 13:18:31
24 can now have just 126 and 127 so that we can 13:18:33

1 look at the additional language that you 13:18:37
2 provided for claim 23. So side-by-side is 126 13:18:41
3 and 127. Perfect. 13:18:45
4 BY MS. DURIE: 13:18:46
5 Q. So this is the additional language 13:18:47
6 that you provided for claim 23 that you had 13:18:48
7 not provided for claim 1; right? 13:18:50
8 Does that look right? 13:19:05
9 A. It does, yes. 13:19:06
10 Q. Okay. 13:19:07
11 So let's take a look at what you 13:19:07
12 said. You said, "The use of interrupt allows 13:19:09
13 the simultaneous access by both hosts." 13:19:12
14 We are talking about accessing and 13:19:15
15 then response, so here we are talking about 13:19:16
16 accessing; right? 13:19:19
17 A. Correct. 13:19:20
18 Q. And it says, "The function of that 13:19:21
19 access is at least one of the functions 13:19:26
20 described in the Apple spec; for example, the 13:19:28
21 dual role hub implements a function for 13:19:33
22 performing Apple authentication between two 13:19:37
23 hosts, implemented networking interface as 13:19:40
24 required by CarPlay, the packet first in first 13:19:43

1 out and associated control are used for these 13:19:47
2 functions." 13:19:49
3 And then you continue reciting 13:19:50
4 here the Boston product specification. You 13:19:54
5 say, "Each endpoint pair implements packet 13:19:58
6 transfer, the pipe transfers packets from an 13:20:03
7 out endpoint to an in endpoint, packets are 13:20:06
8 transferred," you talk about the control 13:20:10
9 mechanism. 13:20:14
10 This is -- what are you talking 13:20:15
11 about here, establishing the connection? 13:20:16
12 A. So claim 1 is basically talking about 13:20:18
13 simultaneous requests from hosts and claim 23 13:20:22
14 is talking about simultaneous requests and 13:20:25
15 responses that the multi-host controller can 13:20:27
16 process. 13:20:32
17 Q. Okay. 13:20:33
18 A. So I am adding additional logic in 13:20:33
19 claim 23 about the controller and how it 13:20:37
20 processes requests. 13:20:39
21 Q. Okay. 13:20:42
22 And then in the next paragraph, 13:20:42
23 you are talking a lit bit more about the logic 13:20:45
24 that's in the controller to arbitrate and 13:20:48

1 respond to access requests, so that's the 13:20:52
2 simultaneous response that's in claim 23; 13:20:54
3 right? 13:20:58
4 A. Yeah, that's one. 13:20:58
5 Q. And you say, "For example, the Boston 13:21:01
6 product specification indicates that the out 13:21:04
7 endpoint NAKs any transferred packet with FIFO 13:21:09
8 is full." What does a NAK stand for? 13:21:13
9 A. NAK means -- an example I used for 13:21:16
10 Spotify, for example. The Spotify buffers 13:21:20
11 will fill up faster than the head unit. So 13:21:22
12 when the FIFO busters fill up, the bridge 13:21:26
13 basically says NAK, meaning I can't take 13:21:29
14 anymore at the moment. 13:21:31
15 Q. NAK means, I'm full? 13:21:32
16 A. Right. It's a response, but it's a 13:21:34
17 response saying don't send me anymore. 13:21:36
18 Q. Exactly. 13:21:38
19 And so when a host is 13:21:39
20 communicating with the device and sending 13:21:40
21 information to a device by way of example or a 13:21:42
22 device is communicating with a host and 13:21:46
23 sending information to a host, if one side or 13:21:48
24 the other can't accept the information, it 13:21:50

1 sends a NAK that basically says, I'm full. A 13:21:53
2 NAK is a standard USB function; right? 13:21:56
3 A. It is. 13:21:59
4 Q. And so what is happening here is that 13:21:59
5 in response to being full, the device is 13:22:00
6 sending a standard USB response that says, I 13:22:05
7 am full? 13:22:10
8 A. Correct. 13:22:10
9 Q. And then you continue, "ping," 13:22:10
10 P-I-N-G, what's that? 13:22:15
11 A. That's another function basically to 13:22:18
12 keep alive or indicating that the device is 13:22:21
13 still there, being connected. 13:22:24
14 Q. Standard USB function? 13:22:26
15 A. Yes. 13:22:27
16 Q. Okay. 13:22:27
17 And then you talk about "in token 13:22:28
18 default responses assist in the arbitration 13:22:33
19 between access requests from the host." 13:22:36
20 Everything there is standard USB 13:22:38
21 function; right? 13:22:41
22 A. Yeah. For that -- for that side -- 13:22:42
23 for each side of the multi-host controller. 13:22:46
24 Q. And that's where your analysis of 13:22:49

1 claim 23 in your claim chart ends? 13:22:54
2 A. Correct. 13:22:57
3 Q. Great. Okay. 13:22:58
4 Now, the patents -- 13:22:59
5 MS. DURIE: Let's actually go back 13:23:07
6 to Figure 3 and slide 40, please, Mr. Glass. 13:23:08
7 BY MS. DURIE: 13:23:18
8 Q. Now, what we have up here is 13:23:18
9 Figure 3, which we are now probably all very 13:23:21
10 familiar with. And you would agree, sir, that 13:23:26
11 the multi-host controller shown in Figure 3 of 13:23:28
12 the '243 acts as an arbiter in controlling 13:23:31
13 which of the two hosts it can access the 13:23:35
14 device/function block 312, including when that 13:23:37
15 access is permitted? 13:23:41
16 A. Correct. 13:23:43
17 Q. And the patent explained how the 13:23:44
18 hosts can alternate access; right? 13:23:48
19 A. You mean alternate access between two 13:23:51
20 separate hosts? 13:23:53
21 Q. Alternate how the hosts can alternate 13:23:54
22 access to the devices. 13:23:58
23 A. Right. 13:23:59
24 Q. Right. 13:24:00

1 MS. DURIE: Let's see slide 41. 13:24:01
2 BY MS. DURIE: 13:24:01
3 Q. So one way that the multi-host device 13:24:04
4 controller can allow the two different hosts 13:24:08
5 to alternate access to the device is with an 13:24:11
6 internal arbitration mechanism that may permit 13:24:15
7 each host, first host and second host, to 13:24:20
8 access the shared function by interleaving 13:24:22
9 host accesses. 13:24:27
10 MS. DURIE: So let's go back a 13:24:29
11 second to slide 40, Mr. Glass. 13:24:30
12 BY MS. DURIE: 13:24:33
13 Q. So here we've got the two hosts at 13:24:33
14 the top, we've got the multi-host device 13:24:35
15 controller, and what we're talking about is a 13:24:37
16 way to allow the two hosts to alternate access 13:24:39
17 to the device/function; right? In the patent, 13:24:43
18 let's go back to slide 41. 13:24:50
19 A. No, actually, let me finish reading 13:24:52
20 that paragraph, please. 13:24:55
21 Q. Well, here it is. Here it is. 13:24:56
22 A. Okay. 13:25:00
23 Q. Interleaving host accesses. 13:25:00
24 Permitting each host to access the peripheral 13:25:03

1 function by interleaving host accesses. 13:25:06
2 Interleaving is a form of 13:25:09
3 alternating access; right? 13:25:11
4 A. Yes, that would be one example how a 13:25:12
5 multi-host would work. 13:25:16
6 MS. DURIE: Let's go to slide 42. 13:25:19
7 BY MS. DURIE: 13:25:19
8 Q. Patent continues or by using a common 13:25:20
9 request grant structure that may hold up one 13:25:23
10 host while another host completes a data 13:25:27
11 transfer to or from a shared device. 13:25:29
12 That's another form of alternating 13:25:32
13 access; right? 13:25:34
14 A. Correct. 13:25:35
15 Q. And the system of holding up one host 13:25:35
16 while another host completes a data transfer 13:25:39
17 means the two hosts won't collide with each 13:25:42
18 other when they're both trying to send 13:25:44
19 information to the device? 13:25:47
20 A. If the device is not capable of 13:25:47
21 making -- streaming at the same time. 13:25:50
22 Q. Right. It's kind of like an air 13:25:51
23 traffic controller; right? The multi-host 13:25:53
24 device controller is acting like an air 13:25:58

1 traffic controller basically saying you get to 13:26:00
2 go, you get to go, you get to go? 13:26:02
3 A. Again, if the device can only accept 13:26:04
4 data from one host at a time. Some devices, 13:26:07
5 some shared USB blocks -- 13:26:11
6 Q. Well -- 13:26:12
7 A. -- could accept data from both hosts 13:26:12
8 at the same time. 13:26:15
9 Q. This concept of arbitrating between 13:26:16
10 multiple host requests, that is something that 13:26:21
11 the patent office found to be at the heart of 13:26:24
12 the purported invention of the '243 Patent; 13:26:28
13 right? 13:26:32
14 A. I'm not sure I would characterize it 13:26:33
15 that way, but it would certainly be one 13:26:36
16 function of the patent. 13:26:38
17 Q. Well, let's take a look. 13:26:39
18 MS. DURIE: Your Honor, I want to 13:26:42
19 mark for identification TX-370. That is the 13:26:42
20 entire record of the Inter Partes Review 13:26:46
21 proceeding. It's huge. I'd like to offer it 13:26:49
22 and then hand the witness a portion of it that 13:26:52
23 is the final disposition. 13:26:58
24 MR. FENTON: Objection, scope. 13:27:06

1 Objection. Sidebar. 13:27:07
2 THE COURT: Okay. Come on up. 13:27:08
3 (Whereupon, a discussion was held 13:27:08
4 at sidebar as follows: 13:27:08
5 MR. FENTON: This witness has not 13:32:43
6 looked at these materials, has not studied 13:32:43
7 these materials. She's asking him to perform 13:32:43
8 an analysis of a 3,000 page document on the 13:32:43
9 fly. 13:32:43
10 It's also -- this is the 13:32:43
11 prosecution history of the IPR -- sorry, this 13:32:43
12 is not a prosecution of the history. We 13:32:43
13 actually confirmed it is not in the file 13:32:43
14 history. 13:32:43
15 THE COURT: I am confused now. I 13:32:43
16 thought we were marking it as the prosecution 13:32:43
17 history? 13:32:43
18 MS. DURIE: It is the entirety 13:32:43
19 which we would seek to be admitted as a whole 13:32:43
20 big thing. 13:32:43
21 THE COURT: It is not the file 13:32:43
22 wrapper? 13:32:43
23 MR. FENTON: Correct. It is not 13:32:43
24 the file wrapper. So I actually don't know 13:32:43

1 which section she is going to point to, but 13:32:43
2 this is hearsay within hearsay that we were 13:32:43
3 concerned about that the court cases that deal 13:32:43
4 with say you have to be careful when you're 13:32:43
5 talking about specific statements within these 13:32:43
6 documents, even if it is the opinion. So it's 13:32:43
7 potentially highly prejudicial for these to be 13:32:43
8 shown to the jury. 13:32:43
9 If she was to ask questions about 13:32:43
10 them, that's one thing. But if she wants to 13:32:43
11 show that to the jury, that's the part that's 13:32:43
12 problematic. 13:32:43
13 THE COURT: Wait. I thought that 13:32:43
14 we had decided at the final pretrial 13:32:43
15 conference that this was going to be admitted 13:32:43
16 into evidence as one big block? 13:32:43
17 MR. FENTON: It's one thing for it 13:32:43
18 to be admitted into evidence. It is another 13:32:43
19 thing for the specific statements within it -- 13:32:43
20 we were reserving our objections to -- I don't 13:32:43
21 know that she is offering to show it to the 13:32:43
22 jury. 13:32:43
23 THE COURT: No. You can't both 13:32:43
24 admit it and object to it. You either admit 13:32:43

1 it or you don't. Once it's admitted into 13:32:43
2 evidence, the jury can see it. 13:32:43
3 MR. FENTON: Your Honor, I 13:32:43
4 respectfully -- 13:32:43
5 THE COURT: That's how evidence 13:32:43
6 works. 13:32:43
7 MR. FENTON: Yes, the jury can see 13:32:43
8 it, but if we are highlighting sections of it, 13:32:43
9 there are cases where the decision has come 13:32:43
10 out that you have to look at the individual 13:32:43
11 statements to see if those should be -- if 13:32:43
12 those are proper. 13:32:43
13 THE COURT: No, no, but the 13:32:43
14 decisions say that you have to look at 13:32:43
15 individual statements if you parse what can 13:32:43
16 and cannot come into evidence, right? Once 13:32:43
17 you are deciding that it can all be in 13:32:43
18 evidence, then it is in evidence. I mean, we 13:32:43
19 are going to send all the evidence back to the 13:32:43
20 jury. 13:32:44
21 MR. FENTON: Then I need to say 13:32:44
22 this is outside the scope of direct and we are 13:32:44
23 very far afield from the statement that he 13:32:44
24 made, which was the claim language, itself, 13:32:44

1 and the difference between claim 1 and 23. 13:32:44
2 MS. DURIE: He was saying about 13:32:44
3 whether the -- he was just quarreling whether 13:32:44
4 the claim language encompasses devices where 13:32:44
5 you've got simultaneous access and said well, 13:32:44
6 sure, alternating access with some device, but 13:32:44
7 not every device. That's inconsistent with 13:32:44
8 the record of the proceeding of the case. 13:32:44
9 MR. FENTON: The record of our 13:32:44
10 arguments or the record of findings? 13:32:44
11 MS. DURIE: It is the final 13:32:44
12 written decision of the 19th Circuit. 13:32:44
13 THE COURT: Well, he hasn't -- he 13:32:44
14 hasn't seen -- or at least you haven't 13:32:44
15 established that he has seen the final written 13:32:44
16 decision. 13:32:44
17 MS. DURIE: So he -- 13:32:44
18 THE COURT: I'm sorry. But the 13:32:44
19 final written decision is not -- I mean, his 13:32:44
20 testimony is not about the written decision, 13:32:44
21 it is about validity, and his testimony is 13:32:44
22 about infringement. I mean, I understand 13:32:44
23 that, at some level, that requires him to 13:32:44
24 opine on the scope of the claims. 13:32:44

1 MS. DURIE: They have to be 13:32:44
2 consistent, and that's my only point. I am 13:32:44
3 not going to ask about prior art; I'm not 13:32:44
4 going to get into the prior art. All I am 13:32:44
5 going to talk to him about is what he deems -- 13:32:44
6 the point at which he agrees there has to be 13:32:44
7 consistent positions with respect to what the 13:32:44
8 claims cover. That's the only thing we are 13:32:44
9 going to talk about. 13:32:44
10 I am not proposing to get into 13:32:44
11 prior art. And it is in evidence. I mean, we 13:32:44
12 had an agreement it would be in evidence. 13:32:44
13 THE COURT: I understand it would 13:32:44
14 be in evidence, but the objection is a 13:32:44
15 different one now. 13:32:44
16 MS. DURIE: Yeah. 13:32:44
17 THE COURT: Okay. I don't 13:32:44
18 entirely know what you are going to show him 13:32:44
19 so I am proceeding in a vacuum. So put it up, 13:32:44
20 let's see what it is, and then if you think -- 13:32:44
21 if it really is beyond the scope of the direct 13:32:44
22 exam, then you can renew the objection. 13:32:44
23 Having said that, I just want to 13:32:44
24 be clear that from my perspective, if he's 13:32:44

1 opining on -- by necessity, opining on the 13:32:44
2 scope of the claims in order to get to 13:32:44
3 infringement, then she is certainly allowed to 13:32:44
4 impeach, right, on that. I'm sorry, I don't 13:32:44
5 mean to refer to you in the third person 13:32:44
6 because you are standing here. 13:32:44
7 MS. DURIE: That's all right. 13:32:44
8 MR. FENTON: Except that he is not 13:32:44
9 opining today in court on the scope of claim 13:32:44
10 1. 13:32:44
11 THE COURT: No, I know he is not 13:32:44
12 opining on the scope of claim 1. 13:32:45
13 MS. DURIE: Claim 23. 13:32:45
14 THE COURT: And that's why I need 13:32:45
15 to hear the question a little bit. 13:32:45
16 MS. DURIE: Yes. 13:32:45
17 MR. FENTON: Thank you. 13:32:45
18 (Whereupon, the discussion at 13:32:47
19 sidebar concluded.) 13:32:50
20 MS. DURIE: Your Honor, we offer 13:33:03
21 370. 13:33:04
22 MR. FENTON: No objection. 13:33:05
23 THE COURT: It will be received. 13:33:06
24 MS. DURIE: And I am going to hand 13:33:06

1 to the witness pages 3253 through 3442. 13:33:08
2 MR. FENTON: Sorry, I need another 13:33:24
3 sidebar. I apologize. 13:33:26
4 (Whereupon, a discussion was held 13:34:33
5 at sidebar as follows: 13:34:33
6 MR. FENTON: I apologize for the 13:34:33
7 two parts, but we agreed that the whole thing 13:34:33
8 would come in as a group, and now we're 13:34:33
9 handing individual documents. That's exactly 13:34:33
10 what we were saying. 13:34:33
11 THE COURT: No. The whole thing 13:34:33
12 has come in. As with any other exhibit, 13:34:33
13 particularly a voluminous one, you can call 13:34:33
14 out portions of it. If you think that there 13:34:33
15 are parts of it that render it incomplete, you 13:34:33
16 can either redirect on it, or if it's 13:34:33
17 materially misleading in some way, you can 13:34:33
18 object. But if it's in evidence, it's in. 13:34:33
19 MR. FENTON: Understood, Your 13:34:33
20 Honor. 13:34:35
21 (Whereupon, the discussion at 13:34:35
22 sidebar concluded.) 13:34:35
23 BY MS. DURIE: 13:34:37
24 Q. Mr. Zatkovich, you should have in 13:34:37

1 front of you the final written decision from 13:34:40
2 the, what we have been calling IPR proceeding. 13:34:43
3 Do you see that? 13:34:46
4 A. I have that. 13:34:47
5 Q. And if we can turn to page 3280 -- 13:34:50
6 the pages are at the bottom. It is page 3280 13:34:59
7 of 3442. 13:35:05
8 A. Yes, I have that. 13:35:10
9 Q. Are you with me? 13:35:11
10 A. I'm sorry, 3284 of 3442? 13:35:12
11 Q. 3280, 3-2-8-0 and it is page 28. 13:35:17
12 A. Page 28 of the document. Okay. 13:35:23
13 Q. Yes. 13:35:25
14 And you understand this is the 13:35:26
15 decision of the patent office on that Inter 13:35:34
16 Partes Review proceeding? 13:35:40
17 A. I don't. I haven't seen the document 13:35:40
18 before. But if you're representing that it 13:35:44
19 is, I believe that fact. 13:35:46
20 Q. So even up to your testimony in court 13:35:47
21 here today, you have not read what the patent 13:35:51
22 office determined about the scope of the 13:35:53
23 claims? 13:35:58
24 A. No. It wasn't relevant to my 13:35:58

1 testimony. 13:36:00
2 Q. Okay. 13:36:00
3 Is it relevant -- is the following 13:36:04
4 relevant to your testimony? 13:36:07
5 "Neither party identifies nor do 13:36:08
6 we discern any disclosure in the USB 13:36:11
7 specification describing a capability to 13:36:15
8 arbitrate among multiple host requests. 13:36:18
9 Indeed, adding such a feature is at the heart 13:36:21
10 of the purported invention of the '243 Patent; 13:36:24
11 i.e., the point of novelty." 13:36:28
12 Do you disagree that the 13:36:31
13 capability to arbitrate among multiple host 13:36:34
14 requests is at the heart of the invention of 13:36:38
15 the '243 Patent? 13:36:42
16 A. Yes. Some of the claims would meet 13:36:44
17 the limitation if they alternate the request. 13:36:48
18 Some of the claims would require some 13:36:51
19 continuous requests. But yes, that would be 13:36:54
20 one key function of the claim -- some of the 13:36:55
21 claims in the patent. 13:36:59
22 Q. So your opinion is inconsistent with 13:37:00
23 the decision of the patent office, that that 13:37:03
24 capability to arbitrate among multiple host 13:37:07

1 requests is at the heart of the invention of 13:37:10
2 the patent? 13:37:13
3 A. Not at all. I believe not being able 13:37:14
4 to alternate the access would be a key feature 13:37:17
5 of that. 13:37:21
6 Q. Okay. 13:37:21
7 A. As would be simultaneous access. 13:37:22
8 Q. Well, in fact, the asserted claims in 13:37:24
9 all of the patents require alternately 13:37:31
10 accessing the USB device or device block; 13:37:35
11 right? 13:37:40
12 A. Could you point -- I'm sorry, could 13:37:42
13 you point me to it? 13:37:44
14 Q. Sure. 13:37:46
15 MS. DURIE: Let me mark for 13:37:49
16 identification only Exhibit -- as Exhibit 376, 13:37:51
17 a copy of the reply report of Ivan Zatkovich. 13:37:55
18 (Whereupon, Trial Exhibit TX-376 13:38:01
19 was introduced.) 13:38:07
20 BY MS. DURIE: 13:38:18
21 Q. Mr. Zatkovich, you have in front of 13:38:19
22 you now a copy of your reply report; correct? 13:38:21
23 A. Correct. 13:38:23
24 Q. Please turn to paragraph 62. In 13:38:24

1 paragraph 62, you say, "The asserted claims in 13:38:36
2 both the '243," and another patent, "require 13:38:41
3 alternately accessing the USB device, device 13:38:46
4 block function block without either host 13:38:52
5 reconfiguring the device." 13:38:55
6 Now, when you say here in your 13:38:56
7 reply report, "the asserted claims," you are 13:38:58
8 including, among the asserted claims, 23, 24 13:39:02
9 and 25; right? 13:39:06
10 A. Yes, that's correct. 13:39:15
11 Q. Okay. 13:39:16
12 Now, let's talk about the Aptiv 13:39:16
13 device. 13:39:20
14 MS. DURIE: If we could have slide 13:39:22
15 45 -- actually, I take that back. You know 13:39:24
16 what? Let's continue on this theme of access. 13:39:26
17 If we could have slide 50. 13:39:32
18 BY MS. DURIE: 13:39:36
19 Q. Now, you have expressed the opinion 13:39:37
20 that in the context -- 13:39:41
21 MS. DURIE: Actually, you know 13:39:43
22 what. I did that. Can you go back -- I'm 13:39:44
23 sorry. Can you go back to slide 45 for a 13:39:47
24 minute. 13:39:51

1 BY MS. DURIE: 13:39:53
2 Q. So in the Aptiv device, each host 13:39:53
3 accesses its device basically whenever it 13:39:56
4 wants; right? 13:40:00
5 A. Yes. I'd say that's accurate. 13:40:02
6 Q. Okay. 13:40:05
7 And you have expressed the opinion 13:40:05
8 that that is a form of alternating access; 13:40:07
9 right? 13:40:10
10 A. Again, when each device is polling 13:40:10
11 the bridge hundreds of times a second, some of 13:40:14
12 those accesses are going to be alternating, 13:40:17
13 some of those accesses are going to be 13:40:20
14 simultaneous. So yes. 13:40:22
15 Q. Go to the next slide. I just want to 13:40:24
16 break down what it is you are saying here. 13:40:28
17 So what you are saying, and I 13:40:29
18 think you just said it consistent with what 13:40:31
19 you said in your report, not every access -- 13:40:33
20 not every set of accesses from both hosts 13:40:36
21 would coincidentally occur simultaneously? 13:40:40
22 A. Correct. 13:40:44
23 Q. Right. 13:40:45
24 So you're saying sometimes, 13:40:45

1 coincidentally, both hosts might send requests 13:40:47
2 at the same time. And then you say -- 13:40:50
3 MS. DURIE: If we could have the 13:40:54
4 next slide. Sorry, if we can go -- sorry, 13:40:55
5 slide 52. Apologies. 13:40:59
6 BY MS. DURIE: 13:41:03
7 Q. You say, "accesses made to the bridge 13:41:03
8 by both hosts may not occur simultaneously, 13:41:06
9 and therefore they would be alternating 13:41:09
10 accesses." 13:41:11
11 So what you're saying here is if, 13:41:12
12 by coincidence, one host sends a request to 13:41:14
13 its device at one point in time, and the other 13:41:17
14 host sends a request to its device at a 13:41:20
15 different point in time, if, by coincidence, 13:41:22
16 those things do not happen simultaneously, 13:41:25
17 they are alternating? 13:41:28
18 A. Right. And the microcontroller, the 13:41:29
19 multi-host controller would have to support 13:41:33
20 that. 13:41:37
21 MS. DURIE: Could I get the 13:41:43
22 physical device that we had? 13:41:44
23 Perfect. Thank you. 13:41:45
24 BY MS. DURIE: 13:41:47

1 Q. So I don't remember, Mr. Zatkovich, 13:41:47
2 whether you were present in court for this. 13:41:49
3 A. Yes, I believe I was. 13:41:52
4 Q. Okay. 13:41:53
5 So we have one USB Ethernet 13:41:54
6 controller; right? 13:41:57
7 A. Meaning, the one that you are holding 13:42:00
8 in your hand? 13:42:02
9 Q. Yes. 13:42:03
10 A. Yes. 13:42:04
11 Q. And we have a second USB Ethernet 13:42:04
12 controller; right? 13:42:06
13 A. Correct. 13:42:07
14 Q. And we have the crossover cable that 13:42:07
15 connects it; right? 13:42:10
16 A. Correct. The crossover cable running 13:42:11
17 from the Ethernet port, yes. 13:42:16
18 Q. Right. 13:42:16
19 And so I can plug this into the 13:42:17
20 USB port on one computer, plug this into the 13:42:18
21 USB port on the other computer, and send data 13:42:22
22 back and forth between the two computers; 13:42:24
23 right? 13:42:26
24 A. Sure. 13:42:26

1 Q. Between the two USB hosts; right? 13:42:27
2 A. Yes. 13:42:29
3 Q. And what you're saying is if this 13:42:29
4 computer happens to send data at point in time 13:42:32
5 A, and this one sends data at the same point 13:42:35
6 in time A, they could be sending things 13:42:38
7 simultaneously; right? 13:42:40
8 A. That's correct. 13:42:41
9 Q. And you're saying if it happens just 13:42:41
10 coincidentally, that this one sends data to 13:42:43
11 the opposite computer at one point in time and 13:42:46
12 this one sends it at a different point in 13:42:49
13 time, that is a form of alternating access? 13:42:51
14 A. Yeah, but when you are using the term 13:42:53
15 "coincidentally," meaning within a given 13:42:56
16 second. So some may be simultaneous, some may 13:42:59
17 be alternating. And we are going to see those 13:43:02
18 simultaneous access happening thousands of 13:43:05
19 times when you have a transaction and 13:43:07
20 alternating access is happening thousands of 13:43:10
21 times. 13:43:12
22 Q. But your point is it's a system for 13:43:12
23 allowing access if it allows, by complete 13:43:15
24 coincidence, things to happen at the same 13:43:18

1 time? 13:43:20
2 A. No, we are talking about the behavior 13:43:20
3 of the host. The device is in control of the 13:43:22
4 host, and the host has the ability to send 13:43:23
5 transactions whenever they want. The 13:43:24
6 multi-device controller has to have the 13:43:29
7 ability to support whether they send them 13:43:30
8 simultaneously or alternately. The 13:43:32
9 functionality in the multi-host device does 13:43:39
10 not happen coincidentally, it happens by 13:43:42
11 design. 13:43:43
12 Q. And if, by coincidence, both hosts 13:43:44
13 send data at different times, that's 13:43:48
14 alternating access? 13:43:50
15 A. Right, the multi-host device is 13:43:51
16 designed to support both alternate and 13:43:54
17 simultaneous. It is not by coincidence. 13:43:56
18 MS. DURIE: Let's put up slide 36 13:44:01
19 and go back to Figure 3. 13:44:03
20 BY MS. DURIE: 13:44:03
21 Q. So Figure 3 shows one multi-device 13:44:04
22 controller connected to two hosts; correct? 13:44:09
23 A. Right. 13:44:11
24 Q. It is also connected to a share 13:44:11

1 device connection block 312; right? 13:44:13
2 A. Yes. 13:44:16
3 Q. Claim 23, if we can go to slide 38, 13:44:17
4 requires a shared USB? 13:44:20
5 A. I'm sorry, could you back up? How 13:44:22
6 did you describe block 312? 13:44:25
7 Q. Go back. I said it is a shared 13:44:28
8 device or function. 13:44:30
9 A. Pertaining to which claim? 13:44:32
10 Q. Well, it was a general statement, but 13:44:35
11 let's take a look specifically at claim 23. 13:44:37
12 We can go to slide 38. 13:44:40
13 A. Each claim describes that box 13:44:42
14 slightly differently. 13:44:43
15 Q. Claim 23 says that box, if you will, 13:44:44
16 is a shared USB device block; right? 13:44:47
17 A. That's correct. 13:44:50
18 Q. And a USB device block is something 13:44:51
19 that performs a function for a host; right? 13:44:54
20 A. Yes. 13:44:58
21 Q. Okay. 13:44:59
22 And claim 23 requires the shared 13:44:59
23 USB device block to be operable to be 13:45:02
24 simultaneously configured by two or more USB 13:45:05

1 hosts; right? 13:45:08
2 A. I'm sorry, which claim element are 13:45:11
3 you -- 13:45:14
4 Q. 23, a shared USB device block is 13:45:15
5 operable to be simultaneously configured by 13:45:18
6 two or more hosts. 13:45:21
7 MS. DURIE: You can go to slide 13:45:23
8 39, I believe. 13:45:25
9 BY MS. DURIE: 13:45:27
10 Q. Right? 13:45:27
11 A. Correct. 13:45:27
12 Q. So the two hosts share the same USB 13:45:28
13 device block; right? 13:45:32
14 A. Correct. 13:45:34
15 Q. And in the contents of claim 23, each 13:45:35
16 host must be able to access and share the same 13:45:40
17 segments of the USB device block; right? 13:45:42
18 A. Yes, I believe that's correct. 13:45:48
19 Q. And each host must be able to perform 13:45:50
20 the same function in the USB device block; 13:45:52
21 right? 13:45:55
22 A. In accessing a function, and we have 13:46:04
23 specific claim definition construction for 13:46:08
24 that. I have a copy of that. If you want to 13:46:11

1 put that up, I can give you a little more 13:46:18
2 precision on that. 13:46:21
3 Q. Well, let me ask you this: 13:46:22
4 Do you agree that each host must 13:46:23
5 be able to access and share the same segment 13:46:25
6 of the USB device, which, again, would be the 13:46:28
7 USB device block, and perform the same 13:46:31
8 function in that? 13:46:34
9 A. I am trying to figure out where you 13:46:39
10 are quoting from because I don't think that 13:46:40
11 matches the claim construction. 13:46:42
12 Q. I am quoting from your deposition. I 13:46:43
13 am happy to read it. Page 74, line 21 13:46:46
14 through 75, 13. 13:46:52
15 A. And we were talking about claim 23? 13:46:54
16 Q. Let me read it. 13:46:56
17 "QUESTION: And what is it that 13:46:57
18 you understand has to be shared to count? 13:46:59
19 "ANSWER: So I am looking at claim 13:47:03
20 18 of the '243 and also claim 23 of the '243. 13:47:05
21 So could you ask that question again? 13:47:11
22 "QUESTION: Does the device or 13:47:14
23 function that both hosts use have to be the 13:47:15
24 same shared function? 13:47:19

1 "ANSWER: I'm sorry, one more 13:47:20
2 time. 13:47:22
3 "QUESTION: As you understand the 13:47:23
4 scope of the asserted patent, does the USB 13:47:25
5 device block corresponding to at least one 13:47:27
6 function have to be the same shared function 13:47:30
7 for each host? 13:47:32
8 "ANSWER: Each host must be able 13:47:34
9 to access and share the same segment of the 13:47:37
10 USB device, which, again, would be the USB 13:47:40
11 device block and perform the same function in 13:47:42
12 that which may or may not be the same as the 13:47:46
13 formal definition of the term USB function." 13:47:48
14 Are you with me? 13:47:54
15 A. Yes. I think so. I recall that 13:47:55
16 statement. 13:47:59
17 Q. Now, you should have in front of you 13:48:00
18 the institution decision that I handed you a 13:48:03
19 few moments ago, and I would ask you to turn 13:48:08
20 to page 3270. 13:48:13
21 Now, you see -- are you looking at 13:48:34
22 3270? It's page 18. 13:48:36
23 A. I am now. 13:48:38
24 Q. Okay. 13:48:39

1 And you see there is a discussion 13:48:40
2 here of the meaning of the term "shared USB 13:48:42
3 device block"? 13:48:47
4 A. Shared USB device block or shared USB 13:48:54
5 device? 13:48:57
6 Q. Shared USB device block. 13:48:58
7 Take a look, starting in the third 13:49:04
8 line on page 18. 13:49:07
9 MR. FENTON: Objection, Your 13:49:10
10 Honor. It calls for a legal conclusion. 13:49:11
11 THE COURT: Let her form her 13:49:13
12 question and then you can object. 13:49:17
13 BY MS. DURIE: 13:49:18
14 Q. You see about four lines down in the 13:49:19
15 paragraph, it says, "Thus we construe shared 13:49:21
16 USB device block means a function as discussed 13:49:24
17 above that is shared or accessible by two or 13:49:29
18 more USB hosts"? 13:49:32
19 MR. FENTON: Objection. Calls for 13:49:38
20 a legal conclusion. 13:49:39
21 THE COURT: Overruled for now. 13:49:39
22 She is only asking whether or not he sees the 13:49:41
23 language. Okay, he sees the language there. 13:49:44
24 BY MS. DURIE: 13:49:46

1 Q. Do you see that language? 13:49:47
2 A. I do. 13:49:48
3 Q. Now, this portion refers to a 13:49:48
4 function. If you turn two pages earlier on 13:49:52
5 page 16 -- 13:49:56
6 A. Again, I am trying to reconcile the 13:50:00
7 paragraph that we just looked at. It appears 13:50:01
8 that this is using a different definition of 13:50:04
9 the term than the Court provided in this 13:50:07
10 litigation. 13:50:08
11 Q. So you disagree -- you think there is 13:50:10
12 a conflict between -- 13:50:13
13 MR. FENTON: Objection, Your 13:50:15
14 Honor. Sorry. Sidebar. 13:50:16
15 (Whereupon, a discussion was held 13:54:07
16 at sidebar as follows: 13:54:07
17 MR. FENTON: Your Honor, she is 13:54:07
18 trying to bring a claim construction that this 13:54:07
19 Court denied so we are now going to have a 13:54:07
20 conflicting legal understanding of what the 13:54:07
21 claims are. 13:54:07
22 MS. DURIE: Absolutely not. The 13:54:07
23 Court construed USB device block as a shared 13:54:07
24 function. This is completely consistent with 13:54:07

1 that. I just asked him if he agreed with 13:54:07
2 that. 13:54:07
3 MR. FENTON: But the PTAB showed a 13:54:07
4 different claim construction. I don't have 13:54:07
5 this right with me, but she is asking about 13:54:07
6 claim construction. The witness just said 13:54:07
7 that is a different claim construction he's 13:54:07
8 been using. Will you put up the claim 13:54:07
9 construction? 13:54:07
10 MS. DURIE: Absolutely. I am 13:54:07
11 going to. 13:54:07
12 MR. FENTON: This is a legal area. 13:54:07
13 This is very -- 13:54:07
14 THE COURT: I am concerned today 13:54:07
15 that I am seeing -- I mean, he says there is a 13:54:07
16 different claim construction. I know you had 13:54:07
17 this dispute about some of the language with 13:54:07
18 respect to claim 18, which is not here. 13:54:07
19 MS. DURIE: Which is not here. 13:54:07
20 THE COURT: I don't want to open 13:54:07
21 the door to that inadvertently. 13:54:07
22 MS. DURIE: I am not -- 13:54:07
23 THE COURT: Hold on. Let me just 13:54:07
24 finish to keep a clean record. 13:54:07

1 I am just concerned -- I don't 13:54:07
2 think that's what you're trying to do, but I'm 13:54:07
3 concerned we are going to get there very 13:54:07
4 quickly and then we are going to have to spend 13:54:07
5 a lot of time explaining to the jury, which I 13:54:07
6 would like to avoid. 13:54:07
7 So if what we are talking about is 13:54:07
8 the construction of claim 23, then leave it 13:54:07
9 there. But it's got to be either they are the 13:54:07
10 same constructions or it is the Court's 13:54:07
11 construction. To the extent there are 13:54:07
12 diversions, we are not using the PTAB. 13:54:07
13 MS. DURIE: I will be clear there 13:54:07
14 are diversions, I agree. I already asked him 13:54:07
15 to confirm the Court's construction. I am 13:54:07
16 happy to put it up. 13:54:07
17 MR. FENTON: But I am also 13:54:07
18 concerned about putting up language from a 13:54:07
19 claim construction ruling that might be 13:54:07
20 inconsistent or have an explanation. It's not 13:54:07
21 for the jury to understand the claim 13:54:07
22 constructions. 13:54:07
23 THE COURT: So I agree with that, 13:54:07
24 and I don't want to go down that path. I 13:54:07

1 need -- I don't have the claim construction 13:54:07
2 right in front of me. 13:54:07
3 Can you tell me exactly where you 13:54:07
4 are going with all of this to know -- it's not 13:54:07
5 clear to me -- to know why we need to put in 13:54:07
6 front of him claim constructions from the 13:54:08
7 PTAB? 13:54:08
8 MS. DURIE: So the term that the 13:54:08
9 Court construed is USB device. The claim 13:54:08
10 requires that that USB device be shared claim 13:54:08
11 language. 13:54:08
12 THE COURT: Right. 13:54:08
13 MS. DURIE: I want to get at his 13:54:08
14 understanding, in the context of claim 23, 13:54:08
15 about what that requires. 13:54:08
16 THE COURT: But there is a 13:54:08
17 difference between his understanding -- he has 13:54:08
18 already testified that he hasn't reviewed this 13:54:08
19 decision, so this decision cannot inform his 13:54:08
20 understanding. So there is a difference 13:54:08
21 between impeaching with this and using this to 13:54:08
22 either inform or test his understanding. 13:54:08
23 He hasn't reviewed this. So 13:54:08
24 what's the foundation to give him claim 13:54:08

1 construction from PTAB to establish his 13:54:08
2 understanding? 13:54:08
3 MS. DURIE: To see whether he 13:54:08
4 believes it is or isn't. 13:54:08
5 THE COURT: But that's not his -- 13:54:08
6 I think that's beyond the scope of what he has 13:54:08
7 done here today. He has testified that he did 13:54:08
8 not review the PTAB ruling. Whether or not -- 13:54:08
9 if there is some argument to be made in 13:54:08
10 closing -- 13:54:08
11 MS. DURIE: Okay. 13:54:08
12 THE COURT: -- that's fine, but it 13:54:08
13 is not for him to do it. 13:54:08
14 MS. DURIE: Okay. 13:54:08
15 THE COURT: There's no foundation 13:54:08
16 for him to do it. 13:54:08
17 (Whereupon, the discussion at 13:54:15
18 sidebar concluded.) 13:54:15
19 BY MS. DURIE: 13:54:16
20 Q. Just to be clear, Mr. Zatkovich, when 13:54:17
21 you came up with your understanding of what a 13:54:18
22 shared USB device block was in the context of 13:54:24
23 claim 23, you had not read the decision of the 13:54:27
24 patent office on that subject; right? 13:54:31

1 A. Correct. They used the definition in 13:54:33
2 terms that were defined by this Court, not by 13:54:36
3 the IPR. 13:54:40
4 Q. And you haven't looked at the 13:54:41
5 decision of the patent office to reach any 13:54:42
6 judgment about whether they are the same or 13:54:45
7 different? 13:54:46
8 A. Again, they may have different 13:54:46
9 definitions, but I can't form opinions on 13:54:48
10 those different definitions; I have to inform 13:54:50
11 opinions on the definitions of this Court. 13:54:53
12 Q. Okay. 13:54:54
13 Have you reviewed the declaration 13:54:55
14 that Microchip's expert submitted in 13:55:02
15 connection with this proceeding? 13:55:05
16 A. Are you talking about Dr. Garney's 13:55:08
17 report? 13:55:10
18 Q. Mr. Knapen. 13:55:11
19 A. Mr. Knapen, no, I did not. 13:55:12
20 Q. So I take it, therefore, you don't 13:55:14
21 have any view about whether what Mr. Knapen 13:55:16
22 said in connection with the proceedings in the 13:55:19
23 patent office is consistent with what you are 13:55:21
24 saying here today? 13:55:24

1 A. I couldn't say either way. It may 13:55:24
2 be, it may not be. 13:55:27
3 Q. Now, claim 23 requires a shared USB 13:55:28
4 device block operable to be simultaneously 13:55:34
5 configured by two or more USB hosts; right? 13:55:38
6 A. Correct. 13:55:41
7 MS. DURIE: And if we can go to 13:55:45
8 NCD2-71. 13:55:47
9 BY MS. DURIE: 13:55:52
10 Q. You identified in your direct 13:55:53
11 testimony what you called the three main 13:55:54
12 features of CarPlay and what those features 13:55:56
13 require. 13:55:59
14 Do you see that? 13:55:59
15 A. I do. 13:56:01
16 Q. Okay. 13:56:02
17 And you did not specifically 13:56:03
18 identify simultaneous configuration as one of 13:56:06
19 the things that was required for this 13:56:11
20 functionality; correct? 13:56:13
21 A. I'm sorry, could you ask that 13:56:18
22 question again? 13:56:20
23 Q. Sure. 13:56:21
24 You did not identify simultaneous 13:56:21

1 configuration as one of the things that was 13:56:24
2 specifically required in order to be able to 13:56:28
3 achieve this functionality? 13:56:30
4 A. In other words, is simultaneous 13:56:32
5 configuration of the claim 23 an aspect of one 13:56:35
6 or more of these features? 13:56:44
7 Q. Well, I will withdraw the question. 13:56:45
8 Let me ask it this way. 13:56:47
9 Simultaneous means at the same 13:56:48
10 time; right? 13:56:50
11 A. Correct. 13:56:51
12 Q. Okay. 13:56:52
13 A. Both hosts have to be connected and 13:56:53
14 operational at the same time. 13:56:56
15 Q. We are going to talk about that. 13:56:58
16 MS. DURIE: Let's go to slide 54. 13:57:00
17 BY MS. DURIE: 13:57:04
18 Q. Figure 3 of the patent is a system 13:57:05
19 that allows for simultaneous configuration; 13:57:07
20 right? 13:57:10
21 A. Yes. 13:57:12
22 Q. The invention allows a single USB 13:57:13
23 device to be connected to two different hosts 13:57:17
24 and be accessed with two separate addresses at 13:57:19

1 the same time; right? 13:57:23
2 A. Correct. 13:57:24
3 Q. And the separate endpoint and status 13:57:25
4 buffers, a lock with the device controller, 13:57:29
5 would allow two hosts to configure the 13:57:32
6 multi-host USB device at the same time; right? 13:57:36
7 A. It allows them to be configured at 13:57:40
8 the same time. 13:57:42
9 Q. Well, it also allows them to actually 13:57:43
10 configure the controller at the same time; 13:57:45
11 right? 13:57:48
12 A. I guess they could, but that's not 13:57:48
13 what the claim is saying. 13:57:50
14 Q. Well, let's go to claim 23 again. 13:57:52
15 MS. DURIE: If you can put up 13:57:55
16 slide 53. 13:57:59
17 BY MS. DURIE: 13:58:04
18 Q. We have a shared USB device block 13:58:04
19 operable to be simultaneously configured by 13:58:06
20 two or more USB hosts; right? 13:58:10
21 A. Correct. 13:58:13
22 Q. Okay. 13:58:13
23 Now, let's go back to Figure 3, 13:58:14
24 slide 54. In the context of Figure 3, there 13:58:23

1 is no need to hold off one host's attempt to 13:58:31
2 configure the device while the other host is 13:58:35
3 configuring the device; right? 13:58:38
4 A. Correct. It would be possible -- I 13:58:44
5 mean, since the multi-controller handles 13:58:46
6 simultaneous accesses and responses, in 13:58:49
7 theory, if you happen to plug in both hosts at 13:58:52
8 the exact same time, they could theoretically 13:58:55
9 configure the device at the same time. 13:59:00
10 Q. Right. 13:59:01
11 A. But that's not the meaning of that 13:59:02
12 claim number. 13:59:04
13 Q. I understand that's your opinion, but 13:59:05
14 with respect to Figure 3, that is a system 13:59:07
15 that allowed for simultaneous configuration in 13:59:10
16 the sense that both hosts can use their 13:59:14
17 independent channels to configure the 13:59:17
18 controller at the same time. That could 13:59:20
19 happen in that system? 13:59:23
20 A. Again, I didn't analyze that because 13:59:25
21 that's not what the claim element means. 13:59:27
22 Q. Well, again, just this system, 13:59:29
23 looking at it, right, both hosts could 13:59:33
24 configure that controller and send signals 13:59:36

1 down to configure that controller at the same 13:59:40
2 time simultaneously? 13:59:42
3 A. According to which claim, though? 13:59:46
4 Q. Figure 3. 13:59:47
5 A. Figure 3 by itself doesn't say 13:59:49
6 anything about simultaneous in it. 13:59:51
7 Q. The system that is depicted in 13:59:54
8 Figure 3. 13:59:57
9 A. Right. 13:59:57
10 Q. That is a system that allows both 13:59:57
11 hosts to simultaneously send signals to 14:00:00
12 configure the multi-host device controller? 14:00:05
13 A. The description of claim 3 is 14:00:08
14 dependent on -- the description of Figure 3 is 14:00:10
15 dependent on what functions the claims ascribe 14:00:12
16 to that Figure 3. 14:00:18
17 Q. Okay. 14:00:19
18 Can you answer whether the system 14:00:19
19 that is depicted in Figure 3 would permit both 14:00:23
20 hosts simultaneously to send signals to 14:00:27
21 configure at the same time? 14:00:34
22 A. Again, there is no claim that 14:00:37
23 requires that. 14:00:39
24 Q. I am not asking about claims; I am 14:00:41

1 asking about that system. 14:00:44
2 Can you tell, from looking at 14:00:45
3 Figure 3, whether that system would permit 14:00:48
4 both hosts to send a signal at the same time 14:00:52
5 to engage in integration? 14:00:58
6 A. I could do a hypothetical, but it 14:01:02
7 wouldn't have any meaning what opinion I 14:01:04
8 provided on the hypothetical. The only thing 14:01:06
9 that the -- is defined by the invention is 14:01:08
10 what's in the claims, and there's no -- in the 14:01:12
11 specification of the claim that says they have 14:01:16
12 to be plugged in simultaneously and configured 14:01:18
13 simultaneously. 14:01:20
14 The claim in 23, for example, says 14:01:20
15 once they are configured, they have to 14:01:24
16 simultaneously remain configured throughout 14:01:26
17 the duration, simultaneously. 14:01:29
18 Q. Let's go back to claim 23, slide 38. 14:01:32
19 "A shared USB device block operable." 14:01:38
20 Now, operable means capable of 14:01:42
21 being in this context; right? 14:01:45
22 A. Right. 14:01:46
23 Q. Operable to be simultaneously 14:01:47
24 configured? 14:01:49

1 A. Correct. 14:01:51
2 Q. So can you tell me whether the system 14:01:51
3 that is shown there in Figure 3 is one in 14:01:54
4 which the shared USB device block at the 14:01:57
5 bottom could be, not necessarily would be, but 14:02:00
6 it could be simultaneously configured in the 14:02:05
7 sense of having signals sent down to configure 14:02:08
8 it at the same time? 14:02:11
9 A. Yes. Reading from the claim 14:02:13
10 language, the simultaneous configure, past 14:02:16
11 tense, meaning once the devices are 14:02:18
12 configured, they are operable to 14:02:21
13 simultaneously maintain that. In other words, 14:02:23
14 once they are connected, they stay connected 14:02:26
15 for the duration. In other words, one doesn't 14:02:28
16 go away and come back; they stay connected for 14:02:31
17 all operations. 14:02:34
18 Q. Okay. 14:02:35
19 Now, you are saying that because 14:02:36
20 in the Aptiv system, it is not possible for 14:02:39
21 both hosts to become configured at the same 14:02:47
22 time; right -- strike that, strike that. Let 14:02:51
23 me ask that again. That was terrible. 14:02:55
24 In the Aptiv system, it is not 14:02:56

1 possible for both hosts to engage in the act 14:02:59
2 of configuring their respective devices at the 14:03:04
3 same time? 14:03:07
4 A. No, I am saying that because your 14:03:09
5 interpretation of that claim element would not 14:03:12
6 be what one in the industry would consider, 14:03:14
7 because again, your interpretation says that I 14:03:17
8 have two separate hosts that want to access 14:03:21
9 the same device. In order to do that, somehow 14:03:23
10 a person would have to plug in simultaneously 14:03:26
11 to the microsecond at the same time and have 14:03:30
12 both hosts configure that device in 14:03:32
13 enumeration. That would actually basically 14:03:37
14 eliminate the necessity of any of the other 14:03:39
15 claims because that would never occur. 14:03:42
16 Q. So I just -- I don't want to argue 14:03:43
17 with you, Mr. Zatkovich, but I do want to be 14:03:46
18 clear. 14:03:48
19 The system that we are looking at 14:03:48
20 here in Figure 3 is operable, right? It is a 14:03:51
21 USB device block that is operable to be 14:03:55
22 configured simultaneously at the same time by 14:04:00
23 those hosts sending signals at the same time 14:04:06
24 because there are two different channels on 14:04:08

1 which that can happen at the same time. It is 14:04:11
2 operable for that function. 14:04:14
3 You don't disagree with that, do 14:04:17
4 you? 14:04:20
5 A. I am disagreeing with your 14:04:20
6 characterization of that claim element. 14:04:21
7 Q. I am asking you about -- 14:04:24
8 A. I understand the description; I am 14:04:25
9 disagreeing with your characterization of the 14:04:28
10 claim element. 14:04:31
11 Q. You are not disagreeing with my 14:04:32
12 description of claim 23. It is operable, 14:04:34
13 Figure 3 is operable for that purpose? 14:04:37
14 A. It's operable that once they are 14:04:41
15 configured, past tense, to maintain those 14:04:43
16 simultaneously throughout the operation. 14:04:46
17 Q. Sir, please listen to my question. 14:04:48
18 Do you agree that the system that 14:04:50
19 is shown here in Figure 3 is operable to allow 14:04:54
20 the shared device to become configured at the 14:05:01
21 same time by both hosts? 14:05:07
22 A. No, I do not agree with that. 14:05:11
23 Q. So you think in Figure 3, even though 14:05:13
24 there are two separate concurrent respective 14:05:16

1 dedicated USB connections between the shared 14:05:21
2 USB device block and the two or more USB 14:05:25
3 hosts, it would be impossible for both hosts 14:05:30
4 to be able to send configuration information 14:05:35
5 at the same time? 14:05:39
6 A. I cannot think of a single scenario 14:05:40
7 where two hosts would get together knowing 14:05:42
8 that they are connecting to an independent 14:05:45
9 device and say, by the way, we want to connect 14:05:49
10 to this same device, let's get together and do 14:05:51
11 it at the same time. 14:05:53
12 Q. So is it your opinion that the system 14:05:55
13 shown in Figure 3 -- strike that. 14:05:57
14 Is it your opinion that with 14:06:00
15 respect to the system shown in Figure 3, it 14:06:01
16 would be impossible for both hosts to be able 14:06:05
17 to send configuration information at the same 14:06:09
18 time? 14:06:11
19 A. I suppose I could construct a 14:06:12
20 difficult arbitrary scenario where we 14:06:16
21 synchronized the host in some scenario. I 14:06:19
22 suppose I could contrive of something. But 14:06:23
23 again -- 14:06:26
24 Q. Okay. 14:06:26

1 A. -- that's not the intent of the 14:06:26
2 claim. 14:06:28
3 Q. Right. 14:06:28
4 So you would agree that the system 14:06:28
5 in Figure 3, even if you think it's unlikely 14:06:30
6 to happen, is operable to be able to have the 14:06:33
7 shared device function, receive information 14:06:38
8 from both hosts at the same time? 14:06:43
9 A. That's not what it says there. 14:06:46
10 Q. I'm not asking you what it says in 14:06:50
11 claim 23. I understand you and I disagree 14:06:52
12 with that. I am asking you about Figure 3. 14:06:55
13 Okay? Let's keep that in mind. 14:06:57
14 You agree that the system shown in 14:06:59
15 Figure 3 allows for the shared device function 14:07:01
16 to receive configuration information from both 14:07:05
17 hosts at the same time? 14:07:09
18 A. I don't think that's what the patent 14:07:16
19 describes. 14:07:18
20 Q. Do you think that that is possible by 14:07:19
21 the system shown in Figure 3? 14:07:23
22 A. Is it possible for a device described 14:07:25
23 by the patent to do something that the patent 14:07:27
24 doesn't describe? Again, this would be purely 14:07:31

1 hypothetical. 14:07:35
2 Q. Okay. 14:07:39
3 Let's take a look at slide 55. 14:07:39
4 This is the Aptiv device; right? 14:07:47
5 A. That's correct. 14:07:52
6 Q. Okay. 14:07:52
7 And just to be clear, this is a 14:07:53
8 figure from your report with annotations on it 14:07:55
9 explaining the flow of what happens with 14:07:58
10 respect to enumeration and configuration; 14:08:03
11 right? 14:08:05
12 A. That's correct. 14:08:05
13 Q. And to be clear, what happens is that 14:08:08
14 the head unit engages in the act of 14:08:10
15 configuring its device first; right? 14:08:13
16 A. Yes. When you start up the car, the 14:08:17
17 head unit would power up first and then 14:08:19
18 configure its side of the device. 14:08:22
19 Q. That's No. 3 up there; right, in your 14:08:24
20 notes? 14:08:32
21 A. Let me review it. 14:08:34
22 Q. Right? Head unit host enumerates and 14:08:40
23 configuration; right, 1, 2, 3? 14:08:43
24 A. Correct. 14:08:46

1 Q. Okay. 14:08:47
2 And at the bottom right, iPhone 14:08:48
3 host enumerates and configuration, 4; right? 14:08:50
4 4 happens any time after 3; right? 14:08:54
5 A. Correct. 14:08:57
6 Q. Correct? 14:08:59
7 A. That's correct. 14:09:00
8 Q. Okay. 14:09:00
9 In the Aptiv system, it is not 14:09:01
10 possible for both hosts to send configuration 14:09:04
11 information to their respective devices at the 14:09:09
12 same time; right? 14:09:12
13 A. It may be possible. Again, I didn't 14:09:21
14 analyze that. The way we have it structured 14:09:23
15 here, the way it's defined for a particular 14:09:27
16 car presentation, I would say no. 14:09:30
17 Q. Okay. 14:09:33
18 And that's because the iPhone 14:09:34
19 initially connects to the device; right? 14:09:37
20 A. The end unit initially connects to 14:09:40
21 the device. 14:09:43
22 Q. The iPhone initially connects to the 14:09:43
23 device; no? 14:09:45
24 A. No. When the car powers up, the head 14:09:49

1 phone -- the head unit connects to the device 14:09:52
2 first. 14:09:54
3 Q. Why don't you pull out your reply 14:09:55
4 report. I marked it for identification. Do 14:09:57
5 you have it in front of you? Do you have your 14:10:01
6 reply report in front of you? 14:10:09
7 A. Yes, I do. 14:10:11
8 Q. Great. Can you get that? Please 14:10:12
9 turn to paragraph 68. 14:10:24
10 A. Paragraph 58? 14:10:26
11 Q. 68. 14:10:27
12 A. 68. 14:10:28
13 Q. 6-8. Are you with me? 14:10:29
14 A. Got it. 14:10:31
15 Q. Reading from your report, starting at 14:10:32
16 the second line of paragraph 68, "The dual 14:10:35
17 role hub contains an EP Bridge and other logic 14:10:38
18 that provides the functions necessary to 14:10:41
19 implement CarPlay which is much more complex 14:10:43
20 than a simple host-to-host bridge. For 14:10:46
21 example, the CarPlay specification requires 14:10:49
22 the dual role hub to allow the iPhone to 14:10:52
23 connect as a device, and then role reverse so 14:10:55
24 the iPhone is connected as a host." 14:10:59

1 Do you see you wrote that in your 14:11:01
2 report? 14:11:03
3 A. I do. 14:11:03
4 Q. Okay. 14:11:04
5 So first the car head unit 14:11:04
6 connects as a host and configures its device; 14:11:09
7 right? 14:11:11
8 A. Correct. 14:11:12
9 Q. And then the iPhone connects 14:11:12
10 initially as a device; right? 14:11:14
11 A. Correct. 14:11:16
12 Q. Then it role reverses; right? 14:11:17
13 A. Right. 14:11:21
14 Q. Then it connects as a host; right? 14:11:21
15 And then it configures the device; right? 14:11:23
16 A. Correct. 14:11:25
17 Q. And in order to do all of that, you 14:11:26
18 need software on the head unit to set up the 14:11:29
19 bridge; right? 14:11:31
20 A. That's correct. 14:11:32
21 Q. And the configuration data for the 14:11:32
22 bridge is stored in the head unit; right? 14:11:34
23 A. That's correct. 14:11:36
24 Q. And the iPhone can't use the bridge 14:11:37

1 until the bridge is all set up; right? 14:11:40
2 A. Yes, that's accurate. 14:11:43
3 Q. And the iPhone needs the bridge to be 14:11:44
4 set up to do role reversal in being a host and 14:11:47
5 to be able to configure its device; right? 14:11:50
6 A. Yes, that's accurate. 14:11:54
7 MS. DURIE: I have no further 14:11:56
8 questions. 14:11:57
9 - - - 14:12:11
10 REDIRECT EXAMINATION 14:12:11
11 - - - 14:12:13
12 BY MR. FENTON: 14:12:13
13 Q. Mr. Zatkovich, do you remember when 14:12:15
14 Ms. Durie asked some questions about your 14:12:18
15 claim chart for claim 23? 14:12:21
16 A. I do. 14:12:22
17 Q. And you answered that a NAK and a 14:12:23
18 ping response were standard USB. 14:12:25
19 Do you remember that? 14:12:27
20 A. Correct. If you are a single device 14:12:27
21 with a single controller, yes. 14:12:30
22 Q. So would a standard USB device be 14:12:31
23 able to respond to a NAK or a ping to two 14:12:34
24 different hosts? 14:12:37

1 A. No. 14:12:38
2 MR. FENTON: No further questions. 14:12:39
3 THE COURT: Okay. Mr. Zatkovich, 14:12:40
4 you can step down. 14:12:42
5 THE WITNESS: Thank you, Your 14:12:43
6 Honor. 14:12:44
7 THE COURT: Take your things you 14:12:44
8 have with you and hand them off to counsel, if 14:12:51
9 you would. 14:12:53
10 THE WITNESS: Thank you. 14:12:54
11 (Whereupon, the witness was 14:12:54
12 excused.) 14:12:58
13 MR. GRAY: Yes, Your Honor. At 14:13:33
14 this point, Microchip calls Dr. Stephen 14:14:05
15 Becker. 14:14:08
16 THE COURT: Okay. 14:14:09
17 THE COURT CLERK: Please state and 14:14:20
18 spell your name for the record. 14:14:29
19 THE WITNESS: It's Stephen Lewis 14:14:31
20 Becker. That's S-T-E-P-H-E-N and Lewis is 14:14:32
21 L-E-W-I-S.
22 - - -
23 ...DR. STEPHEN L. BECKER, after
24 having been duly sworn and/or affirmed, was

1 examined and testified as follows...

2 - - - 14:14:49

3 DIRECT EXAMINATION 14:14:49

4 - - - 14:14:51

5 BY MR. GRAY: 14:14:51

6 Q. Please introduce yourself to the 14:14:51

7 jury. 14:14:53

8 A. My name is Stephen Becker. I live in 14:14:53

9 Austin, Texas. 14:14:55

10 Q. What is your role in this proceeding? 14:14:58

11 A. So I am here as Microchip's damages 14:15:00

12 expert. 14:15:03

13 Q. And have you prepared some slides to 14:15:04

14 assist with your testimony here today? 14:15:06

15 A. I have. 14:15:08

16 Q. Can you please tell us about your 14:15:09

17 educational background. 14:15:11

18 A. Sure. I have a bachelor's degree in 14:15:13

19 computer science and electrical engineering 14:15:16

20 from University of Pennsylvania, just up the 14:15:19

21 road in Philadelphia. I spent the first four 14:15:21

22 years of my college life in this neck of the 14:15:24

23 woods. 14:15:27

24 I then, after working in industry 14:15:27

1 for a while, went to the University of Texas 14:15:29
2 at Austin and got a master's in business 14:15:32
3 administration, with a concentration in 14:15:35
4 finance. 14:15:38
5 Then went out and worked for about 14:15:39
6 six years in the industry again, and then came 14:15:42
7 back to the University of Texas and got a 14:15:45
8 Ph.D. in public policy, with a concentration 14:15:47
9 in the field called econometrics. 14:15:50
10 Q. Sorry, in the field called what? 14:15:53
11 A. Econometrics. 14:15:55
12 Q. Could you explain a little bit about 14:15:57
13 what that means? 14:15:59
14 A. So econometrics is, instead of sort 14:16:00
15 of going out and trying to invent new fields 14:16:05
16 or new theories in economics, kind of the 14:16:08
17 econometrician takes the existing toolkit of 14:16:12
18 economics and statistics and financial 14:16:14
19 analysis and sort of combines those to answer 14:16:17
20 real world problems. 14:16:22
21 Q. And where do you currently work? 14:16:22
22 A. I work at a firm in Austin called 14:16:24
23 Applied Economics. This is a firm that I 14:16:26
24 founded about 23 years ago. 14:16:30

1 Q. Have you worked as an expert on 14:16:34
2 patent cases involving the automotive 14:16:36
3 industry, in fact? 14:16:39
4 A. I have. I have been working as an 14:16:42
5 economic expert on sort of economic valuation 14:16:44
6 issues for 25 years, since before I formed 14:16:46
7 Applied Economics, and over the course of that 14:16:52
8 time, I have been a -- retained as a damages 14:16:54
9 expert on about a dozen automotive industry 14:16:59
10 patent cases. And I've -- I think I have been 14:17:03
11 deposed seven or eight times, or in seven or 14:17:07
12 eight different cases involving that, and I've 14:17:10
13 testified at trial three times in patent cases 14:17:13
14 involving automotive technology. 14:17:18
15 Q. About how many times have you 14:17:20
16 testified all together on patent damages in a 14:17:21
17 patent case? 14:17:25
18 A. About 30 times. 14:17:26
19 Q. Is it common for experts like 14:17:27
20 yourself to have testified in this role 14:17:30
21 previously? 14:17:32
22 A. Yes. Yes. Most of the colleagues 14:17:32
23 that I know in the industry, who have been at 14:17:36
24 it as long as I have, have testified quite a 14:17:38

1 few times. 14:17:41
2 Q. Do you often see the same experts 14:17:41
3 across from you in cases? 14:17:44
4 A. Yes. It's not uncommon. Some people 14:17:45
5 that I encounter, I have known them for 14:17:48
6 25 years. 14:17:51
7 Q. Have you ever been opposite of Mr. 14:17:51
8 Michael Chase, Aptiv's damages expert in this 14:17:53
9 case? 14:17:56
10 A. You know, I don't recall whether I 14:17:57
11 have encountered him before or not. 14:17:58
12 Q. In your work as an expert in patent 14:18:02
13 cases, have you testified on behalf of both 14:18:04
14 patentholders and defendants? 14:18:06
15 A. Yes. I have what I think is a pretty 14:18:08
16 good balance there. Every time I sit down and 14:18:12
17 count up the cases over the years, it seems 14:18:15
18 like it comes out to about 50/50 for working 14:18:17
19 for patentholders or for accused infringers. 14:18:20
20 Q. Are you being compensated for your 14:18:25
21 work in this case? 14:18:27
22 A. I am. 14:18:28
23 Q. And does your compensation depend on 14:18:28
24 the outcome in any way? 14:18:30

1 A. No, it does not. 14:18:32
2 MR. GRAY: At this point, we 14:18:33
3 tender Dr. Becker as an expert on patent 14:18:34
4 infringement damages. 14:18:37
5 MR. WIENER: No objection, Your 14:18:40
6 Honor. 14:18:41
7 THE COURT: Proceed. 14:18:41
8 BY MR. GRAY: 14:18:43
9 Q. Let's turn to the work you did in 14:18:43
10 this case. Explain to the jury what your 14:18:45
11 assignment was. 14:18:47
12 A. The assignment can be defined pretty 14:18:48
13 simply, to quantify Microchip's damages that 14:18:51
14 result from Aptiv's infringement of the '243 14:18:53
15 Patent. 14:18:57
16 Q. And have you made any assumptions 14:18:57
17 about infringement in this case for the 14:18:58
18 purposes of your work? 14:19:00
19 A. I have. For my work, and any patent 14:19:01
20 damages expert has to make the assumption that 14:19:04
21 the patent is infringed. That sort of makes 14:19:07
22 my testimony relevant. I am not expressing an 14:19:11
23 opinion that it is infringed, but you'll hear 14:19:14
24 me talk about the infringement because I have 14:19:16

1 to assume that that has occurred. 14:19:18
2 Q. And what about for the issue of 14:19:21
3 validity; have you made any assumptions on 14:19:24
4 that issue? 14:19:25
5 A. Similar assumptions for my testimony; 14:19:26
6 I must assume that the patent is valid, it is 14:19:29
7 not a question for me to answer, and I simply 14:19:32
8 have assumed it for my work. 14:19:34
9 Q. Before we get into the details of 14:19:36
10 your work in this case, can you please give 14:19:37
11 the jury a summary of the opinions that we're 14:19:39
12 going to discuss today? 14:19:41
13 A. Sure. My opinions fall into two 14:19:42
14 different categories that we'll talk about 14:19:47
15 today. First I have an opinion that Microchip 14:19:50
16 has suffered what we call Lost Profits; that 14:19:53
17 there are sales that Microchip would have made 14:19:58
18 if Aptiv's infringement had not occurred. And 14:20:00
19 that category of damages is 35.2 million units 14:20:04
20 of chips that my analysis indicates Microchip 14:20:09
21 would have earned $70.9 million in profit on 14:20:14
22 those sales. So that's the first category of 14:20:18
23 damages, the 70.9 million of what we call lost 14:20:22
24 profits. 14:20:26

1 I have a second category called a 14:20:27
2 Reasonable Royalty that we'll get into this 14:20:31
3 later, but not all of the units that Aptiv 14:20:35
4 sold, in my opinion, should be compensated as 14:20:37
5 lost profits, and for the 9.7 million units 14:20:40
6 that fall into the reasonable royalty bucket, 14:20:46
7 the damages are $13.6 million. 14:20:50
8 If we -- and in total, those total 14:20:57
9 84.4 million. 14:21:01
10 Q. Okay. 14:21:02
11 And what types of information did 14:21:03
12 you consider in reaching your opinions in this 14:21:05
13 case? 14:21:07
14 A. So in this case, like most cases that 14:21:07
15 I work on, the parties produce lots of 14:21:10
16 documents and data. For my work, I rely a lot 14:21:13
17 on financial data that Aptiv produced, 14:21:18
18 financial data that Microchip produced; lots 14:21:21
19 of depositions get taken. My staff and I 14:21:24
20 reviewed those. 14:21:27
21 We also do research to sort of 14:21:28
22 publicly available information on the 14:21:32
23 technology at issue and the market that these 14:21:36
24 products go into. 14:21:38

1 And then there is some specific 14:21:40
2 things that I am relying on Mr. Zatkovich for 14:21:43
3 for his technical opinions, and also on my 14:21:47
4 interviews with Microchip executives like Mr. 14:21:50
5 Obolsky. 14:21:53
6 Q. Do damages experts typically rely on 14:21:56
7 these types of information? 14:21:58
8 A. Yes. This is a typical category, but 14:21:59
9 obviously not these specific individuals. 14:22:03
10 Q. Okay. 14:22:07
11 In your summary slide, you 14:22:08
12 indicated you had a lost profits opinion and a 14:22:10
13 reasonable royalty opinion. Let's talk about 14:22:12
14 the lost profits opinion first. 14:22:14
15 A. Okay. 14:22:15
16 Q. Can you please explain to the jury 14:22:15
17 what you mean by lost profits? 14:22:18
18 A. So what I've got on the screen here 14:22:20
19 is a quote from a case that sort of sets forth 14:22:22
20 the test for lost profits. It's called the 14:22:25
21 Panduit test. This is a case in 1978. 14:22:28
22 And what it says is that -- I'll 14:22:33
23 sort of paraphrase. If the plaintiff, 14:22:35
24 Microchip in this case, can demonstrate that 14:22:38

1 there are sales that reasonably would have 14:22:42
2 been made if Aptiv had not infringed, so take 14:22:44
3 their infringing product off the market, if 14:22:47
4 that product going away means that Microchip 14:22:52
5 would have made some additional sales, any 14:22:54
6 additional sales, then for those sales, they 14:22:55
7 may be entitled to lost profits on those 14:22:59
8 sales. 14:23:02
9 Q. When you say, "but for infringement," 14:23:07
10 or when this case uses that phrase, "but for 14:23:09
11 alleged infringement," what does that mean? 14:23:12
12 A. So we know that Aptiv actively 14:23:14
13 launched and sold the dual role hub product 14:23:19
14 that's accused in this case. That began in 14:23:23
15 2015 and sales are occurring right through 14:23:26
16 today. 14:23:30
17 I have to imagine a world where 14:23:30
18 that didn't happen. So 2015 comes along, 14:23:32
19 Unwired never launches that product, Aptiv 14:23:38
20 never launches that product, it's never sold 14:23:41
21 to anybody. 14:23:43
22 I need to look, from an economic 14:23:44
23 perspective, what would the world look like, 14:23:46
24 and in particular, what would Microchip's 14:23:49

1 sales have been of any of their products if 14:23:53
2 that Aptiv and Unwired product had never been 14:23:56
3 sold. 14:23:58
4 Q. When you say, "sales of their 14:23:59
5 products," do you mean sales of products 14:24:00
6 incorporating their chip? 14:24:03
7 A. Their -- well, when I'm talking about 14:24:05
8 Aptiv and Unwired, it's sales of hubs that had 14:24:08
9 the Boston chip in it, that do this dual role 14:24:12
10 multi-host control function. 14:24:17
11 Q. So in other words, the -- if the 14:24:18
12 Boston chip hadn't been sold, what chip would 14:24:21
13 have been used instead; is that a fair way to 14:24:24
14 summarize part of the analysis? 14:24:27
15 A. Well, it's on reconstructing the 14:24:29
16 market. So we have to take the Boston chip 14:24:31
17 out of the market. The OEMs still need hubs, 14:24:33
18 Aptiv can still sell a hub. The question is 14:24:39
19 what chip is going to go in that hub, and it 14:24:42
20 can't be the infringing Boston chip. 14:24:45
21 So that's what I'm trying to 14:24:48
22 figure out, is, in the absence of the Boston 14:24:49
23 chip being put into the Aptiv hubs and sold, 14:24:51
24 what would the world look like. 14:24:56

1 Q. So what did this Panduit case tell us 14:24:58
2 about how we determined or how you determined 14:25:01
3 whether Microchip has lost any lost profit 14:25:03
4 damages? 14:25:07
5 A. So the good news for me as a damages 14:25:07
6 expert is that I sort of have a checklist from 14:25:10
7 this case. I just don't have to, sort of, 14:25:12
8 every time reinvent the wheel about how to 14:25:14
9 figure this out. 14:25:16
10 We call these the Panduit factors. 14:25:17
11 They are four things that I step through and 14:25:20
12 they get us, sort of, successively closer to a 14:25:22
13 conclusion that there have been some lost 14:25:26
14 profits. 14:25:28
15 The first factor is whether there 14:25:29
16 is any demand for the patented product. 14:25:32
17 Obviously if nobody was buying the thing that 14:25:37
18 was being fought about in the patent case, 14:25:40
19 there wouldn't be any lost profits because 14:25:42
20 nobody is buying it anyway. So that one just 14:25:44
21 says is there any commerce in that particular 14:25:48
22 product or a product that uses the patented 14:25:51
23 thing. 14:25:54
24 The second is a little bit of a 14:25:55

1 mouthful, but it's absence of acceptable 14:25:58
2 non-infringing substitutes, and really what 14:26:00
3 I'm looking at here is if Aptiv has to stop 14:26:03
4 using the Boston chip, is there a 14:26:07
5 non-infringing thing that they could do. 14:26:11
6 Could they modify that chip in some way to 14:26:15
7 essentially replicate the features that their 14:26:18
8 customers wanted, but do it in a 14:26:20
9 non-infringing way. 14:26:23
10 If that's the case, then they 14:26:25
11 might have, in this but-for world, changed the 14:26:27
12 chip so they could offer the same features 14:26:30
13 without infringing, and they would have kept 14:26:32
14 those sales and Microchip wouldn't have lost 14:26:35
15 the sales. So I look at this question about 14:26:37
16 is there something that could be a 14:26:40
17 interchangeable substitute for the product at 14:26:43
18 issue. 14:26:46
19 Once I've determined those first 14:26:48
20 two things, if we get past those two first 14:26:50
21 gates, I really have concluded that Microchip 14:26:53
22 did lose some sales. 14:26:56
23 The third step is to say, all 14:26:58
24 right, the market is telling us that there 14:27:00

1 would have been more demand for Microchip's 14:27:02
2 chips, did they have a capacity to make these 14:27:05
3 extra sales? Was there enough manufacturing 14:27:10
4 capacity to make those sales? 14:27:13
5 The last is if the answer to three 14:27:15
6 is yes and you have the capacity, then the 14:27:18
7 question is would there have been a profit on 14:27:21
8 those sales. You can imagine a world where 14:27:25
9 somebody loses sales, they would have made the 14:27:27
10 sales but it was a money-losing product, no 14:27:29
11 profit on the units that were sold. So we 14:27:32
12 wouldn't have lost profits even if we had lost 14:27:35
13 sales. 14:27:38
14 So we're really kind of getting 14:27:39
15 down to that last step, which is if there are 14:27:40
16 lost sales that Microchip could have made and 14:27:43
17 it had the capacity to make them, would there 14:27:45
18 have been a profit on that that I can actually 14:27:47
19 estimate. 14:27:49
20 Q. And did you consider each of these 14:27:50
21 four factors in your analysis in this case? 14:27:52
22 A. I did. 14:27:55
23 Q. Okay. 14:27:57
24 So turning to the first factor, 14:27:57

1 what did you do to determine whether there was 14:28:00
2 demand for the patented product? 14:28:02
3 A. So here, I looked out in the 14:28:05
4 marketplace first at Microchip's product line 14:28:08
5 and said, is there a product that they sell 14:28:10
6 that practices the patent? And I also looked 14:28:13
7 at the same thing for Aptiv; is there a 14:28:18
8 product that is at least accused of having the 14:28:19
9 patent in it? And I have to assume that it 14:28:23
10 does. So we just look at some sales data for 14:28:25
11 both companies. 14:28:28
12 The first place I looked is at the 14:28:30
13 Microchip product line, if we go to the next 14:28:32
14 slide. I think we've heard about that, so far 14:28:36
15 in this case, there are two models of the USB 14:28:39
16 high speed multi-host controller that 14:28:43
17 Microchip sells, the USB4916 and the USB4914. 14:28:47
18 The sales data that my staff and I 14:28:54
19 analyzed, and if we click ahead, the units, 14:28:56
20 sold units from that of June of 2017 through 14:29:04
21 September of 2021 total just under 8.4 million 14:29:06
22 units. So clearly, there is demand for 14:29:11
23 Microchip's patented product. 14:29:13
24 Q. And is the data -- this data, the 14:29:18

1 8.4 million units, is that from Exhibit 50? 14:29:20
2 A. It is. 14:29:23
3 Q. And you said a second ago, you 14:29:25
4 referenced the 4916 and 4914 products. Do you 14:29:27
5 understand that that's the Sandia chip? 14:29:31
6 A. Yes, that's what -- we'll see that in 14:29:32
7 some of the other documents, but the shorthand 14:29:36
8 or the name of that product is the Sandia 14:29:38
9 product. 14:29:41
10 Q. Okay. 14:29:41
11 Did you look at anything else? 14:29:41
12 A. So I looked at Aptiv's world, and 14:29:44
13 based on what's accused of being the 14:29:48
14 patent-practicing product, that I have to 14:29:53
15 assume is practicing the '243 Patent, is 14:29:56
16 Aptiv's multi-host product. It's the Boston 2 14:29:59
17 chip that is used within the dual role hub 14:30:02
18 that Delphi first and now Aptiv sells to the 14:30:06
19 OEMs, mostly to The Big 3 OEMs here in the 14:30:11
20 U.S. 14:30:15
21 Q. Let's pause there for a second before 14:30:16
22 we click forward. 14:30:17
23 MR. GRAY: At this point, we offer 14:30:26
24 Exhibit 182 into evidence. 14:30:28

1 THE COURT: No objection? 14:30:29
2 MR. WIENER: No. 14:30:30
3 THE COURT: All right. It will be 14:30:31
4 received. 14:30:33
5 MR. GRAY: We'd also like to offer 14:30:40
6 Exhibits 18 and 125 into evidence. 14:30:42
7 MR. WIENER: No objection. 14:30:44
8 THE COURT: Okay. They'll come 14:30:45
9 in. 14:30:49
10 MR. GRAY: Okay. We can move 14:30:49
11 forward. 14:30:51
12 THE WITNESS: All right. If you 14:30:51
13 click ahead, here I've got data on the prior 14:30:52
14 slide. The data for Microchip went through 14:30:56
15 September of 2021, just, you know, everybody 14:30:59
16 has to -- at some point, you declare a stop on 14:31:02
17 the data, and that's what I have to work with. 14:31:05
18 For Microchip, that data went 14:31:08
19 through September; for Aptiv, we have data 14:31:09
20 through November of 2021. And the sales of 14:31:13
21 the Aptiv multi-host products that are accused 14:31:17
22 in this case are 44.9 million units. 14:31:20
23 BY MR. GRAY: 14:31:25
24 Q. And I see on your slide, this is from 14:31:25

1 Exhibit 182; is that accurate? 14:31:27
2 A. Yes. 14:31:29
3 MR. GRAY: And can we pull 14:31:32
4 Exhibit 182 up and just look at the total of 14:31:34
5 the bottom right of the spreadsheet. 14:31:36
6 BY MR. GRAY: 14:31:38
7 Q. And my question is going to be, why 14:31:38
8 doesn't your number reflect the same number in 14:31:39
9 the spreadsheet from the financial data that 14:31:43
10 Aptiv provided? Your number is lower. 14:31:45
11 A. So can you go all the way over and 14:31:50
12 can you zoom in on that and blow it up? Okay. 14:31:52
13 46 million 300. Yes, the data that Aptiv 14:32:03
14 produced, which at least I understood was to 14:32:07
15 be data that was sales of the different models 14:32:12
16 that they have that practice -- they are 14:32:15
17 accused of infringement here. 14:32:18
18 It turns out there are just like 14:32:21
19 two or three out of hundreds and hundreds of 14:32:23
20 line items on there that are for products 14:32:25
21 that, on a prior production, some time ago, 14:32:28
22 Aptiv produced some data that said this model 14:32:32
23 is not used for CarPlay. I think it's one of 14:32:36
24 them goes in the back seat of a particular car 14:32:40

1 model, so it's not used for CarPlay, or it's 14:32:42
2 not CarPlay capable the way it's built into 14:32:45
3 the hub. 14:32:48
4 And so we went through and pulled 14:32:49
5 those just couple of -- I think there's three 14:32:53
6 part numbers that got pulled out in order to 14:32:56
7 be -- make sure that I was trying to limit 14:32:58
8 this just to the accused products that were 14:33:00
9 CarPlay capable. 14:33:03
10 Q. Thank you. 14:33:04
11 And what did you conclude from 14:33:06
12 this evidence of about 45 million sales by 14:33:09
13 Aptiv? 14:33:12
14 A. So seeing that Aptiv had lots of 14:33:13
15 sales of patent-practicing product, Microchip 14:33:16
16 had sales of patent product, there's clearly 14:33:20
17 demand for the patent product so we clearly 14:33:23
18 put a checkmark on that one. 14:33:27
19 Q. What's the next factor? 14:33:28
20 A. So the next factor is whether there 14:33:30
21 are any acceptable non-infringing substitutes, 14:33:32
22 where essentially I am asking the question, is 14:33:35
23 there a way to provide the features that the 14:33:38
24 customers who bought Aptiv's product were 14:33:40

1 demanding, could they have provided that 14:33:44
2 feature set in a way that didn't infringe? 14:33:48
3 And I did a number of things to 14:33:51
4 answer that question. 14:33:54
5 Q. Okay. 14:33:56
6 So what did you do to determine 14:33:57
7 whether there were any acceptable 14:33:58
8 non-infringing substitutes? 14:34:01
9 A. So the first thing I did was talk to 14:34:03
10 Microchip's technical expert, Mr. Zatkovich, 14:34:06
11 because essentially at one level -- this is a 14:34:11
12 very technical question -- is there a way to 14:34:13
13 provide the features that are enabled by the 14:34:16
14 patent and that are the key features in these 14:34:18
15 accused products, and in the Sandia product, 14:34:21
16 which are the single-lane CarPlay on the -- 14:34:25
17 any downstream port with the persistent USB. 14:34:30
18 And we've heard a lot about that, 14:34:34
19 single-lane persistent USB with CarPlay on any 14:34:36
20 port. Is there a way to do that without using 14:34:39
21 the patent? 14:34:44
22 What Mr. Zatkovich told me is no. 14:34:45
23 So from a technical standpoint, there are no 14:34:48
24 available non-infringing substitutes that 14:34:52

1 would provide a substitute product that met 14:34:54
2 all of the characteristics. 14:34:56
3 Q. Did you rely on anything other than 14:34:59
4 Mr. Zatkovich? 14:35:00
5 A. I did. I also went and looked at 14:35:01
6 market evidence. I wanted to see, you know, 14:35:04
7 what is the market telling me about are there 14:35:06
8 a bunch of companies out there offering chips 14:35:11
9 or using chips that do single-lane persistent 14:35:14
10 USB, CarPlay on all the downstream ports? 14:35:18
11 Because the market can tell me that, too, 14:35:23
12 since there's clearly demand for this product. 14:35:25
13 And what I found is that, at least 14:35:28
14 out in the marketplace, there seemed to be 14:35:30
15 only two options; one is the Microchip 14:35:33
16 multi-host Sandia chip and the second is 14:35:36
17 Aptiv's multi-host chip that's in the dual 14:35:40
18 role hub. 14:35:44
19 So again, I am getting 14:35:45
20 confirmation of Mr. Zatkovich's technical 14:35:46
21 opinion when I look out in the marketplace, 14:35:49
22 and here, these products have been out there 14:35:53
23 for I think six, seven years, and we seem to 14:35:55
24 have only two companies that are selling to 14:35:59

1 the U.S. OEMs to meet that need for 14:36:02
2 single-lane persistent USB CarPlay. 14:36:05
3 Q. Is another way to say that that 14:36:08
4 Microchip and Aptiv are the only two companies 14:36:11
5 on the market offering a multi-host solution? 14:36:13
6 A. Yes. It's -- essentially for that 14:36:16
7 feature set, it is a two-supplier marketplace. 14:36:19
8 MR. GRAY: Mr. Ferrer, could you 14:36:23
9 please pull up Exhibit 25. 14:36:25
10 BY MR. GRAY. 14:36:28
11 Q. Dr. Becker, when this appears, is 14:36:29
12 this a document that you relied on in forming 14:36:32
13 your opinions in this case? 14:36:34
14 A. It is. 14:36:35
15 Q. Can you remind the jury what this 14:36:35
16 document is? 14:36:37
17 A. So this is the document I think 14:36:38
18 that's been used before. This is the Product 14:36:39
19 Business Plan for Sandia from initially, I 14:36:42
20 think, sort of July/August of 2015. This is a 14:36:47
21 document where Microchip is sort of laying out 14:36:51
22 its market strategy, technical and market 14:36:55
23 strategy for the Sandia product. 14:37:00
24 Q. Was there anything you found in this 14:37:01

1 document that was relevant to your analysis of 14:37:03
2 who was in the market with a multi-host 14:37:05
3 controller product? 14:37:07
4 A. Yes. There is actually a section of 14:37:08
5 this business plan, not surprisingly if you 14:37:10
6 are doing business planning, that there is a 14:37:13
7 whole section on competition. And for this 14:37:15
8 question on Panduit, I looked to the 14:37:19
9 competition section of this document. 14:37:23
10 MR. GRAY: Okay. Mr. Ferrer, can 14:37:27
11 we please turn to page 18. 14:37:28
12 BY MR. GRAY: 14:37:30
13 Q. Dr. Becker, what does this section of 14:37:31
14 the Sandia Business Plan discuss? 14:37:35
15 A. So this section, 5.4 of the document, 14:37:36
16 discusses competition. And you can see the 14:37:38
17 very first company that's listed there is 14:37:41
18 Delphi. We can pull up what they have to say 14:37:44
19 about Delphi. This has all been talked about 14:37:48
20 quite a bit. 14:37:53
21 Delphi Automotive, through the 14:37:54
22 acquisition of Unwired, has a multi-host ASIC 14:37:55
23 solution, so that's the Boston chip, that they 14:37:59
24 are currently providing to the market, and it 14:38:02

1 has been designed in the GM, Ford and 14:38:05
2 Chrysler. This chip represents a sole source, 14:38:09
3 point solution for a silicon USB chip. 14:38:12
4 So this, at least with respect to 14:38:15
5 the first competitor that you are talking 14:38:19
6 about, they are saying other than themselves, 14:38:21
7 obviously this business plan is about 14:38:23
8 launching their multi-host chip. They're 14:38:25
9 saying Delphi is in the market with a 14:38:28
10 multi-host chip that is already in The Big 3 14:38:30
11 at GM, Ford and Chrysler. 14:38:34
12 Q. And if we go back to the full page, 14:38:37
13 and I see that there are some other companies 14:38:39
14 listed on page 18 that we are looking at, and 14:38:41
15 then also on page 19. 14:38:44
16 Did you review what this business 14:38:46
17 plan talks about with these competitors? 14:38:48
18 A. Yes. So the plan touched on a couple 14:38:50
19 of other chipmakers, and the conclusion with 14:38:53
20 respect to TI, Cypress, Renesas, NXP is they 14:39:01
21 don't have a product and they weren't really 14:39:05
22 expected to be able to come out with a product 14:39:08
23 that had a multi-host controller in it. 14:39:10
24 Q. So why was that important to your 14:39:12

1 opinion? 14:39:14
2 A. Well, it ends up -- when we get to 14:39:14
3 the next step in the analysis, it is going to 14:39:19
4 be even more important, but with respect to 14:39:21
5 the question about whether there are 14:39:23
6 alternatives to meet this demand for 14:39:24
7 single-lane persistent USB CarPlay, from an 14:39:29
8 economic standpoint, it's significant that 14:39:32
9 there are only two players in the market. It 14:39:35
10 tells me that this is something that is not 14:39:38
11 sort of widely -- not everybody is doing it. 14:39:40
12 It is a unique solution. 14:39:44
13 Q. So what did you conclude from that 14:39:50
14 evidence? 14:39:52
15 A. So I concluded from this evidence 14:39:52
16 that Panduit factor 2 is met, if we go back to 14:39:54
17 the Panduit factor list. I concluded that 14:39:58
18 there is an absence of acceptable 14:40:03
19 non-infringing alternatives. It is a double 14:40:06
20 negative, but we can check the box. 14:40:09
21 Q. Okay. Thank you. 14:40:10
22 What is the next factor? 14:40:11
23 A. So the next factor is I need to look 14:40:13
24 at whether Microchip has the capacity to make 14:40:16

1 these extra sales. 14:40:18
2 Q. What did you do to assess whether 14:40:23
3 Microchip had sufficient capacity to make 14:40:25
4 these extra sales? 14:40:27
5 A. So the first step in figuring out 14:40:28
6 whether they have the capacity is to figure 14:40:30
7 out how many chips we're talking about. I 14:40:33
8 can't answer the question if it was can you 14:40:35
9 make 10 more chips or is it 100 or is it a 14:40:38
10 million. I need to calibrate the magnitude of 14:40:42
11 the increase. 14:40:45
12 And so what I've got here is the 14:40:46
13 sales data for this 44.9 million chips. I 14:40:48
14 think it is the same data that we looked at 14:40:54
15 before that was just summarized. Here I've 14:40:56
16 got it laid out by year, because this sort of 14:40:59
17 annual volume is what's going to be important. 14:41:01
18 Q. Okay. 14:41:04
19 So what is the total volume of 14:41:04
20 infringing sales? 14:41:06
21 A. So here, instead of taking all 14:41:08
22 44.9 million, what I recognized was that the 14:41:12
23 first bit of time on this chart, if we click 14:41:15
24 ahead, there is a period of time that was 14:41:20

1 prior to when the Sandia solution was 14:41:22
2 launched. And so I start my lost profits 14:41:26
3 analysis in the third quarter of 2017, after 14:41:29
4 Microchip's competing multi-host Sandia 14:41:37
5 solution has come on the market. That's where 14:41:41
6 these two chips are competing directly. 14:41:43
7 And obviously if there's only two 14:41:46
8 and they're competing directly and you take 14:41:48
9 one away, the customers wanted single-lane 14:41:51
10 persistent USB, they had two options and now 14:41:54
11 they have one. I conclude that Microchip 14:41:58
12 would have been made those additional sales 14:42:01
13 after Sandia launched. 14:42:04
14 So that actually totals, if we 14:42:06
15 click ahead, to 35.2 million chips, and if we 14:42:09
16 look at the magnitude of the sales in any 14:42:13
17 year, the biggest year there is an increase of 14:42:17
18 about 10 million chips. 14:42:20
19 The volumes are going down, but I 14:42:22
20 need to ask the question, does Microchip have 14:42:24
21 the ability to make an additional 10 million 14:42:27
22 chips in a year? 14:42:31
23 Q. And what did you do to determine 14:42:32
24 whether Microchip had the capacity to make an 14:42:34

1 additional 7 to 10 million chips a year? 14:42:36
2 A. So I talked to Mr. Obolsky and looked 14:42:39
3 at some of the evidence in the record about 14:42:42
4 the production process, and what I learned is 14:42:44
5 that there are really three major steps. 14:42:50
6 First is the production of wafers, 14:42:52
7 all these little chips end up sort of being 14:42:57
8 printed on a big wafer. It looks like a small 14:43:00
9 record album, and then it gets cut into little 14:43:03
10 chips. 14:43:06
11 TSMC is the largest wafer maker in 14:43:06
12 the world, and that's who makes the wafers for 14:43:11
13 Microchip. They have massive capacity. 14:43:14
14 The next step is probe and test. 14:43:17
15 Those wafers get tested by Microchip at a 14:43:22
16 facility in Thailand, and then it gets sent on 14:43:25
17 to assembly and packaging where Microchip has 14:43:29
18 a number of different options. All of them 14:43:32
19 are very large contract manufacturing 14:43:34
20 companies that do this. 14:43:36
21 Q. Were you here when Mr. Obolsky 14:43:38
22 testified? 14:43:40
23 A. I was. 14:43:40
24 Q. Do you recall his testimony about the 14:43:41

1 volume of chips Microchip makes per day? 14:43:43
2 A. Yes. I recall it being -- I think it 14:43:46
3 was 20 million chips a day. 14:43:50
4 Q. Do you know about how many chips per 14:43:52
5 day the incremental sales for the lost profits 14:43:54
6 purposes would represent? 14:43:59
7 A. In round numbers, in that peak year, 14:43:59
8 it's less than 30,000 a day. 14:44:04
9 Q. 30,000 compared to 20 million a day 14:44:05
10 that they actually produce now? 14:44:08
11 A. Yes. It's a tiny, tiny increase in 14:44:10
12 terms of their overall production. 14:44:13
13 Q. So what does that tell you about 14:44:14
14 Microchip's capacity to meet the demand for 14:44:16
15 these incremental sales? 14:44:18
16 A. It tells me that they could have 14:44:20
17 easily met the demand for an increase of this 14:44:21
18 magnitude. I know 10 million chips sounds 14:44:25
19 like a lot, but for a company that's making 20 14:44:28
20 million chips a day, 10 million over the 14:44:31
21 course of an entire year really isn't a very 14:44:36
22 big increase. 14:44:39
23 Q. So what about marketing capacity; did 14:44:39
24 you assess Microchip's ability to serve 14:44:42

1 additional customers from a sales and 14:44:44
2 marketing perspective? 14:44:46
3 A. I did. So on this, we're -- a couple 14:44:47
4 things about this market and this particular 14:44:53
5 chip. One is to make additional sales, they 14:44:57
6 don't have to go out and spend money on the 14:45:01
7 marketing brochures and the sort of things 14:45:04
8 that, you know, you might have to go have 14:45:07
9 somebody design the pages on a website that 14:45:09
10 describe the product because they're already 14:45:12
11 out there. By the time I start the lost 14:45:14
12 profits damages, the chip is actually being 14:45:18
13 sold. We saw that they sold, I think, eight 14:45:20
14 million of these. So there's no additional 14:45:23
15 marketing spend that they need to do. 14:45:25
16 As far as the sales relationships, 14:45:27
17 the primary customer for this chip, if Boston, 14:45:30
18 the Boston chip isn't there, is actually 14:45:33
19 Aptiv, who is trying to win these OEM deals, 14:45:37
20 did win it with the Boston chip, but in this 14:45:41
21 but-for world, they can't use the Boston chip. 14:45:44
22 The evidence is very clear that the only other 14:45:48
23 chip they could have put in those hubs that 14:45:50
24 would satisfy the demand for single-lane 14:45:53

1 CarPlay is Microchip's Sandia chip. 14:45:56
2 They already have a relationship 14:45:59
3 with Aptiv. I think Mr. Obolsky testified, 14:46:02
4 they're still selling hundreds of parts to 14:46:05
5 them. 14:46:05
6 So I concluded, based on my 14:46:08
7 discussion with Mr. Obolsky, that no 14:46:10
8 additional sales and marketing costs of any 14:46:13
9 kind of any meaningful amount would need to be 14:46:16
10 spent to make these sales. So they clearly 14:46:19
11 have the marketing capacity to do it. 14:46:22
12 Q. So what is your conclusion from 14:46:25
13 consideration of Panduit factor 3? 14:46:27
14 A. So on that, having made an assessment 14:46:31
15 of the volume of chips that will be sold and 14:46:33
16 what that means in terms of marketing and 14:46:35
17 manufacturing capacity, I concluded that they 14:46:39
18 do have the capacity, so we put a checkmark 14:46:41
19 there. 14:46:44
20 Q. Okay. 14:46:45
21 So under Panduit factor 4, what is 14:46:46
22 it you're trying to do here? 14:46:49
23 A. So here, on a prior slide, we saw 14:46:51
24 that I have concluded that there would have 14:46:55

1 been incremental sort of additional sales of 14:46:58
2 about 35 million chips. The last question 14:47:00
3 that Panduit asks is what would -- what would 14:47:03
4 the profits on those sales have been? Are 14:47:08
5 there profits and what are they? 14:47:11
6 So I have to go do an analysis of 14:47:15
7 the profitability of the chip that would have 14:47:17
8 been sold, which is the Sandia chip. 14:47:19
9 Q. So what was your first step? 14:47:21
10 A. So the first step is to look at what 14:47:23
11 the profit actually was. I don't want to just 14:47:28
12 say well, I think it would have been X. We 14:47:30
13 have actual sales data for the 8.4 million 14:47:33
14 chips they did sell. 14:47:36
15 So I went and looked at the 14:47:38
16 financial records and could see that Microchip 14:47:39
17 actually made gross profits of about 14:47:44
18 $16.9 million on 8.4 million Sandia units. 14:47:48
19 And if we do the math on what that 14:47:55
20 means in terms of profit per unit, if you 14:47:58
21 click ahead, that works out to $2.01 of profit 14:48:00
22 per unit for any incremental units that they 14:48:07
23 make. And I concluded that that is a 14:48:11
24 reasonable measure of the lost profit per unit 14:48:14

1 on any additional sales they would have made. 14:48:17
2 Q. And is your data that we are looking 14:48:20
3 at on here from slide 22 from Exhibits 46 14:48:22
4 through 48? 14:48:26
5 A. It is. 14:48:27
6 Q. Okay. 14:48:28
7 So am I correct that you 14:48:29
8 determined that the actual gross profits 14:48:31
9 earned by Microchip on its sales of multi-host 14:48:34
10 Sandia chips from June 2017 through September 14:48:37
11 of 2021 was $2.01 per chip? 14:48:40
12 A. Yes. 14:48:44
13 Q. Can you explain why gross profits are 14:48:45
14 the right measure for lost profit per chip? 14:48:47
15 A. So what I'm trying to figure out is 14:48:50
16 not what Sandia's overall profit is, including 14:48:54
17 overhead and things like that. It's given 14:48:59
18 that they're already selling the product, if 14:49:03
19 they make more sales on top of what they've 14:49:05
20 already spent, what would be the profit. 14:49:08
21 And what gross profit measures is 14:49:12
22 it's the selling price minus something we call 14:49:16
23 cost of goods sold, which has all the costs to 14:49:18
24 manufacture; what do the parts cost, the 14:49:24

1 materials, the testing, the shipping, 14:49:27
2 everything that's associated with making one 14:49:30
3 more unit of chip. 14:49:32
4 Since the -- everything else, the 14:49:36
5 headquarters building for Microchip, the sales 14:49:39
6 teams, everything else is fixed, it's already 14:49:42
7 there, there's no incremental cost over and 14:49:45
8 above the cost of just order more parts, test 14:49:48
9 them, package them, get them ready to sell. 14:49:51
10 So those costs to order more parts 14:49:54
11 from TSMC, test them, package them and ship 14:49:57
12 them, that's all included in the cost of goods 14:50:02
13 sold, which was already taken into account in 14:50:05
14 this gross profit number. So that's the 14:50:09
15 appropriate number from an incremental sales 14:50:10
16 standpoint. 14:50:13
17 Q. Did you consider whether there would 14:50:14
18 be any incremental sales in marketing costs? 14:50:16
19 A. I did. Again, I talked to Mr. 14:50:20
20 Obolsky about this and looked at the, kind of 14:50:24
21 the nature of the market where they're dealing 14:50:27
22 with a very small number of Tier 1 suppliers, 14:50:29
23 like Aptiv and Tecvox, that are making boxes. 14:50:33
24 They've already got all the relationships. 14:50:36

1 It's just a question of which chip is going to 14:50:39
2 go in there, and they already have the 14:50:42
3 marketing materials for those chips. 14:50:43
4 So I concluded that there's no 14:50:45
5 incremental costs associated with sales and 14:50:47
6 marketing. 14:50:51
7 Q. Okay. 14:50:52
8 So what did you conclude with 14:50:52
9 respect to the fourth Panduit factor? 14:50:54
10 A. The fourth Panduit factor is met. I 14:50:56
11 can calculate the lost profits on those lost 14:50:59
12 sales, and we can put a checkmark there. 14:51:01
13 Q. Okay. 14:51:04
14 Since all four factors have been 14:51:05
15 met, what does that mean? 14:51:07
16 A. That means that Microchip has 14:51:08
17 suffered lost profits and that there is a 14:51:11
18 quantifiable amount of lost profits that can 14:51:14
19 form a damages claim for lost profits. And we 14:51:18
20 just need to go add up those numbers. 14:51:22
21 Q. And have you done that? Have you 14:51:24
22 added up those numbers? 14:51:26
23 A. I have. So here, I am just putting 14:51:27
24 the pieces together. At the top of this are 14:51:30

1 those incremental sales of Sandia that would 14:51:33
2 have occurred, but for Aptiv's infringement. 14:51:35
3 That's the 35.2 million units at a lost profit 14:51:38
4 per unit of 2.01. That's 70,862,439. 14:51:43
5 Q. So does that $70.9 million in lost 14:51:49
6 profits account for all of Aptiv's infringing 14:51:53
7 sales? 14:51:57
8 A. No, that -- this is based on 35 14:51:57
9 million chips. We've got some other stuff 14:52:00
10 that I need to take care of. 14:52:02
11 Q. Let's take a look at that. 14:52:04
12 Could we please take the next 14:52:06
13 slide? 14:52:08
14 THE COURT: Before we do that, why 14:52:08
15 don't -- I think this is a good moment for a 14:52:10
16 break. We have been going for a hour 14:52:13
17 and-a-half, so why don't we take 5, 10 minutes 14:52:15
18 and plan to be back here at 3 o'clock. 14:52:18
19 (Whereupon, the jury was excused 14:52:22
20 from the courtroom.) 14:52:24
21 THE COURT: All right. 14:52:45
22 Stand in recess. Be back in about 14:52:46
23 five minutes. We'll start at 3, okay? 14:52:48
24 (Whereupon, a recess was taken at 14:52:51

1 2:53 p.m.) 14:52:54
2 THE COURT CLERK: All rise. 15:00:06
3 THE COURT: All right. Have a 15:03:41
4 seat, please. 15:03:42
5 Please get the jury, Mr. Koehler. 15:03:43
6 (Whereupon, the jury entered the 15:03:44
7 courtroom.) 15:03:46
8 THE COURT: All right. Have a 15:04:35
9 seat. 15:04:37
10 Proceed. Continue. 15:04:39
11 MR. GRAY: Thank you. 15:04:41
12 BY MR. GRAY: 15:04:41
13 Q. Dr. Becker, just before the break, we 15:04:42
14 had just finished talking about your lost 15:04:44
15 profits opinion. 15:04:47
16 Does this $70.9 million in lost 15:04:49
17 profits account for all of Aptiv's infringing 15:04:51
18 units? 15:04:56
19 A. No, it doesn't. 15:04:56
20 Q. Why not? 15:04:57
21 A. So as I am sort of trying to depict 15:04:58
22 here on this slide, the 70.9 million units 15:05:00
23 covers the accused sales from the third 15:05:04
24 quarter of 2017 forward. We've got an 15:05:08

1 additional 9.7 million units that were sold 15:05:12
2 between the second quarter of 2015 and the 15:05:16
3 second quarter of 2017 that are not here; 15:05:18
4 therefore, they are not accounted for in that 15:05:24
5 $70.9 million. 15:05:27
6 Q. So what happens to those 9.7 million 15:05:27
7 units? Are there damages associated with 15:05:31
8 those infringing sales? 15:05:32
9 A. So, there are. There's something -- 15:05:34
10 for that, I looked to the sort of general 15:05:36
11 patent damages statute as to what kind of 15:05:40
12 compensation is available. And if we click 15:05:43
13 ahead, the basic sort of framework that I'm 15:05:46
14 working with, from a patent damages 15:05:49
15 standpoint, is that if there's a finding for 15:05:52
16 the claimant, here this would be Microchip, 15:05:54
17 the -- you would have damages adequate to 15:05:58
18 compensate for the infringement, but in no 15:06:03
19 event less than a reasonable royalty. 15:06:06
20 So for some of these sales, what I 15:06:08
21 think is the adequate compensation for the 15:06:11
22 infringement is the lost profits, but for the 15:06:16
23 rest of them, it is not less than what we call 15:06:19
24 a reasonable royalty. So that other 15:06:21

1 9.6 million, we are going to talk about a 15:06:23
2 reasonable royalty on that. 15:06:26
3 Q. So is another way to describe a 15:06:27
4 reasonable royalty is that it's sort of the 15:06:29
5 floor on damages; it has to be a reasonable 15:06:32
6 royalty at least? 15:06:34
7 A. Yes. At least I think what that 15:06:35
8 prior thing was saying is that whatever the 15:06:39
9 adequate compensation is, that's what the 15:06:41
10 damages award would be, but it's no less than 15:06:43
11 a reasonable royalty. 15:06:46
12 Q. And is the methodology for 15:06:48
13 determining a reasonable royalty different 15:06:50
14 from lost profits? 15:06:52
15 A. It is. 15:06:53
16 Q. Okay. Let's turn to your reasonable 15:06:55
17 royalty opinions. 15:06:57
18 First, can you explain for the 15:06:59
19 jury what you mean by royalty? 15:07:01
20 A. So a royalty -- I like to use the 15:07:02
21 analogy with renting a piece of real property. 15:07:05
22 So royalty on a patent is a royalty on 15:07:10
23 intellectual property. You can't -- you know, 15:07:14
24 it is just the rights to something on a piece 15:07:16

1 of paper. 15:07:19
2 But if you own real property, 15:07:19
3 let's say you own the building, that's your 15:07:21
4 property. You control it. No one can 15:07:24
5 trespass on it without your permission. 15:07:26
6 But lots of times, people say 15:07:29
7 well, I want to give you permission to use my 15:07:31
8 building, to rent my apartment. We're going 15:07:33
9 to enter into a lease agreement that specifies 15:07:35
10 an amount of rent that you are going to pay to 15:07:39
11 use my property, and we'll have a negotiation 15:07:41
12 over that and come to an agreement. 15:07:45
13 For intellectual property, the way 15:07:47
14 the world works, if you're going to give 15:07:50
15 someone permission is you typically enter into 15:07:52
16 a license agreement. It's like a lease. It 15:07:55
17 says what the property is, how long you get to 15:07:58
18 use it, how much you can use it, where can you 15:08:00
19 use it and for that, the equivalent of rent is 15:08:07
20 the royalty payment. 15:08:10
21 Q. And how do you determine the amount 15:08:11
22 of royalty that should be paid? 15:08:13
23 A. So here, for the lost profits, I'm 15:08:15
24 sitting here today sort of looking backwards 15:08:19

1 saying, what would that market have looked 15:08:22
2 like if Aptiv's product hadn't been on the 15:08:23
3 market? 15:08:27
4 For the reasonable royalty, I 15:08:27
5 conduct what's called a hypothetical 15:08:30
6 negotiation. This is where I imagine that the 15:08:32
7 licensee and the patent owner sit down at a 15:08:38
8 table right before the infringement is going 15:08:41
9 to begin, before, in a sense, instead of -- 15:08:44
10 it's before the person moves into your house 15:08:49
11 that they want to rent, you sit down at the 15:08:51
12 table and figure out what the rent is, not 15:08:53
13 after they have been living in it for seven 15:08:55
14 years. 15:08:57
15 So here, I've got to put the 15:08:58
16 patent owner and the licensee at a table at 15:09:01
17 the point in time that the license would be 15:09:05
18 needed in order to not infringe. 15:09:07
19 Q. So can you please explain what you 15:09:11
20 mean by a hypothetical negotiation? 15:09:13
21 A. Well, it didn't -- it didn't actually 15:09:15
22 occur, so obviously, we wouldn't be here if 15:09:18
23 the parties had sat down in 2015 or 2014 and 15:09:22
24 negotiated a license. 15:09:27

1 So I have to look at the economic 15:09:28
2 circumstances of the entry or the launch of 15:09:30
3 that product and what the various -- what 15:09:35
4 Microchip would be giving up for license, what 15:09:39
5 would Aptiv be gaining to get a license; those 15:09:43
6 sorts of things. 15:09:45
7 Q. So is a reasonable royalty -- you're 15:09:45
8 here, you're retained by Microchip in this 15:09:49
9 case; right? 15:09:51
10 A. Yes. 15:09:51
11 Q. And so are the opinions you're 15:09:52
12 expressing, is that as if you were Microchip's 15:09:54
13 negotiator at the hypothetical negotiation? 15:09:57
14 A. No, because this isn't just what -- 15:10:00
15 you know, Microchip doesn't get just what it 15:10:03
16 wants. If it got what it wanted, it would, 15:10:06
17 you know, ask for some astronomical number. 15:10:09
18 This has to be a number that is a 15:10:13
19 reasonable meeting of the minds that reflects 15:10:15
20 something that both parties could agree to 15:10:17
21 that makes sense for both Microchip and for 15:10:20
22 Aptiv to reach an agreement over a license. 15:10:24
23 Q. So in your analysis, are you looking 15:10:27
24 at the evidence on both sides and coming to a 15:10:30

1 conclusion that you think would have been a 15:10:32
2 reasonable outcome? 15:10:34
3 A. Yes. 15:10:35
4 Q. You talked a little bit about the 15:10:38
5 timing of the negotiation being just before 15:10:40
6 infringement began. 15:10:43
7 In this case, when do you assume 15:10:45
8 it occurs? 15:10:47
9 A. So I assume that it occurs in March 15:10:47
10 of 2014. That's when the accused product was 15:10:49
11 first -- it's not when it was first sold, but 15:10:53
12 it was being offered and -- offered for sale 15:10:56
13 to potential customers, and that sort of 15:11:00
14 triggers the need to have a license in this 15:11:03
15 hypothetical negotiation world. 15:11:05
16 Q. So why does the date of the 15:11:07
17 hypothetical negotiation matter? 15:11:10
18 A. Well, it tells us a couple of things. 15:11:11
19 One is it's going to tell me who is sitting at 15:11:13
20 the table, because I could look and see who 15:11:17
21 owned the patent at that time and who was 15:11:19
22 selling the product at that time. 15:11:20
23 It also tells me the economic 15:11:22
24 conditions in terms of what was the market 15:11:25

1 demanding in terms of hub products that are 15:11:28
2 relevant to this question of what the license 15:11:32
3 would look like. 15:11:35
4 Q. So in March of 2014, who were the 15:11:37
5 parties at the hypothetical negotiation? 15:11:40
6 A. So on the patent owner side, the 15:11:42
7 patent is still owned by the entity SMSC. 15:11:45
8 Now, SMSC has already been purchased by 15:11:50
9 Microchip, so it's not a very important 15:11:53
10 distinction. It's essentially Microchip, but 15:11:55
11 technically, the patent owner, in March of 15:11:58
12 2014, was the entity SMSC. 15:12:01
13 On the other side of the table, 15:12:06
14 March of 2014, is before Delphi acquired 15:12:09
15 Unwired, so Unwired is sitting at the table as 15:12:12
16 the licensee. 15:12:15
17 Q. And so March of 2014 was about six 15:12:16
18 months before Delphi acquired Unwired; 15:12:20
19 correct? 15:12:22
20 A. Yes. 15:12:22
21 Q. Did you consider whether having 15:12:23
22 Unwired and SMSC at the table would have been 15:12:26
23 materially different than having just 15:12:30
24 Microchip and Aptiv at the table? 15:12:32

1 A. I did consider that, and concluded 15:12:33
2 that -- we'll see, as we walk through my 15:12:36
3 analysis, I don't think anything -- certainly 15:12:39
4 the outcome wouldn't change if it was Aptiv 15:12:42
5 and Microchip. At that time, SMSC was part of 15:12:47
6 Microchip, so that's obviously not going to 15:12:54
7 change the outcome. 15:12:57
8 For Unwired, they are a hub maker 15:12:58
9 who is about to embark on a decision to make 15:13:01
10 their own chip that will be used in a hub that 15:13:05
11 will displace the opportunity for Microchip to 15:13:09
12 be selling chips into hubs, so it's similar 15:13:13
13 economic circumstances to the ones we find if 15:13:18
14 Aptiv had been at the table. 15:13:20
15 Q. Are there certain assumptions that 15:13:22
16 you have to make when conducting this 15:13:23
17 hypothetical negotiation? 15:13:26
18 A. Yes. There's a -- I think I failed 15:13:28
19 to mention, all of this kind of structure of 15:13:32
20 looking at things as a hypothetical 15:13:34
21 negotiation comes sort of like the Panduit 15:13:36
22 factors came from a case that set forth this 15:13:39
23 sort of process. 15:13:43
24 Here I'm using something called 15:13:44

1 the Georgia Pacific analysis. There was a 15:13:46
2 case many years, patent case called the 15:13:50
3 Georgia-Pacific case, and they sort of laid 15:13:54
4 out this process of saying you can figure out 15:13:56
5 a reasonable royalty by looking at a 15:13:59
6 hypothetical negotiation. And that case sets 15:14:01
7 forth some required assumptions. 15:14:05
8 The first is that the parties to 15:14:07
9 this negotiation assume and understand that 15:14:10
10 the patent is valid, enforceable and 15:14:13
11 infringed. In a real negotiation, you might 15:14:17
12 have the potential licensee saying well, I'm 15:14:20
13 not going to pay you anything more than a very 15:14:23
14 small amount because I don't think your patent 15:14:26
15 is valid, or I don't think we infringe. 15:14:28
16 Here, the parties say we 15:14:31
17 understand the patent is valid, we understand 15:14:33
18 we need a license, we just need to figure out 15:14:36
19 what's reasonable. 15:14:38
20 They come in willing to negotiate. 15:14:39
21 That's not always something in the real world. 15:14:41
22 They have reasonable knowledge and 15:14:45
23 expectations. 15:14:46
24 And this next bullet, the same 15:14:49

1 information, it's kind of unique, and again, 15:14:51
2 not what happens in the real world, but I get 15:14:54
3 to sort of impart to these players knowledge 15:14:59
4 of all the relevant information. 15:15:02
5 So in a real negotiation, Unwired 15:15:06
6 may not know what Microchip's profitability is 15:15:10
7 on its chips. Microchip may not know some of 15:15:13
8 Unwired's or Aptiv's internal stuff. But in 15:15:17
9 this negotiation, I get to sort of deal all 15:15:21
10 the cards face up. 15:15:24
11 And the last is that both sides 15:15:26
12 will act in good faith and they have to reach 15:15:28
13 an agreement. We'll see, even though they are 15:15:30
14 competitors for the supply of these particular 15:15:33
15 chips, they can't just say, I'm never going to 15:15:37
16 license to you. Microchip has to license; 15:15:39
17 Unwired has to agree. 15:15:43
18 MR. GRAY: Can we go to slide 31, 15:15:47
19 please. 15:15:49
20 BY MR. GRAY: 15:15:50
21 Q. And what are we looking at here, Dr. 15:15:51
22 Becker? 15:15:54
23 A. So this Georgia-Pacific case lays out 15:15:54
24 a checklist. Like my four factor checklist 15:15:57

1 for lost profit, there is a 15 factor 15:16:00
2 checklist for a hypothetical negotiation. 15:16:03
3 These are the types of things that normal 15:16:06
4 people in a real world setting would consider 15:16:10
5 in trying to reach an agreement about a patent 15:16:14
6 license. 15:16:16
7 Q. All right. 15:16:17
8 I'd like to walk through all 15 of 15:16:18
9 these very slowly, if you would. 15:16:20
10 A. I don't think I have the time to do 15:16:23
11 that. 15:16:25
12 Q. Did you consider each of these 15:16:25
13 factors? 15:16:27
14 A. I did. In every case, we -- I 15:16:27
15 considered them, and what I found is that 15:16:31
16 depending on the facts and circumstances of 15:16:34
17 the particular case, they're going to be 15:16:37
18 things that are not relevant because the facts 15:16:40
19 just don't fit this 15 factor list. 15:16:43
20 But I did go through and we 15:16:46
21 always, my staff and I, we really do use this 15:16:48
22 as a checklist to make sure we've looked at 15:16:50
23 all of these factors. 15:16:53
24 Q. Can you give us an example of some 15:16:54

1 factors that were not relevant in this case? 15:16:57
2 A. Sure. One of the things that's 15:17:00
3 sometimes relevant if you're trying to figure 15:17:02
4 out the outcome of a license negotiation is 15:17:04
5 the question of whether the patent has ever 15:17:07
6 been licensed before, sort of like if you were 15:17:09
7 renting your apartment, the person sitting 15:17:12
8 across the table negotiating might say well, 15:17:15
9 what was the rent to the last tenant? 15:17:17
10 Similarly, comparable patents 15:17:20
11 licensed by the infringer, are there 15:17:25
12 comparable pieces of intellectual property 15:17:27
13 that we can look at the rental, the royalty 15:17:30
14 rates for. 15:17:32
15 Here, Microchip has never licensed 15:17:33
16 the patent, there are no comparable patents 15:17:36
17 that Aptiv has licensed, and there's no sort 15:17:39
18 of standard royalty rates in the industry for 15:17:42
19 a patent like this. So that evidence is not 15:17:46
20 relevant in this case. But we did go through 15:17:49
21 and look to see whether there was any 15:17:51
22 evidence. 15:17:52
23 Q. So can you walk us through the other 15:17:53
24 factors at a high level and summarize the role 15:17:55

1 they played in your analysis? 15:17:59
2 A. Sure. The next two factors look at 15:18:00
3 the duration and term of the license and what 15:18:04
4 we call the nature and scope. That's really, 15:18:06
5 leaning on this real estate analogy, is this a 15:18:10
6 month-to-month lease, is it a one-year lease, 15:18:14
7 is it a 10-year lease. 15:18:18
8 What's the scope? Is it going to 15:18:19
9 be selling these products anywhere in the 15:18:22
10 world? Does the amount of compensation have 15:18:25
11 to consider sales anywhere in the world? And 15:18:27
12 is it an exclusive license or nonexclusive? 15:18:31
13 Here, we're dealing with a single 15:18:34
14 U.S. patent. The scope, from a geography 15:18:38
15 standpoint, is clearly the U.S. It's a 15:18:41
16 nonexclusive license. Microchip is going to 15:18:44
17 be selling products that use this patent as 15:18:47
18 well, so Aptiv doesn't -- isn't going to be 15:18:49
19 negotiating for an exclusive use of this 15:18:52
20 patent. 15:18:55
21 And timing-wise, it's from March 15:18:56
22 of 2014 through the day of this trial. 15:18:59
23 Q. Did you reach any conclusions about 15:19:03
24 the structure of the license? 15:19:04

1 A. Yes. So the -- the next piece that's 15:19:06
2 really sort of part of the same nature and 15:19:09
3 scope is to look at what kind of royalty rate 15:19:12
4 we're going to use. Sometimes patent 15:19:16
5 licenses, you sit down and negotiate and the 15:19:20
6 circumstances lead the parties to say we'll 15:19:23
7 just write a check for some amount today and 15:19:25
8 that will give us rights for the life of the 15:19:29
9 patent. That happens sometimes. 15:19:32
10 Here, the facts and circumstances 15:19:34
11 support what we call a running royalty, and 15:19:37
12 I've got a slide on that. This is where it's 15:19:40
13 sort of a pay-as-you-go approach, where the 15:19:45
14 amount of royalties depend on the amount of 15:19:49
15 sales. If -- and again, they are sitting down 15:19:53
16 before they have actually started selling it, 15:19:56
17 and so it makes sense to say well, we don't 15:19:58
18 know over the next seven years, are we going 15:20:01
19 to sell a little of this, a lot of it. If you 15:20:04
20 agree to a running royalty that has a rate, so 15:20:06
21 many, you know, so much per chip or per unit, 15:20:11
22 then we can have the royalty amount sort of be 15:20:15
23 a win/win. If there's lots and lots of sales, 15:20:18
24 then the royalty goes up. 15:20:21

1 But the -- Aptiv has made lots and 15:20:23
2 lots of sales, and if it's not a successful 15:20:26
3 product, there won't be much owed in the way 15:20:28
4 of a royalty. So that's why we use this 15:20:31
5 structure and that's why this structure is 15:20:33
6 pretty common in the licensing industry. 15:20:35
7 Q. Do you understand whether Aptiv's 15:20:38
8 damages expert agrees with you about the 15:20:41
9 running royalty structure? 15:20:43
10 A. He does. 15:20:44
11 Q. Okay. 15:20:45
12 What's the next factor you'd like 15:20:46
13 to discuss? 15:20:48
14 A. So the next factor is sort of 15:20:48
15 following on having concluded that I'm going 15:20:52
16 to use a running royalty structure, one of the 15:20:55
17 things that we're going to have to come up 15:20:57
18 with at some point is what we call the royalty 15:20:59
19 base. That's how many units are going to be 15:21:01
20 assessed this royalty rate. 15:21:06
21 The technical thing in the case is 15:21:09
22 the extent to which the infringer made use of 15:21:11
23 the patented technology. Here we're just 15:21:14
24 going to go count up the number of hub 15:21:16

1 products that Aptiv sold that contained this 15:21:19
2 accused Boston chip. 15:21:21
3 Q. And have you quantified the extent of 15:21:23
4 use by Aptiv then? 15:21:26
5 A. Yes. We've seen this a couple times 15:21:27
6 before. This is from Exhibit 182, and that's 15:21:30
7 basically the 44.9 million units that have 15:21:32
8 been sold through November of 2021. 15:21:38
9 Q. So that's a number that we are going 15:21:40
10 to end up multiplying by the royalty rate that 15:21:42
11 we'll talk about next? 15:21:46
12 A. Yes. In terms of just looking at 15:21:47
13 this purely as a royalty, once we have a rate, 15:21:50
14 if we didn't have the lost profits issue, we 15:21:55
15 would be looking at 44.9 million units times 15:21:58
16 this rate that I am going to come up with. 15:22:01
17 Q. Okay. 15:22:04
18 What about the remaining factors? 15:22:04
19 A. So the rest of the factors really go 15:22:06
20 to the -- and have an influence on the royalty 15:22:10
21 rate. They are things like those bottom two, 15:22:13
22 on the left, boxes, the established licensing 15:22:16
23 policy and the competitive position of the 15:22:20
24 parties. Is Microchip or SMSC sitting there? 15:22:21

1 Was it out actively trying to license this 15:22:26
2 patent? Yeah, I want to find lots of people 15:22:29
3 to license it, or was it trying to keep this 15:22:33
4 for itself and we're sort of having to force 15:22:35
5 them to license at this table? 15:22:37
6 The competitive position, we'll 15:22:39
7 talk a lot about that, the top right, 15:22:41
8 profitability and commercial success of the 15:22:44
9 product made under the patent. Obviously if 15:22:46
10 products that use this technology are 15:22:49
11 successful and profitable, that can drive up 15:22:52
12 the rate. 15:22:55
13 So all of these factors I have 15:22:56
14 taken into account to come up with the rate 15:22:58
15 that we'll talk about here in a minute. 15:23:00
16 Q. And rather than going through each of 15:23:02
17 these factors individually, do you have a 15:23:04
18 slide that summarizes what you concluded from 15:23:07
19 your analysis of those factors? 15:23:09
20 A. I do. I've really, after looking at 15:23:10
21 all those other factors, concluded that there 15:23:14
22 are four key things that would influence the 15:23:16
23 outcome of this negotiation. The first is 15:23:18
24 that the license to Aptiv authorizes direct 15:23:20

1 competition with Microchip's Athens and Sandia 15:23:24
2 products. 15:23:27
3 Before the negotiation, Unwired is 15:23:28
4 a potential customer. Aptiv is certainly a 15:23:32
5 potential customer, but if they start 15:23:35
6 supplying chips from internally, that internal 15:23:40
7 fabrication and supply of chips is directly 15:23:44
8 displacing the opportunity for Microchip to 15:23:48
9 make a sale. 15:23:51
10 So there is direct competition at 15:23:52
11 the chip level. There may not be any 15:23:54
12 competition at the hub level, but at the chip 15:23:57
13 level, with this license, Unwired and Aptiv 15:24:00
14 can get into the chip business for a 15:24:04
15 multi-host controller chip, and that's going 15:24:07
16 to be important. 15:24:09
17 Second is that Athens and Sandia 15:24:11
18 are highly profitable products. So the thing 15:24:14
19 that is going to be impacted by this 15:24:18
20 competition is actually a profitable product. 15:24:20
21 Third, the patented multi-host 15:24:23
22 architecture uniquely satisfies the demand for 15:24:26
23 single-lane CarPlay with persistent USB. 15:24:29
24 That's important. 15:24:33

1 And finally, this patented 15:24:34
2 multi-host architecture provides the lowest 15:24:37
3 cost CarPlay solution that meets the OEM 15:24:39
4 requirements. Those are the four things that 15:24:44
5 I sort of took into account as the most 15:24:46
6 influential on the rate. 15:24:49
7 Q. Let's start with the first bullet 15:24:51
8 point. What did you find there? 15:24:54
9 A. So here, it's looking at this 15:24:55
10 competitive dynamic, and as heard, quite a bit 15:24:58
11 of testimony about that already. Here is the 15:25:02
12 question: Are they really competitors? Isn't 15:25:06
13 Aptiv a customer of Microchip? 15:25:08
14 But you have to think about it, 15:25:12
15 there is this sort of chip supply level of the 15:25:13
16 business, supplying chips to the Tier 1 hub 15:25:17
17 makers like Aptiv who then supply products to 15:25:20
18 the OEMs. 15:25:24
19 Prior to entering into this 15:25:25
20 license, as Mr. Obolsky described, Microchip 15:25:28
21 and Aptiv -- Aptiv is a customer and they're 15:25:31
22 really business partners in trying to win 15:25:35
23 business from the OEMs. 15:25:37
24 What Aptiv is going to do with 15:25:39

1 this license, though, is essentially step into 15:25:41
2 the chip level chain of commerce. They now 15:25:43
3 have their own store to supply from. They are 15:25:47
4 not selling it to anybody else, but they're 15:25:51
5 going to get their chips from their own 15:25:53
6 internal supplier, not from Microchip. So 15:25:55
7 it's directly competitive. 15:25:59
8 Q. So what impact does granting a 15:26:02
9 license to a competitor have on the royalty 15:26:05
10 rate? 15:26:08
11 A. So in any case where you have -- I'm 15:26:08
12 looking at the difference between just an 15:26:11
13 inventor trying to license to somebody who 15:26:13
14 might commercialize their invention and 15:26:16
15 comparing that to a situation where you have 15:26:19
16 the -- you know, a competitive dynamic, the 15:26:21
17 competitive situation leads to higher royalty 15:26:26
18 rates. 15:26:29
19 Q. Did you see any evidence in this case 15:26:29
20 that the competitive impact actually occurred 15:26:32
21 here? 15:26:34
22 A. Yes. There's lots of documents and 15:26:34
23 lots of evidence that there was actually a 15:26:37
24 competitive -- not just a competitive threat, 15:26:40

1 but that it did materialize. 15:26:43
2 Q. Let's look at a couple of those. 15:26:45
3 MR. GRAY: Mr. Ferrer, could we 15:26:48
4 please see Exhibit 82. 15:26:50
5 BY MR. GRAY: 15:26:53
6 Q. Dr. Becker, what are we looking at 15:26:54
7 here? 15:26:55
8 A. So this is part of an email chain 15:26:56
9 that I think has been talked about a number of 15:26:58
10 times. This is from Mike Pennington to a 15:27:01
11 bunch of people at Microchip in February of 15:27:04
12 2016. 15:27:10
13 And it's my understanding from 15:27:12
14 this email that their draft -- they are 15:27:13
15 working on a message or a draft of a letter to 15:27:16
16 send to Delphi to say look, what you're doing 15:27:19
17 with the Unwired chip is -- is creating a 15:27:24
18 competitive situation. 15:27:28
19 And what they are wanting to say 15:27:30
20 or proposing to say is you may recall from our 15:27:32
21 conversation last fall that since Delphi's 15:27:36
22 purchase of Unwired technology, we have found 15:27:39
23 ourselves in the unique situation where Delphi 15:27:42
24 is now competing directly with Microchip as a 15:27:44

1 silicon supplier, so that's at the chip level, 15:27:48
2 with their development of their own custom 15:27:52
3 ASIC. We have seen Delphi position this ASIC 15:27:54
4 device against ours in the marketplace which 15:27:58
5 has been costing Microchip business. 15:28:00
6 So clearly, this -- the sale of 15:28:03
7 the -- or the use of the ASIC in their hubs is 15:28:08
8 creating a situation that is competitive with 15:28:12
9 Microchip's opportunity to sell Athens and 15:28:15
10 Sandia chips. 15:28:18
11 MR. GRAY: Mr. Ferrer, can we see 15:28:21
12 Exhibit 42, please. 15:28:24
13 THE WITNESS: So here, this is 15:28:32
14 backing up in time just a little bit. This is 15:28:33
15 November of 2015. This is Ganesh Moorthy to a 15:28:35
16 similar group of people. And sort of making 15:28:41
17 the statement that Unwired was an independent 15:28:45
18 company and Delphi in this field, I think 15:28:48
19 there's a typo there, field of play was not a 15:28:53
20 competitor. 15:28:56
21 That situation was changed 15:28:58
22 dramatically with the acquisition of Unwired 15:28:59
23 by Delphi. Price reductions were offered in 15:29:02
24 exchange for significant volume and revenue 15:29:05

1 growth. In fact, Unwired has been destroying 15:29:07
2 Microchip's revenue and profits with what they 15:29:10
3 have done. 15:29:13
4 And the key here is that situation 15:29:14
5 doesn't change just because Delphi acquired 15:29:17
6 them. So the internal supply of chips is 15:29:19
7 still competing with Athens and Sandia, even 15:29:23
8 though Delphi owns them. It is an alternative 15:29:27
9 that is displacing Microchip's opportunity to 15:29:30
10 make a sale. 15:29:32
11 BY MR. GRAY: 15:29:34
12 Q. Were you here when -- you said you 15:29:34
13 were here when Mr. Obolsky testified; correct? 15:29:36
14 A. Yes. 15:29:39
15 Q. And you recall some questions 15:29:39
16 suggesting that since Aptiv doesn't sell the 15:29:41
17 Boston chip to anyone else and only uses it 15:29:44
18 internally for hubs, that Aptiv couldn't be in 15:29:46
19 competition with Microchip? He talked about 15:29:51
20 that a little awhile ago; correct? 15:29:54
21 A. Yes. It -- I agree that they don't 15:29:56
22 sell -- Aptiv isn't making the Boston chip and 15:29:59
23 sending it out and sort of offering it to 15:30:05
24 anybody else. They are keeping it as their 15:30:08

1 own proprietary source for their hubs as a 15:30:09
2 competitive -- to give them a competitive 15:30:13
3 advantage over the other hub makers. 15:30:16
4 But it clearly competes at the 15:30:18
5 silicon level, at the chip level. It is a 15:30:22
6 chipmaker supplying chips to Aptiv that is 15:30:26
7 displacing Microchip. It is the essence of a 15:30:29
8 competitive relationship. 15:30:33
9 Q. Is that what Mr. Obolsky testified as 15:30:34
10 what was previously a win/win relationship now 15:30:37
11 became an Aptiv wins and Microchip loses 15:30:40
12 relationship? 15:30:43
13 A. Yes. 15:30:44
14 Q. Turning back to your list of key 15:30:47
15 factors... 15:30:49
16 MR. GRAY: If we could go back to 15:30:50
17 the presentation, please. 15:30:52
18 BY MR. GRAY: 15:30:54
19 Q. What's next? 15:30:54
20 A. So next is to look at the -- I think 15:30:54
21 I have established, at least in my mind, that 15:30:57
22 the license is going to authorize competition 15:30:59
23 with Athens and Sandia. 15:31:02
24 The next question is well, so 15:31:04

1 what? If you lose the sale of Athens or lose 15:31:06
2 the sale of Sandia, is that going to hurt 15:31:10
3 Microchip? We'll look at the profitability of 15:31:12
4 those two chips. 15:31:15
5 First, Athens is the chip that is 15:31:16
6 competing with this dual role hub product in 15:31:20
7 the 2015 to 2017 period. So I went and looked 15:31:24
8 at the profitability of that product. 15:31:28
9 Q. And what did you find about the 15:31:30
10 profitability of the Athens product? 15:31:32
11 A. So the Athens product is on the 15:31:34
12 market here from 2013 through June of 2019. 15:31:38
13 That's as far as I went with the data on the 15:31:44
14 profitability of Athens. And we can see that 15:31:46
15 that -- if I take the revenues and the units 15:31:49
16 and the margins, I get the $2.23 per chip for 15:31:53
17 that product over this time period. 15:31:58
18 Q. And is that calculation from 15:32:02
19 Exhibit 45? 15:32:05
20 A. It is. 15:32:05
21 Q. Did you also take a look at the 15:32:06
22 success and profitability of the Sandia 15:32:08
23 multi-host product? 15:32:11
24 A. I did. 15:32:11

1 Q. And what did you find there? 15:32:12
2 A. So I looked at two things here. One 15:32:13
3 was what was the expected profitability in the 15:32:16
4 2015 Sandia Business Plan, and found that if I 15:32:20
5 worked through the math on their forecast 15:32:26
6 tables in their financial section of that, 15:32:29
7 that they expected gross profits of $2.04 per 15:32:32
8 unit on the Sandia product line. 15:32:36
9 Q. Did you also look at the actual 15:32:39
10 profits of Sandia? 15:32:41
11 A. I did. So we saw essentially this 15:32:42
12 same calculation in the lost profits 15:32:47
13 calculation. Sandia generated gross profits 15:32:48
14 per unit of 2.01, so a little bit less than 15:32:53
15 the planned amount, but not a huge amount 15:32:56
16 different. 15:33:00
17 Q. If we go back to your list of key 15:33:00
18 factors, what's the next thing you found most 15:33:02
19 important? 15:33:04
20 A. So the next question was all right, 15:33:04
21 how important is this multi-host technology to 15:33:07
22 the success of the products that are being 15:33:12
23 sold that contain that technology? 15:33:14
24 So I looked at the evidence in the 15:33:16

1 case and talked to Mr. Zatkovich about this as 15:33:20
2 well to get a sense of what's the importance 15:33:23
3 of that particular multi-host architecture in 15:33:27
4 being able to satisfy the U.S. Big 3 demand 15:33:31
5 for single-lane CarPlay with persistent USB. 15:33:36
6 And what I found is that it is 15:33:40
7 very important. It, in fact, is uniquely 15:33:42
8 satisfying that demand. 15:33:46
9 Q. And do you understand that Mr. Bohm 15:33:48
10 testified that he and the rest of the 15:33:50
11 Microchip engineers are unaware of any other 15:33:53
12 way to provide multi-host capability other 15:33:55
13 than with this patent? 15:33:58
14 A. So yes, I'm aware of Mr. Bohm's 15:33:59
15 testimony in that regard. I've seen testimony 15:34:02
16 from various people in this case, deposition 15:34:05
17 testimony, that supports that, and the 15:34:10
18 marketing evidence that I looked at earlier 15:34:12
19 where, let's just go look in the marketplace 15:34:15
20 and see. We're seven years into it. Is there 15:34:17
21 anybody else selling it? And there's only 15:34:21
22 two. 15:34:23
23 So it tells me that it's uniquely 15:34:23
24 responsible for satisfying that demand for 15:34:26

1 single-lane CarPlay with persistent USB. 15:34:29
2 Q. Did you see any documents from Aptiv, 15:34:31
3 itself, that confirmed your conclusion on this 15:34:34
4 factor? 15:34:36
5 A. I did. 15:34:37
6 Q. What are you showing on this slide? 15:34:39
7 A. So this is a page from an Aptiv -- it 15:34:41
8 was a Delphi presentation at the time, talking 15:34:46
9 about the hubs and media modules, and the 15:34:49
10 headline on this slide says, "How do we 15:34:55
11 support CarPlay in hubs and media modules?" 15:34:57
12 And this first bullet point is, I 15:35:01
13 thought, very significant, that it says, "What 15:35:04
14 differentiates us," meaning Delphi, "is our 15:35:07
15 own ASIC to support Apple CarPlay." 15:35:11
16 And then it goes on to say, "The 15:35:15
17 chip is designed for multi-port architecture 15:35:17
18 with CarPlay support through a unique 15:35:21
19 host-to-host bridging technology." 15:35:23
20 So they're not saying that it's 15:35:26
21 other things in the hub; they're saying the 15:35:28
22 thing in the hub that is uniquely 15:35:30
23 differentiating us in our ability to make 15:35:32
24 these -- you know, have this unique product, 15:35:35

1 is this unique host-to-host bridging 15:35:37
2 technology. 15:35:40
3 And the next three points really 15:35:41
4 basically say the things that have been talked 15:35:44
5 about here. Multiple downstream ports enable 15:35:46
6 a single connection to the USB to the head 15:35:52
7 unit, so that's the single wire. 15:35:55
8 The next bullet point is any of 15:35:58
9 the downstream ports may host CarPlay, so it's 15:35:59
10 one wire up, CarPlay on any downstream port. 15:36:02
11 And the third is while one of the 15:36:06
12 ports is occupied with Apple CarPlay, the rest 15:36:08
13 of the ports in the system can stay active and 15:36:11
14 may exchange data. 15:36:14
15 So they're saying what Mr. 15:36:16
16 Zatkovich told me and what I think the market 15:36:19
17 is kind of saying, is that if you want 15:36:21
18 single-lane persistent USB CarPlay, which the 15:36:25
19 U.S. OEMs wanted, this technology is the only 15:36:28
20 way to do it. 15:36:32
21 Q. And the bottom highlighted bullet 15:36:34
22 point, that references persistent USB? 15:36:37
23 A. Yes. That's another way of saying 15:36:40
24 persistent USB, when you say that the rest of 15:36:43

1 the ports in the system stay active and may 15:36:45
2 exchange data when one is occupied with 15:36:48
3 CarPlay. 15:36:51
4 Q. Okay. 15:36:52
5 What's the last point in your list 15:36:52
6 of key factors? 15:36:54
7 A. So the last point is really one of 15:36:56
8 the benefits. It's something that I can sort 15:36:59
9 of get my teeth into and actually start to put 15:37:01
10 some numbers on it. 15:37:04
11 We've seen that, yeah, this is 15:37:06
12 unique and the OEMs wanted it and it's 15:37:07
13 awesome, the single-lane persistent USB, but 15:37:11
14 how do I quantify what that benefit is? 15:37:15
15 And what we find is that one of 15:37:18
16 the key benefits of this is that it provides 15:37:20
17 the lowest cost solution that meets these 15:37:22
18 requirements for single lane -- well, if you 15:37:27
19 want persistent USB on every port, this is the 15:37:29
20 lowest cost way to do it. 15:37:34
21 And we're going to look at that 15:37:37
22 costing, but this idea of the architecture 15:37:39
23 providing a cost advantage is a way to 15:37:42
24 calibrate the value of the technology. 15:37:45

1 Q. So what's your basis for concluding 15:37:48
2 that the patented invention provided the 15:37:50
3 lowest cost solution? 15:37:52
4 A. Well, a couple things. One is I 15:37:53
5 talked to Mr. Zatkovich about it and the -- as 15:37:56
6 to whether this architecture, can you get 15:38:04
7 persistent USB in any other way, and the 15:38:08
8 answer was no. 15:38:12
9 And then there is actually 15:38:14
10 documents from Microchip and from Aptiv that 15:38:15
11 very consistently are recognizing the 15:38:20
12 architecture as providing a cost advantage. 15:38:22
13 Q. Let's look at some of those 15:38:24
14 documents, starting with a Microchip document. 15:38:25
15 A. So this is out of the business plan, 15:38:28
16 Exhibit 25, the Sandia Product Business Plan. 15:38:32
17 This is in a section of it where they set out 15:38:35
18 the Sandia multi-host architecture, and in the 15:38:38
19 paragraph that I have pulled out, they really 15:38:44
20 make the statement that is relevant to this 15:38:46
21 point. 15:38:48
22 It says, "This architecture has 15:38:49
23 the advantage of utilizing a single USB path 15:38:50
24 and hence a single port and a normal USB 15:38:53

1 cable, and they all contribute to an optimal 15:38:57
2 BOM," or bill of materials. 15:39:00
3 Q. What is a bill of materials? 15:39:03
4 A. The bill of materials, and in the 15:39:05
5 industry, manufacturing industry, people just 15:39:08
6 call it a BOM. You take -- you could have a 15:39:10
7 bill of materials for this display here and 15:39:14
8 just add up, there is some plastic, there is a 15:39:17
9 screen, there is some chips, there is a cable; 15:39:20
10 all the pieces you need to make a product make 15:39:22
11 up its bill of materials. 15:39:25
12 You add up all the costs of I need 15:39:27
13 two of these and one of these and one of 15:39:30
14 these. You add it all up. That's your total 15:39:32
15 BOM cost, or bill of materials cost. 15:39:35
16 Q. And so what does it mean that the 15:39:37
17 patented solution provides an optimal BOM? 15:39:40
18 A. Optimal BOM, I think that's 15:39:44
19 synonymous with the lowest cost solution. The 15:39:46
20 optimal, you're obviously always trying to 15:39:50
21 reduce your bill of materials cost, so an 15:39:53
22 optimal BOM is the lowest cost solution. 15:39:56
23 Q. Did you do anything to actually 15:39:58
24 measure the cost advantage provided by the 15:40:00

1 patented invention? 15:40:02
2 A. I did. 15:40:03
3 Q. Can you describe, in a high level, 15:40:03
4 how you went about that analysis? 15:40:06
5 A. So at a high level, I took the 15:40:07
6 patented sort of chip, the basic architecture 15:40:11
7 of the chip and looked at the makeup of that, 15:40:16
8 used that architecture, what were the main 15:40:18
9 components that you would have to have, and 15:40:21
10 then compared it to the two alternative 15:40:23
11 architectures to get as close to meeting the 15:40:26
12 feature requirements or providing the feature 15:40:31
13 requirements of that patented hub. 15:40:35
14 So we're going to compare the 15:40:39
15 patented architecture to the sort of two 15:40:41
16 closest architectures that gets you some, if 15:40:45
17 not all, of the features. 15:40:48
18 Q. Okay. 15:40:49
19 And what are the two alternatives? 15:40:50
20 A. So there are two alternatives that I 15:40:52
21 found in the Microchip literature from talking 15:40:56
22 to Mr. Obolsky about what Microchip, itself, 15:40:59
23 viewed as the alternatives that were available 15:41:03
24 to its customers. 15:41:05

1 There are sort of two different 15:41:07
2 approaches. One is stick with the single 15:41:10
3 lane, which is on the right, stick with the 15:41:13
4 single-lane solution, but give up on the 15:41:15
5 persistent USB. So you can do it without a 15:41:19
6 path -- with a single-lane non-persistent USB, 15:41:25
7 but if you want persistent USB, you've got to 15:41:28
8 go to the left-hand side of the screen and you 15:41:31
9 can get the persistence, but you've got to 15:41:33
10 give up the single lane. So now you've got 15:41:36
11 the two-lane persistent USB. Those are the 15:41:38
12 two alternatives that I have evaluated. 15:41:42
13 Q. And the alternative on the right, the 15:41:44
14 single-lane alternative, do you understand 15:41:47
15 that to be Microchip's Athens FlexConnect 15:41:51
16 solution? 15:41:54
17 A. Yes. That's Athens, that 8460X chip 15:41:54
18 uses an Athens chip, and you can do 15:42:00
19 single-lane CarPlay on downstream ports if you 15:42:03
20 connect to an OTG port through Athens, but it 15:42:07
21 cannot do persistence. 15:42:12
22 Q. And do you have an understanding of 15:42:12
23 what the USB3740 chip is that's here? 15:42:14
24 A. I understand that to be a USB switch, 15:42:19

1 and we see those switches in both -- both 15:42:22
2 solutions. 15:42:25
3 Q. And do you know why those switches 15:42:26
4 are required in these alternatives? 15:42:27
5 A. Well, again, this is getting into 15:42:30
6 some technical stuff that I learned from Mr. 15:42:32
7 Obolsky and Mr. Zatkovich, but it's my 15:42:34
8 understanding that when you have essentially 15:42:37
9 multiple places in your car that you can plug 15:42:42
10 the USB into, like in my -- in my pickup 15:42:44
11 truck, there's two in the console. In order 15:42:47
12 to have either one of those work, I don't have 15:42:51
13 to look and see, is one of them there that's 15:42:53
14 labeled CarPlay. I can plug into either one 15:42:56
15 to have that switching. So that either one 15:43:00
16 could be switched over to either one that's 15:43:02
17 talking to the head unit, you'd have to have 15:43:04
18 those switches. 15:43:07
19 Q. So are the alternatives you're 15:43:09
20 showing here on this slide something that you 15:43:11
21 created for your analysis in this litigation? 15:43:15
22 A. No. I was an engineer a long time 15:43:17
23 ago, but I stopped being one back in probably 15:43:19
24 1986. So no, I did not create these. These 15:43:24

1 specific architectures were actually found in 15:43:28
2 that Sandia Business Plan. But I talked to 15:43:33
3 Mr. Obolsky about them and I talked to Mr. 15:43:35
4 Zatkovich about them as well. 15:43:37
5 Q. And do you have an understanding of 15:43:39
6 whether car manufacturers, in fact, bought 15:43:41
7 both of these solutions? 15:43:43
8 A. Yes. Yes. It's my understanding 15:43:44
9 that there are -- there are car manufacturers 15:43:47
10 who are -- have purchased both solutions as -- 15:43:50
11 to meet their requirements. 15:43:57
12 Now, The Big 3 have the demand for 15:43:59
13 the single-lane persistent USB. It's my 15:44:01
14 understanding that those people are not -- GM 15:44:05
15 Ford and Chrysler here in the U.S. aren't 15:44:09
16 doing this. They are obviously buying the 15:44:11
17 Aptiv product. 15:44:13
18 Q. Did you see any evidence that Aptiv 15:44:14
19 also considered the value of the multi-host 15:44:16
20 controller technology by comparing it to 15:44:18
21 alternatives? 15:44:20
22 A. Yes. This was actually kind of a 15:44:22
23 surprise, that when I started looking at the 15:44:23
24 Aptiv documents related to their product, I 15:44:26

1 found kind of a similar expression of this is 15:44:31
2 uniquely satisfying single-lane CarPlay, and 15:44:34
3 we can look at how good it is by comparing it 15:44:39
4 to these two solutions, or things very similar 15:44:41
5 to these two solutions. 15:44:45
6 MR. GRAY: Mr. Ferrer, can we 15:44:47
7 please pull up Exhibit 18. 15:44:49
8 BY MR. GRAY: 15:44:53
9 Q. Dr. Becker, what is Exhibit 18? 15:44:54
10 A. So this is a presentation that Delphi 15:44:56
11 made to an organization called the PACE Award 15:44:59
12 that Automotive News has, and it's my 15:45:04
13 understanding that this was their presentation 15:45:07
14 when they were finalists in trying to convince 15:45:08
15 the jury that they should win, which they 15:45:12
16 ultimately did. 15:45:14
17 This is from January of 2016, and 15:45:16
18 so they -- there's a lot in here where they're 15:45:18
19 talking about the benefits of the dual role 15:45:21
20 hub. 15:45:23
21 MR. GRAY: Can we please turn to 15:45:28
22 page 13 of Exhibit 18. 15:45:30
23 BY MR. GRAY: 15:45:34
24 Q. Dr. Becker, what does this slide 15:45:35

1 show? 15:45:36
2 A. So this is a general description or 15:45:37
3 summary by Delphi of the sort of challenge 15:45:39
4 that they faced when they were getting ready 15:45:44
5 to launch their product. And if you can pull 15:45:47
6 out that top bullet point. 15:45:50
7 So they say when Apple announced 15:45:57
8 CarPlay in 2012, iPhone users couldn't wait, 15:45:59
9 just sort of read ahead. There was only one 15:46:04
10 problem. OEMs couldn't make it work without 15:46:06
11 driving up the cost, limiting the 15:46:09
12 functionality or taking up all the space in 15:46:12
13 the head unit. 15:46:16
14 And we'll see what they mean by 15:46:16
15 driving up the cost and limiting the 15:46:18
16 functionality, is that if you weren't going to 15:46:20
17 use the patented multi-host technology, the 15:46:23
18 other solutions have some combination of 15:46:28
19 driving up the cost and accepting a more 15:46:30
20 limited functionality. 15:46:34
21 MR. GRAY: Can we please turn to 15:46:36
22 page 18. 15:46:38
23 BY MR. GRAY: 15:46:43
24 Q. And, Dr. Becker, what is page 18 15:46:43

1 talking about? 15:46:45
2 A. So here, they are laying out 15:46:46
3 potential options for multiple USB connections 15:46:48
4 with Apple CarPlay. This is really the same 15:46:52
5 thing that I saw in the Sandia Business Plan 15:46:55
6 where they said there's three ways that we can 15:46:57
7 give carmakers multiple connections and do 15:47:00
8 CarPlay, a -- the third one is the Delphi dual 15:47:04
9 role hub, so that's the patented one. No. 2 15:47:09
10 is to use a port reverse hub. That's the 15:47:14
11 single-lane solution, and they say developed 15:47:17
12 by another IC manufacturer. That's actually 15:47:20
13 the FlexConnect Athens that lets you do a 15:47:22
14 single-lane backup to the head unit. Or they 15:47:26
15 can -- the first option is to add multiple 15:47:31
16 paths. That's the two-wire solution. 15:47:33
17 So it's really the same expression 15:47:35
18 of we can do it the patented way or 15:47:38
19 essentially downsize with two alternatives, 15:47:44
20 single lane, dual lane. 15:47:46
21 And the -- that box at the bottom 15:47:49
22 actually was interesting because it says, "The 15:47:52
23 benefits of the Delphi dual role hub are 15:47:55
24 understood by studying the drawbacks of 15:47:58

1 competing solutions." 15:48:01
2 Q. Do you agree with that statement? 15:48:04
3 A. That's essentially what I'm doing in 15:48:05
4 my costing analysis, is to compare the 15:48:06
5 patented architecture to these two 15:48:09
6 alternatives that both Microchip and Delphi 15:48:12
7 are saying are the things that were out there 15:48:15
8 in the market as alternatives. 15:48:18
9 Q. Okay. 15:48:22
10 And can you walk the jury through 15:48:22
11 your quantification of the cost benefit of the 15:48:25
12 patented invention? 15:48:28
13 A. Sure. So this is the two-lane 15:48:29
14 alternative or the two-wire solution. The 15:48:31
15 little diagram on the left is just a block 15:48:36
16 diagram of that two-wire solution, and I've 15:48:39
17 got a red box over the pieces of that solution 15:48:42
18 that if you do Sandia, the multi-host Sandia, 15:48:46
19 you don't need -- it basically replaces the 15:48:53
20 four things that are covered up. 15:48:59
21 There's two USB8460Xs and two 15:49:01
22 USB3740s. If we cost out just those pieces, 15:49:06
23 because the rest of the stuff really isn't 15:49:10
24 relevant to the patent, if we cost out those 15:49:13

1 pieces, we get a bill of materials of $5.90, 15:49:16
2 and the average cost of the Sandia solution 15:49:20
3 for a two port Sandia is 2.62. 15:49:23
4 So we can see that relative to the 15:49:28
5 two-lane alternative, Sandia is providing a 15:49:31
6 $3.28 benefit. 15:49:36
7 Q. So is it fair to say that on the 15:49:37
8 right side of the screen here, you are 15:49:40
9 comparing the market value of the patented 15:49:42
10 solution to the market value of the two-lane 15:49:46
11 solution? 15:49:50
12 A. Yes. The portion of the market value 15:49:50
13 of the two-lane solution that relates to the 15:49:53
14 piece that sort of overlaps with what Sandia 15:49:56
15 is doing. 15:49:59
16 Q. So if a U.S. OEM were to choose the 15:50:01
17 two-lane solution that we're looking at here 15:50:05
18 on the screen, would it provide CarPlay with 15:50:07
19 persistent USB on all downstream ports? 15:50:09
20 A. Yes. This, from a functionality 15:50:12
21 standpoint, this solution is the one that, if 15:50:15
22 you said I have to have multiple ports and I 15:50:19
23 have to have CarPlay on those ports and I have 15:50:23
24 to have persistence, everything I have heard 15:50:25

1 says the only way you can do that is with a 15:50:29
2 two-lane solution, and that costs out at 3.28. 15:50:31
3 So that's telling me that CarPlay 15:50:36
4 on every port with persistent USB, the benefit 15:50:39
5 or value that's being created by the Sandia 15:50:43
6 and this multi-host technology, is $3.28. 15:50:47
7 MR. GRAY: Can we look at the next 15:50:56
8 slide, please. 15:50:57
9 BY MR. GRAY: 15:50:59
10 Q. What's that slide showing us, Dr. 15:50:59
11 Becker? 15:51:01
12 A. So this is from the Sandia Business 15:51:01
13 Plan. I went and looked to just sort of 15:51:03
14 confirm that my analysis, do I see the same 15:51:05
15 thing in their sort of assessment of the 15:51:10
16 two-lane alternative, and they reached the 15:51:13
17 same conclusion I did, which is although this 15:51:15
18 architecture meets the overall system needs of 15:51:19
19 USB persistence and has the benefit of 15:51:22
20 guaranteeing a dedicated path to the head unit 15:51:25
21 for CarPlay, the fact that it requires two 15:51:28
22 upstream ports has drawbacks. And they go on. 15:51:30
23 And really those drawbacks are what are 15:51:33
24 driving a lot of that $3.28 difference. 15:51:36

1 Q. Okay. 15:51:39
2 What did you do next for the 15:51:40
3 single-lane alternative? 15:51:42
4 A. So the next alternative is I looked 15:51:44
5 at the single-lane alternative and costed it 15:51:47
6 out. The same thing, I sort of went and 15:51:49
7 looked at the bill of materials for the single 15:51:52
8 lane FlexConnect or Athens solution and 15:51:57
9 compared it to what would change if you did it 15:52:01
10 with Sandia, and that provided the cost 15:52:04
11 savings of 63 cents. 15:52:09
12 Q. Does this single-lane alternative 15:52:12
13 provide all of the functionality of the 15:52:15
14 patented invention like the two-lane 15:52:17
15 alternative does? 15:52:19
16 A. No, that's -- so it's not surprising 15:52:19
17 that the cost difference is lower because 15:52:22
18 we've now left out one key component or one 15:52:23
19 key feature, which is the feature that the 15:52:27
20 U.S. OEMs were kind of putting their foot down 15:52:31
21 and saying they had to have; that's 15:52:34
22 persistence. If you don't need persistence, 15:52:35
23 then you can do this solution without Sandia 15:52:39
24 at the 63 cent cost differential. 15:52:42

1 Q. So without the patented technology, 15:52:47
2 you could either have single lane or CarPlay 15:52:50
3 with persistent USB, but with two lanes, or 15:52:53
4 single-lane CarPlay without persistent USB; is 15:52:56
5 that fair? 15:53:00
6 A. That's really the trade-off. You've 15:53:00
7 got a cost penalty in either sense, and with 15:53:04
8 respect to the value of the technology, a cost 15:53:07
9 advantage in either sense. But if you are 15:53:10
10 going to fully value that persistence that the 15:53:12
11 multi-host controller provides, you really 15:53:16
12 have to look at the value of that difference 15:53:17
13 to the 3.28, because the 63 cent difference is 15:53:20
14 given up on the persistence. 15:53:24
15 Q. Now, I noticed -- 15:53:26
16 MR. GRAY: Well, let's get to the 15:53:28
17 next slide, please. 15:53:29
18 BY MR. GRAY: 15:53:29
19 Q. What is this slide showing? 15:53:32
20 A. So this is just to close this off 15:53:33
21 with what Microchip had to say about it. This 15:53:35
22 is their assessment, and it says, "When 15:53:38
23 CarPlay is active, the other port can be used 15:53:41
24 for charging, but no USB data functions are 15:53:44

1 possible. This port is considered to have non 15:53:47
2 persistent USB functionality." 15:53:49
3 So they are acknowledging that the 15:53:52
4 drawback of the Athens one-lane solution is 15:53:54
5 that you have to give up on the persistence. 15:53:58
6 Q. Now, I notice that both of your cost 15:54:02
7 comparisons are based around Microchip parts 15:54:04
8 rather than Aptiv parts. Why is that? 15:54:07
9 A. Well, a couple of reasons. One is 15:54:09
10 that the hubs that are being built with this 15:54:13
11 largely have Microchip parts in them. The one 15:54:16
12 question would be, you know, I'm comparing to 15:54:19
13 Sandia and why not compare it to the Boston 15:54:23
14 chip? Well, the Boston chip was never sold. 15:54:28
15 They used it internally. So I don't have a 15:54:30
16 market-based price to use to compare the cost 15:54:33
17 of that. 15:54:38
18 So I went with Sandia as the cost 15:54:39
19 comparison because we do have a market tested 15:54:43
20 price for that. That selling price that I 15:54:47
21 used was what the chip actually is sold for to 15:54:49
22 the tune of eight million units. So it is a 15:54:54
23 real market-based price. 15:54:56
24 Q. So in your analysis, are you 15:54:57

1 essentially assuming that Aptiv could have 15:54:59
2 sold the Boston chip for the same price that 15:55:01
3 Microchip sold the Sandia chip? 15:55:05
4 A. I guess I -- in a roundabout way, one 15:55:08
5 could suggest that I am, but since its 15:55:12
6 functionality -- I don't know whether they 15:55:16
7 really could have sold it for as much because 15:55:18
8 I think there's some evidence that it didn't 15:55:20
9 perform as well, but I'm essentially comparing 15:55:22
10 what the market would see as the difference in 15:55:29
11 the cost. 15:55:32
12 Q. So by using the Sandia chip, though, 15:55:33
13 does that mean that you are being 15:55:36
14 conservative? 15:55:38
15 A. Yes. I mean, if I had used Aptiv's 15:55:39
16 cost to make the Boston chip, these cost 15:55:42
17 savings would be much higher because the 15:55:47
18 Boston solution, I think there's evidence that 15:55:49
19 it only costs them something like 1.50 to make 15:55:52
20 that chip. 15:55:57
21 So if we went back to those two 15:55:57
22 prior charts and substituted $1.50 in place of 15:56:00
23 the 2.63, the implied value of this technology 15:56:04
24 would go up by more than a dollar, in both 15:56:08

1 comparisons. 15:56:12
2 Q. Can you summarize for the jury what 15:56:15
3 you concluded from your evaluation of the 15:56:17
4 patented multi-host technology relative to 15:56:20
5 these two non-infringing alternatives? 15:56:25
6 A. Yes. So this table that I have 15:56:27
7 prepared here really just kind of puts it all 15:56:28
8 in one place. The patented multi-host 15:56:31
9 solution is over on the right and it checks 15:56:35
10 the boxes, as it were, in terms of the key 15:56:37
11 system requirements or considerations. It's 15:56:40
12 single lane, it's USB persistent, it provides 15:56:45
13 USB persistence and it provides CarPlay on any 15:56:48
14 port. So that was what the U.S. OEMs were 15:56:52
15 demanding. And it is the lowest cost way to 15:56:55
16 get that. 15:56:57
17 The other two alternatives are 15:56:59
18 either 63 cents more expensive or 3.28 more 15:57:01
19 expensive, but we can see with either of them, 15:57:06
20 there is essentially a trade-off. You have to 15:57:09
21 give up on one of the two key requirements of 15:57:12
22 the OEMs. 15:57:16
23 So there's nothing that replicates 15:57:17
24 the features of the patent, but for a 63 cent, 15:57:19

1 the 3.28 cent difference, you can go out there 15:57:24
2 with the next best alternative, giving up on 15:57:27
3 one of those key requirements. 15:57:30
4 Q. Did you look to see how the 15:57:31
5 conclusions you reached compared to the 15:57:33
6 conclusions that Aptiv reached when making a 15:57:34
7 similar comparison? 15:57:37
8 A. I did. We go back to that same 15:57:38
9 document where they were sort of pitching this 15:57:41
10 to the PACE jury when there were finalists for 15:57:43
11 that award. They actually had a table that 15:57:48
12 summarized their own assessment, and they 15:57:50
13 essentially reached the same conclusions I 15:57:53
14 did. 15:57:56
15 If you look at the vehicle system 15:57:56
16 cost line, they say that the dual role hub, 15:57:59
17 which is the one that uses the multi-host 15:58:01
18 controller, is lowest cost. The port reversal 15:58:03
19 hub, the middle column, that's the single-wire 15:58:08
20 solution using Athens. That has a moderate 15:58:10
21 vehicle system cost compared to the lowest. 15:58:14
22 And the two USB paths, that's the two-wire 15:58:17
23 solution, is the highest vehicle system cost. 15:58:20
24 So they -- they didn't put numbers 15:58:23

1 on it, but they got the same -- not just 15:58:25
2 directionally, but the same relative 15:58:31
3 assessment that I did. 15:58:33
4 Q. What about the feature comparison 15:58:34
5 other than just costs in this table? 15:58:36
6 A. So the feature comparison, same 15:58:38
7 thing, really they recognized the same 15:58:41
8 drawback, which is the single-wire port 15:58:43
9 reversal hub, you have to give up on 15:58:46
10 persistence, and that the two wire one does 15:58:49
11 give you persistent USB, but you drive the 15:58:54
12 cost way up. 15:58:58
13 Q. Have we now discussed the most 15:59:00
14 important factors that you considered in 15:59:03
15 determining the outcome of the hypothetical 15:59:04
16 negotiation? 15:59:06
17 A. We have. 15:59:07
18 Q. And were you able to use this 15:59:08
19 information to arrive at a royalty rate that 15:59:09
20 you thought was reasonable? 15:59:12
21 A. I -- I did, yes. 15:59:13
22 Q. Can you summarize for the jury what 15:59:15
23 that is? 15:59:17
24 A. So I took this information and went 15:59:18

1 back to that table, kind of imagined all 15:59:21
2 right, now I'm back at the table with the two 15:59:24
3 parties, SMSC/Microchip on one side and 15:59:26
4 Unwired and later it would become Aptiv on the 15:59:30
5 other side. And I thought about what would be 15:59:32
6 a reasonable negotiating range. 15:59:34
7 One side is going to say, I want 15:59:38
8 you to pay a lot; the other side will say, I 15:59:39
9 don't want to pay much, so where are they 15:59:42
10 going to be in that range. 15:59:44
11 I first bound that range by these 15:59:45
12 cost savings. Clearly Aptiv's or Unwired's 15:59:48
13 customers, they could go and say, we're not 15:59:54
14 going to take a license and we will offer our 15:59:56
15 customers alternative solutions, but those 15:59:59
16 solutions are going to be -- you have to give 16:00:03
17 up on cost savings of taking the license. So 16:00:05
18 that bounds it between 63 cents and $3.28 as 16:00:09
19 the measure of the value of this multi-host 16:00:15
20 technology. 16:00:17
21 I next said, all right, we've got 16:00:18
22 that range. We don't -- we're not sure what 16:00:21
23 the customers are going to do in terms of that 16:00:23
24 trade-off, but I think the midpoint of that 16:00:26

1 range is a reasonable sort of stake in the 16:00:29
2 ground for the parties to agree that the 16:00:31
3 implied cost savings, or the potential cost 16:00:36
4 savings, by using the Sandia technology is 16:00:41
5 around $1.95. So that sets the range at a 16:00:47
6 midpoint of the range. 16:00:52
7 The next thing is to give life to 16:00:54
8 this competitive dynamic that SMSC over there 16:00:57
9 on the right-hand side of the table knows that 16:01:01
10 when it licenses Unwired, it's going to give 16:01:03
11 up the opportunity to sell some chips. So I 16:01:05
12 put the profit per chip from Sandia and Athens 16:01:09
13 on here as a consideration. Certainly it's 16:01:17
14 something that would get talked about at that 16:01:22
15 negotiation. 16:01:25
16 And the last thing that I need to 16:01:26
17 consider is this timing issue that -- we're 16:01:29
18 talking about a license in 2014 where the 16:01:32
19 parties know that Unwired has a -- is going to 16:01:35
20 be first to market and that Microchip is not 16:01:41
21 going to get their product on the market until 16:01:45
22 the middle of 2017. 16:01:48
23 So that changes the bargaining 16:01:50
24 dynamic of it when Microchip isn't going to be 16:01:54

1 on the market until the middle of 2017. 16:01:58
2 So what I did to give life to that 16:02:01
3 is to say the first portion, if we think about 16:02:03
4 the length of this license, it's going to be 16:02:07
5 from 2014 to now, essentially, the beginning 16:02:09
6 of 2022. 16:02:14
7 And I look at how much of that 16:02:15
8 time period is Microchip in direct 16:02:16
9 head-to-head competition with Sandia and 16:02:21
10 Unwired/Aptiv chip and what percentage of it 16:02:25
11 is just Aptiv or Unwired is out there ahead of 16:02:28
12 Microchip. They're still getting the benefits 16:02:32
13 of the invention, but they're not necessarily 16:02:35
14 causing direct competition because Microchip 16:02:38
15 is not ready to enter the market. 16:02:41
16 If I weight those two time periods 16:02:44
17 between the low end of this range and the 16:02:47
18 midpoint of the cost savings, I get $1.40. 16:02:49
19 And considering all of the evidence in this 16:02:55
20 case and the Georgia-Pacific factors, I 16:02:56
21 concluded that that would be a reasonable 16:03:00
22 royalty that compensates Microchip, or SMSC, 16:03:01
23 for the value that is being generated, because 16:03:08
24 we can see, who get -- they are then able to 16:03:12

1 supply a chip that has persistent USB that 16:03:14
2 could be worth as much as 3.28, and they're 16:03:17
3 able to enter the market on this accelerated 16:03:21
4 timeframe for $1.40 unit, so I think that's a 16:03:24
5 reasonable royalty. 16:03:29
6 Q. So now that we have the reasonable 16:03:30
7 royalty of $1.40 per unit, what do we do with 16:03:31
8 it? 16:03:35
9 A. So in the context of this negotiation 16:03:36
10 for a license, we would take that -- the 16:03:40
11 $1.40, and if we were only talking about a 16:03:45
12 reasonable royalty, you would take 16:03:48
13 44.9 million chips and multiply it by $1.40 16:03:50
14 per unit and you would get 62.9 million in 16:03:57
15 royalties. 16:04:02
16 Q. Would that amount, in your opinion, 16:04:05
17 fully compensation Microchip's for Aptiv's 16:04:07
18 infringement? 16:04:11
19 A. In my opinion, it would not fully 16:04:11
20 compensate them, because this is just that 16:04:14
21 royalty over the whole time period. It 16:04:16
22 doesn't compensate them for the direct loss of 16:04:19
23 profits from the chip sales that I have 16:04:23
24 concluded were lost because of the 16:04:25

1 infringement. 16:04:27
2 Q. Do you have a slide that shows what 16:04:29
3 the damages would be if lost profits are 16:04:30
4 awarded? 16:04:32
5 A. Yes. So kind of putting this on the 16:04:33
6 timeline, the lost profits pick up in the 16:04:37
7 middle of 2017 when Sandia is fully on the 16:04:40
8 market. Those lost profits are 70.9 million 16:04:44
9 and that prior period at $1.40 per unit is 16:04:50
10 13.6 million. 16:04:55
11 Q. Have we now been through all of your 16:04:57
12 opinions? 16:04:59
13 A. Yes, I think we can now just sort of 16:04:59
14 summarize, sum up, and all I'd need to do is 16:05:02
15 add those two numbers together. This is back 16:05:05
16 to the slide that we looked at before. 16:05:08
17 In total, I think the adequate 16:05:11
18 compensation for the infringement, which is a 16:05:13
19 combination of reasonable royalty and lost 16:05:16
20 profits, is 84.4 million. 16:05:19
21 Q. So to be clear, in your opinion, you 16:05:22
22 believe the jury should decide in this case 16:05:25
23 that total damages are 84.4 million? 16:05:28
24 A. Yes. 16:05:31

1 MR. GRAY: Pass the witness. 16:05:33
2 MR. WIENER: I will try to be 16:05:44
3 brief. Don't let the binder deceive you. 16:05:46
4 - - - 16:05:46
5 CROSS-EXAMINATION 16:05:46
6 - - - 16:05:49
7 BY MR. WIENER: 16:05:49
8 Q. Good afternoon, Dr. Becker. 16:05:49
9 A. Good afternoon. 16:05:50
10 Q. Nice to see you again. My name is 16:05:51
11 Eric Wiener and I represent Aptiv. 16:05:53
12 Dr. Becker, you are a professional 16:05:55
13 economic consultant; right? 16:05:58
14 A. Yes. 16:05:59
15 Q. And that's what you've been doing for 16:05:59
16 the last 25 years? 16:06:01
17 A. At least that long. I've been 16:06:02
18 working as a economic or management consultant 16:06:04
19 for many more years than that, but I have been 16:06:08
20 doing this sort of economic consulting for 16:06:11
21 25 years. 16:06:14
22 Q. And clients pay you to testify at 16:06:14
23 trials like this; right? 16:06:17
24 A. That's a big part of what they do. 16:06:19

1 It's not the only thing I do. I get paid to 16:06:22
2 evaluate other things as well. But my typical 16:06:25
3 project is a project like this one where 16:06:28
4 there's at least a possibility that I might 16:06:32
5 need to show up and explain my opinions to a 16:06:34
6 jury. 16:06:38
7 Q. So yes, clients pay you to testify at 16:06:38
8 trials like this? 16:06:42
9 A. Yes. Client -- I don't do anything 16:06:42
10 for, you know -- I used to do a lot of pro 16:06:45
11 bono work, but I do get paid for what I do and 16:06:49
12 I testify at trials. 16:06:51
13 Q. And you testify on a wide range of 16:06:52
14 types of cases; right? 16:06:54
15 A. Yes. The economic issues that I look 16:06:56
16 at and my toolkit that I use cuts across a 16:06:58
17 pretty dramatic swath of types of industries. 16:07:02
18 Q. And that includes cases involving 16:07:06
19 intellectual property? 16:07:08
20 A. Yes. So about half of all my work is 16:07:10
21 intellectual property and the other half is 16:07:14
22 valuing other types of things. 16:07:16
23 Q. And you testify in cases involving 16:07:18
24 antitrust; right? 16:07:21

1 A. Yes, I do a good bit of antitrust 16:07:22
2 work. 16:07:26
3 Q. And other kinds of commercial 16:07:26
4 disputes? 16:07:28
5 A. Yes, contract disputes, all sorts of 16:07:28
6 things. 16:07:32
7 Q. You testify in a lot of different 16:07:32
8 industries? 16:07:34
9 A. Yes. 16:07:34
10 Q. Okay. 16:07:35
11 In giving your opinion on damages, 16:07:35
12 you're making certain assumptions; right? 16:07:37
13 A. Absolutely. 16:07:39
14 Q. And your opinions are only as good as 16:07:40
15 the assumptions on which they are based? 16:07:42
16 A. That's fair. 16:07:44
17 Q. Okay. 16:07:45
18 You don't have any opinions in 16:07:45
19 this case about whether or not Aptiv's accused 16:07:48
20 product infringes the asserted claims; right? 16:07:50
21 A. That's correct. 16:07:53
22 Q. And you're assuming, for the purposes 16:07:53
23 of your damages analysis, that Athens product 16:07:55
24 meets each and every limitation of at least 16:07:58

1 one of the asserted claims; right? 16:08:01
2 A. Yes. 16:08:04
3 Q. And if that assumption is wrong, then 16:08:05
4 there are no damages; right? 16:08:07
5 A. Yes, that's correct. 16:08:08
6 Q. Okay. 16:08:09
7 Damages -- 16:08:10
8 A. It's correct that there are no 16:08:10
9 damages. 16:08:12
10 Q. Correct. The damages number would be 16:08:12
11 zero? 16:08:15
12 A. You wouldn't even get to the damages 16:08:15
13 question. The way that this works is that you 16:08:17
14 wouldn't even go to the damages question. It 16:08:22
15 wouldn't be zero; you just wouldn't get to 16:08:24
16 damages. 16:08:26
17 Q. No damages? 16:08:26
18 A. Yes. 16:08:29
19 Q. And patent claims are either valid or 16:08:29
20 invalid; right? 16:08:33
21 A. Absolutely. 16:08:34
22 Q. And that's something you have 16:08:35
23 experience with; right? 16:08:36
24 A. With the validity analysis? 16:08:38

1 Q. Sure. You testified as a damages 16:08:42
2 expert in cases where the patents were found 16:08:44
3 to be invalid; correct? 16:08:47
4 A. Oh, yeah, yeah, certainly. Like I 16:08:49
5 said, I get involved in that end of the case. 16:08:52
6 In practically every patent case I've worked 16:08:54
7 on, there is one side, the defense is 16:08:57
8 challenging the validity of the patents and 16:09:01
9 there have been some cases where they don't 16:09:04
10 get to the damages question because the patent 16:09:05
11 was found to be invalid. 16:09:08
12 Q. Now, you don't have an opinion about 16:09:10
13 whether or not the asserted claims in this 16:09:12
14 lawsuit are valid; right? 16:09:14
15 A. That's right. No opinion at all. 16:09:16
16 Q. And just like with infringement, if 16:09:18
17 the jury finds that all of the asserted claims 16:09:20
18 are invalid, no damages; right? 16:09:23
19 A. Right. 16:09:26
20 Q. So your testimony about damages only 16:09:28
21 matters if the jury finds that one of the 16:09:30
22 asserted claims, 23, 24 or 25, is both 16:09:33
23 infringed and valid? 16:09:37
24 A. Correct. 16:09:39

1 Q. Okay. 16:09:40
2 Now, you were here and you 16:09:40
3 listened to Mr. Obolsky testify yesterday; 16:09:42
4 correct? 16:09:45
5 A. Yes. 16:09:45
6 Q. And you heard him say, in the context 16:09:45
7 of supplying parts to Aptiv and the other 16:09:47
8 parts of the industry, that they consider this 16:09:50
9 to be a narrow quarrel between Microchip and 16:09:53
10 Athens; right? 16:09:55
11 A. I heard him talk about if you look at 16:09:57
12 Microchip, the breadth of their business and 16:10:02
13 the breadth of the business they do with 16:10:06
14 Aptiv, I do recall him -- I don't know if he 16:10:08
15 used the word exactly narrow, but it's clearly 16:10:11
16 a small part of the overall relationship. 16:10:16
17 Q. That's why we have a court reporter 16:10:18
18 here and we'll find out in the transcript. 16:10:20
19 But you also saw evidence that at 16:10:22
20 the time, in 2015, when Microchip was deciding 16:10:25
21 whether or not to develop the Sandia product, 16:10:28
22 it wasn't sure that it was worth investing 16:10:31
23 one-and-a-half or $2 million to develop that 16:10:34
24 product; right? 16:10:37

1 A. I do recall that evidence, that they, 16:10:38
2 given what they -- where they thought the OEM 16:10:41
3 demands were and what they thought about the 16:10:45
4 USB -- the issue of accepting a non-standard 16:10:47
5 solution, given those risks, they -- I think 16:10:53
6 they were questioning whether it was worth the 16:10:56
7 investment. 16:10:58
8 Q. Okay. 16:10:58
9 And yet despite the fact that they 16:10:59
10 didn't think it was necessarily worth 16:11:02
11 one-and-a-half to $2 million to invest in, in 16:11:04
12 fact, Mr. Obolsky clarified and said this is a 16:11:07
13 narrow quarrel, Microchip was asking for 16:11:10
14 almost $85 million in damages; right? 16:11:13
15 A. Yes. 16:11:16
16 Q. Okay. 16:11:16
17 And that's not all; right? That's 16:11:17
18 only damages up through what, November of last 16:11:19
19 year? 16:11:21
20 A. Correct. 16:11:22
21 Q. Right. 16:11:22
22 It's still running; right? 16:11:23
23 A. I would assume so. I think that 16:11:25
24 Aptiv is still selling the chips that I have 16:11:27

1 to assume are infringing. 16:11:30
2 Q. So 85 million and counting in 16:11:31
3 damages? 16:11:34
4 A. Yes. 16:11:34
5 Q. Now, in your lost profits analysis, 16:11:35
6 I'd like to start with that part of your 16:11:37
7 opinion, you were looking at what would have 16:11:40
8 happened if Aptiv had not sold dual role hubs 16:11:42
9 that had the Boston 2 chip in it; right? 16:11:45
10 A. Right. 16:11:48
11 Q. And you reconstruct the market to 16:11:48
12 find out what would have happened if it had 16:11:50
13 not made those accused infringement sales; 16:11:52
14 right? 16:11:56
15 A. Right. 16:11:56
16 Q. Okay. 16:11:56
17 And you were saying that if Aptiv 16:11:57
18 had not made the sales of its modules with the 16:11:58
19 Boston 2 chip, Microchip would have made sales 16:12:01
20 of its Sandia chip starting in the third 16:12:04
21 quarter of 2017; right? 16:12:07
22 A. They would have made more sales of 16:12:10
23 Sandia than they did. 16:12:12
24 Q. Okay. 16:12:14

1 A. They did make sales -- they started 16:12:14
2 to make sales in the third quarter of 2017, 16:12:17
3 actually in the second quarter. I'm saying 16:12:20
4 they would have made more sales. 16:12:22
5 Q. And it's your opinion that they would 16:12:24
6 have made additional unit sales of a Sandia 16:12:26
7 chip for each and every dual role hub that 16:12:30
8 Aptiv sold in the real world; right? 16:12:34
9 A. Yes. 16:12:36
10 Q. Starting in the third quarter of 16:12:36
11 2017? 16:12:40
12 A. Yes. 16:12:40
13 Q. Now, you don't offer a lost profits 16:12:41
14 calculation for the time period before the 16:12:45
15 third quarter of 2017; right? 16:12:47
16 A. Correct. 16:12:49
17 Q. And your lost profits opinion is 16:12:49
18 based solely on how much additional profits 16:12:51
19 Microchip would have made on the Sandia 16:12:55
20 multi-host chip; correct? 16:12:57
21 A. Yes. 16:12:59
22 Q. Okay. 16:12:59
23 You don't have -- your $84 million 16:12:59
24 total damages number did not include -- let me 16:13:03

1 strike that. 16:13:06
2 Your lost profits calculation did 16:13:07
3 not include a calculation of lost profits 16:13:09
4 based on the Athens chip; correct? 16:13:11
5 A. Correct. 16:13:13
6 Q. And it's your opinion, in fact, that 16:13:14
7 there are no lost profits damages for sale of 16:13:18
8 the Athens chip; correct? 16:13:21
9 A. Well, I looked at the question of 16:13:24
10 whether there was evidence of lost sales in 16:13:28
11 that earlier time period, and the conclusion 16:13:33
12 that I reached is there was quite a bit of 16:13:36
13 evidence that there were Athens sales that 16:13:39
14 were lost because it was being displaced, but 16:13:44
15 the sort of -- in that world, the solution 16:13:47
16 that would have been provided in lieu of the 16:13:53
17 Boston chip was not an interchangeable 16:13:58
18 substitute because it didn't have the same 16:14:03
19 features, and so there's not as much clarity 16:14:05
20 about the -- meeting the exact demands that 16:14:08
21 the OEMs had. 16:14:14
22 And so even though there was quite 16:14:15
23 a bit of evidence that there was impact on 16:14:17
24 Microchip sales, I concluded, to be 16:14:21

1 conservative, that I would not sort of go all 16:14:24
2 the way to the step of quantifying lost 16:14:26
3 profits in that time period. 16:14:29
4 Q. Okay. 16:14:30
5 Your lost profits number is not 16:14:31
6 based on lost profits for Athens? 16:14:33
7 A. It is not based on that, but it is 16:14:35
8 not an affirmative statement that there was 16:14:37
9 absolutely no impact on Microchip's business 16:14:39
10 in that prior time period. There clearly was. 16:14:41
11 But I think it's more appropriate to 16:14:44
12 compensate that earlier time period with a 16:14:46
13 reasonable royalty. 16:14:49
14 Q. And your consideration of the Athens 16:14:50
15 profits and the Athens sale, that was part of 16:14:53
16 your reasonable royalty analysis; correct? 16:14:55
17 A. Yes. 16:14:59
18 Q. So it's your opinion that if Aptiv, 16:14:59
19 and at the time Unwired, had not released its 16:15:01
20 solution to CarPlay, that Microchip still 16:15:05
21 would have chosen to develop and ultimately 16:15:08
22 develop the Sandia chip; right? 16:15:12
23 A. Yes. 16:15:14
24 Q. Okay. 16:15:14

1 And so this raises the question of 16:15:15
2 whether Microchip actually would have done 16:15:17
3 that, and to answer that, you studied the 16:15:19
4 record evidence; correct? 16:15:21
5 A. Yes, and -- yeah, I mean, that was 16:15:23
6 one of the things I did. I studied the record 16:15:26
7 and also had numerous discussions with Mr. 16:15:28
8 Obolsky. 16:15:31
9 Q. And you talked to Mr. Obolsky about 16:15:32
10 this very question; right? 16:15:34
11 A. Yes. 16:15:35
12 Q. And you asked him hey, if Unwired had 16:15:36
13 not come out with its solution, would 16:15:38
14 Microchip still have developed the Sandia 16:15:42
15 chip; right? 16:15:43
16 A. Yes. 16:15:44
17 Q. And he told you that if Unwired 16:15:44
18 hadn't come out with the Boston 2, Microchip 16:15:46
19 would have developed the Sandia chip even 16:15:49
20 faster; right? 16:15:51
21 A. Yes. Yes. Under the circumstances 16:15:52
22 that I have to assume are present back there, 16:15:55
23 that we don't undo the rest of the 16:15:58
24 marketplace. We leave Chrysler in, whatever 16:16:02

1 that was, in 2014, I think, saying we 16:16:06
2 absolutely -- you know, whatever your doubts 16:16:12
3 about whether we're going to launch persistent 16:16:15
4 USB, we're going to want it. That's what we 16:16:20
5 are insisting on. You don't undo that; you 16:16:22
6 just undo the fact that Unwired is selling the 16:16:24
7 product that meets that demand. 16:16:27
8 And in that circumstance, Mr. 16:16:29
9 Obolsky told me they would have still come out 16:16:30
10 with the chip they did, and because they sort 16:16:36
11 of had an open playing field, they would have 16:16:39
12 accelerated the development of it. 16:16:42
13 Q. So they would have come out with it 16:16:43
14 even faster without Unwired? 16:16:45
15 A. Well, they wouldn't -- you know, come 16:16:48
16 out with it, I'm still assuming that it 16:16:52
17 launches at the same time. There are certain 16:16:55
18 development milestones in the process of 16:16:57
19 coming up with the chip to be ready to ship in 16:17:01
20 quantity that he says they would have 16:17:05
21 accelerated. The actual launch is still -- 16:17:06
22 it's third quarter of 2017. 16:17:10
23 Q. Now, you said you watched Mr. Obolsky 16:17:12
24 testify yesterday; right? 16:17:15

1 A. Yes. 16:17:16
2 Q. And you heard from him that back in 16:17:16
3 2014, Microchip was expecting to win the 16:17:18
4 contracts with The Big 3 automakers with their 16:17:21
5 Athens solution; right? 16:17:24
6 A. Yes. 16:17:26
7 Q. With the FlexConnect? 16:17:26
8 A. Yes. 16:17:28
9 Q. But Unwired actually won; right? 16:17:29
10 A. Yes. 16:17:31
11 Q. And that's why Microchip decided to 16:17:31
12 develop Sandia? 16:17:33
13 A. Well, you know, to some extent, you 16:17:35
14 can -- I think the reality is that they 16:17:40
15 decided to develop it because they -- that's 16:17:43
16 the point at which they had clarity of the 16:17:48
17 demands of The Big 3 automakers as to what 16:17:51
18 they were going to buy. And before that, they 16:17:54
19 were -- we don't think they are going to do a 16:17:58
20 non-standard solution and other things. 16:18:01
21 The clarity came when Chrysler 16:18:05
22 made it clear what their requirements were. 16:18:07
23 Q. Okay. 16:18:10
24 And you heard Mr. Obolsky be asked 16:18:11

1 what was Microchip's reaction when it found 16:18:13
2 out that its customer, Aptiv, had now become a 16:18:15
3 competitor? And you heard him respond that as 16:18:19
4 you saw earlier, as anyone would, when you 16:18:21
5 lose, we looked at okay, what's it take, what 16:18:24
6 are their needs, what didn't we meet and what 16:18:26
7 do we have to do to win the next one. 16:18:29
8 You heard him say that; right? 16:18:31
9 A. Yes. 16:18:33
10 Q. You mentioned the Panduit factors and 16:18:34
11 some of the things that the patentholder has 16:18:37
12 to demonstrate to get lost profits. One of 16:18:39
13 them is you have to show that there aren't 16:18:42
14 non-infringing alternatives out there; 16:18:44
15 correct? 16:18:47
16 A. That there are no acceptable 16:18:47
17 non-infringing alternatives that would 16:18:50
18 replicate the features that were actually sold 16:18:52
19 by the infringer. 16:18:55
20 Q. And that includes considering other 16:18:57
21 options Aptiv, itself, could have brought to 16:18:59
22 market to compete; right? 16:19:02
23 A. If there were other options that 16:19:04
24 would allow it to provide a single-lane 16:19:06

1 persistent USB solution without infringing, I 16:19:10
2 think I'd definitely -- I did address that 16:19:13
3 question. 16:19:15
4 Q. Right. 16:19:15
5 And it was your conclusion that 16:19:16
6 Aptiv had no acceptable non-infringing 16:19:18
7 alternatives; correct? 16:19:21
8 A. That is my conclusion with respect to 16:19:24
9 an alternative that would allow them to meet 16:19:27
10 the demand that they met with the infringing 16:19:30
11 chip. 16:19:34
12 Q. They couldn't meet the demand without 16:19:34
13 using the '243 Patent; right? 16:19:36
14 A. That's what I have assumed and it's 16:19:39
15 what the evidence of there still, seven years 16:19:41
16 in, being only a two-supplier marketplace 16:19:45
17 tells me. 16:19:47
18 Q. And as support for that opinion, you 16:19:48
19 talked to Microchip's technical expert, Mr. 16:19:51
20 Zatkovich; right? 16:19:53
21 A. In part, that's one of the pieces of 16:19:54
22 support that I have. 16:19:57
23 Q. Okay. 16:19:58
24 And based on his opinion and based 16:19:58

1 on your own analysis, you determined that you 16:20:02
2 couldn't have an acceptable alternative unless 16:20:06
3 it had three key requirements; right? 16:20:09
4 A. You couldn't have an alternative that 16:20:13
5 would have met the sort of -- been 16:20:16
6 interchangeable with the sale that was -- the 16:20:21
7 infringing sale that was made without three 16:20:24
8 key features. 16:20:26
9 Q. Right. 16:20:27
10 And those three key features are 16:20:28
11 single-lane connection; right? 16:20:30
12 A. Yes. 16:20:31
13 Q. CarPlay enabled on all the downstream 16:20:32
14 ports? 16:20:35
15 A. Yes. 16:20:36
16 Q. And persistent USB; right? 16:20:36
17 A. Yes. 16:20:38
18 Q. Now, your basis for concluding that 16:20:38
19 you couldn't achieve those three things 16:20:41
20 without using the '243 Patent, for that you 16:20:43
21 relied on Mr. Zatkovich; right? 16:20:47
22 A. In part, yes. 16:20:51
23 Q. What else did you rely on to come up 16:20:53
24 with a technical opinion about how you could 16:20:55

1 meet these three features? 16:20:58
2 A. Well, that's the only technical 16:20:59
3 opinion I'm relying on, but I'm also relying 16:21:01
4 on the market evidence of, you know, what the 16:21:05
5 market is telling us about the -- the chips on 16:21:11
6 the marketplace that are able to satisfy that 16:21:15
7 single-lane persistent USB on any downstream 16:21:21
8 port CarPlay. 16:21:25
9 And to date, and there's lots of 16:21:28
10 evidence sort of throughout here this last 16:21:30
11 six-year time period that suggests that 16:21:33
12 there's only two solutions that meet that -- 16:21:37
13 that provide those three key features, the 16:21:39
14 Boston chip based hubs that Aptiv sells and 16:21:41
15 the Sandia based hubs or chips that -- that 16:21:46
16 Microchip sells. 16:21:50
17 Q. Apart from the fact that there are 16:21:50
18 only those two solutions, in your opinion, on 16:21:52
19 the market, I want to understand what the 16:21:55
20 basis is for your opinion that you needed to 16:21:58
21 use the invention in the '243 Patent to 16:22:01
22 achieve these three requirements? 16:22:05
23 A. It is the -- apart from the market 16:22:08
24 evidence, it is Mr. Zatkovich's technical 16:22:13

1 opinion that he was not aware of any technical 16:22:16
2 way to make -- to provide those three key 16:22:19
3 features without -- in a way that would not 16:22:23
4 infringe the '243 Patent. 16:22:26
5 Q. Okay. 16:22:28
6 And when he had that conversation 16:22:29
7 with you, he told you that you couldn't 16:22:31
8 achieve these requirements without using the 16:22:33
9 '243 Patent in general; right? 16:22:36
10 A. Well, I mean, I was having a 16:22:41
11 conversation with him about the '243 Patent; 16:22:44
12 we weren't down at the level of individual 16:22:48
13 claims. It was just look, here's what's 16:22:50
14 accused, do you know of any way to provide 16:22:54
15 single-lane CarPlay with persistent USB 16:22:59
16 without this patent. 16:23:02
17 Q. Okay. 16:23:03
18 And you watched Mr. Zatkovich 16:23:04
19 testify this morning; correct? 16:23:07
20 A. I did. 16:23:08
21 Q. And you heard him testify that he 16:23:09
22 considered claim 1 of the '243 Patent to be 16:23:11
23 representative for the purposes of his 16:23:14
24 analysis; correct? 16:23:16

1 A. You know, I heard -- I heard that 16:23:17
2 colloquy back and forth. I frankly didn't 16:23:19
3 understand where it was going or what the 16:23:22
4 significance of it was, so that's a -- the 16:23:23
5 technical question about whether what he meant 16:23:27
6 by representative, I heard it. I can tell you 16:23:30
7 the answer is yes, I heard it, but I didn't 16:23:34
8 understand it. 16:23:36
9 Q. That's fair. 16:23:37
10 For all you know, you could 16:23:38
11 achieve those three requirements that The Big 16:23:39
12 3 car companies wanted by using the invention 16:23:43
13 that's disclosed in claim 1 of the '243 16:23:46
14 Patent; right? 16:23:49
15 A. I have no idea. That's -- I don't 16:23:49
16 have the technical opinion of that and I'm not 16:23:52
17 qualified to offer that opinion. 16:23:55
18 Q. Out of your swim lane? 16:23:57
19 A. It is out of my swim lane. Looking 16:23:59
20 at the market evidence to see whether anybody 16:24:01
21 else has come out with this, has been able to 16:24:03
22 crack this nut, I am qualified to look at 16:24:06
23 that. 16:24:09
24 Q. And that's nonspecific to the 16:24:09

1 asserted claims either; right? 16:24:11
2 A. Well, it is in a way in that I have 16:24:13
3 to assume, for the purposes of my evaluation 16:24:17
4 of that market evidence, that one of the two 16:24:21
5 suppliers of the only suppliers that we have 16:24:25
6 of actual solution that's being sold in the 16:24:28
7 marketplace, I have to assume that the Aptiv 16:24:31
8 one is actually practicing at least one of the 16:24:34
9 asserted claims. It's an assumption I have to 16:24:38
10 make, but I have to make that in order to give 16:24:41
11 some relevance to the market evidence. 16:24:44
12 Q. But you don't have to assume that 16:24:46
13 they couldn't achieve those three requirements 16:24:48
14 without using those claims; right? 16:24:50
15 A. No, I don't have to assume that. I 16:24:52
16 think the market is telling us about how 16:24:54
17 unique this solution is, but I certainly am 16:24:58
18 relying on Mr. Zatkovich for the specific 16:25:00
19 issue about non-infringing alternatives with 16:25:04
20 respect to the sort of wiring around the 16:25:07
21 claim. 16:25:10
22 Q. And his opinion is not specific to 16:25:10
23 the claims with respect to non-infringement 16:25:12
24 alternatives? 16:25:15

1 A. You'd have to ask him that. 16:25:16
2 Q. Now, Microchip is a large company; 16:25:17
3 right? 16:25:19
4 A. Yes. It's -- I think -- define 16:25:20
5 large. I deal with a lot of companies that 16:25:25
6 are quite a bit bigger than Microchip, but 16:25:26
7 it's not a small company. 16:25:28
8 Q. It's got related entities, for 16:25:29
9 example, right? 16:25:32
10 A. Yes. 16:25:32
11 Q. There are wholly-owned subsidiaries; 16:25:33
12 right? 16:25:35
13 A. Yes. 16:25:35
14 Q. You understand that when you're 16:25:36
15 calculating lost profits, it's your obligation 16:25:39
16 to calculate the lost profits that were lost 16:25:41
17 by the patent-holding entity; right? 16:25:44
18 A. It's by the entity that is the 16:25:47
19 plaintiff in the case. It's more of a legal 16:25:49
20 question as to whether that entity has 16:25:54
21 standing to bring the claim that it's 16:25:56
22 bringing. 16:25:59
23 But I have to assume, for the 16:25:59
24 purposes of my analysis, that the -- that the 16:26:04

1 plaintiff in this case is the proper 16:26:08
2 plaintiff. 16:26:11
3 Q. Sure. 16:26:11
4 And I'm not asking about standing 16:26:12
5 or the right to sue; I'm talking about 16:26:13
6 calculating lost profits. And for that 16:26:15
7 inquiry, you have to figure out how many -- 16:26:17
8 what the calculation of profits are that 16:26:20
9 Microchip Technology Incorporated, the 16:26:25
10 patent-holding entity here, would have made if 16:26:27
11 Aptiv had not infringed; right? 16:26:30
12 A. I believe that Microchip Technology 16:26:32
13 Inc. is the plaintiff here, and so my damages 16:26:33
14 analysis with respect to lost profits is an 16:26:36
15 analysis that says Microchip -- Microchip 16:26:40
16 Technology Inc. lost this amount of money. 16:26:44
17 Q. Okay. 16:26:46
18 Microchip Technology Inc., the 16:26:47
19 patent-holding entity, is not entitled to 16:26:49
20 profits that would have gone to related 16:26:51
21 entities in the but-for world; right? 16:26:54
22 A. You know, it is straying a little bit 16:27:00
23 into a legal question about -- I know there's 16:27:06
24 issues about inextricable flow if the profits 16:27:08

1 from one entity will flow up to sort of a 16:27:11
2 higher entity in the chain and you've got a 16:27:14
3 parent who is suing and the sub loses the 16:27:17
4 money and the profits are part of that overall 16:27:20
5 corporate structure; that's really a legal 16:27:24
6 question. 16:27:25
7 I certainly assumed -- I 16:27:25
8 quantified lost profits, and it's up to the 16:27:28
9 lawyers to argue whether those are compensable 16:27:30
10 for this particular plaintiff. 16:27:33
11 Q. And you don't know whether Microchip 16:27:34
12 Technology Incorporated, itself, makes all the 16:27:39
13 sales of the Sandia chips, do you? 16:27:41
14 A. Well, all of them worldwide, I don't 16:27:43
15 know. It's my understanding from talking to 16:27:46
16 Mr. Obolsky that Microchip Technology Inc. 16:27:49
17 would have been the entity that made the sales 16:27:53
18 here in the U.S.; for example, the sales of 16:27:54
19 Sandia that could have been made to Aptiv if 16:27:59
20 Aptiv hadn't developed its own chip and 16:28:02
21 essentially stopped buying chips in this 16:28:06
22 particular space from -- from Microchip. 16:28:08
23 Q. So sales that would have been made in 16:28:11
24 the United States would have gone to Microchip 16:28:13

1 Technology Incorporated; right? 16:28:16
2 A. At least of this particular product, 16:28:16
3 that's my understanding. 16:28:19
4 Q. Do you know whether Microchip 16:28:19
5 Technology Incorporated would have made sales 16:28:22
6 to hub makers that are outside the United 16:28:23
7 States? 16:28:28
8 A. Of the non -- of the lost profits 16:28:28
9 chips or just in general? 16:28:31
10 Q. Of the lost profits chips. 16:28:34
11 A. I haven't assumed they would. At 16:28:36
12 least the evidence is clear to me that it 16:28:38
13 would have still been in this, you know, if 16:28:42
14 you win, we win. We would have supplied the 16:28:45
15 Sandia chip to Aptiv. And so the question of 16:28:50
16 whether some other entity somewhere else might 16:28:54
17 have made a sale, I haven't considered that. 16:28:59
18 Q. I'd like to talk to you about the 16:29:01
19 reasonable royalty portion of your opinion. 16:29:04
20 Now, you used a hypothetical 16:29:05
21 negotiation to determine the reasonable 16:29:07
22 royalty; right? 16:29:09
23 A. Yes. 16:29:10
24 Q. That means you try to figure out what 16:29:10

1 Aptiv and Microchip or Unwired and SMSC would 16:29:12
2 have agreed to if they sat down and negotiated 16:29:17
3 a license; right? 16:29:19
4 A. Yes. 16:29:20
5 Q. And for the purpose -- the purpose of 16:29:20
6 the reasonable royalty is to fairly compensate 16:29:23
7 the patentholder for the accused infringement 16:29:25
8 use of the invention; right? 16:29:29
9 A. Right. 16:29:30
10 Q. And it's supposed to take into 16:29:31
11 account the parties' views of the market at 16:29:33
12 the time? 16:29:35
13 A. Yes. 16:29:35
14 Q. Okay. 16:29:35
15 And it's supposed to take account 16:29:37
16 of the parties' views of the potential benefit 16:29:39
17 of using the invention? 16:29:41
18 A. Yes. 16:29:42
19 Q. Okay. 16:29:43
20 It's not intended to compensate 16:29:43
21 Microchip for Aptiv's own contributions in 16:29:47
22 developing the dual role hub; right? 16:29:50
23 A. That's correct. 16:29:52
24 Q. And it's not intended to compensate 16:29:52

1 Microchip for solutions that were available in 16:29:55
2 the prior art; right? 16:29:59
3 A. I think that's fair. 16:30:00
4 Q. Okay. 16:30:01
5 And it's not intended to 16:30:01
6 compensate Microchip or to make up for 16:30:03
7 Microchip's bad business decisions; right? 16:30:05
8 A. That's correct. 16:30:07
9 Q. Now, speaking of Aptiv's own 16:30:08
10 contributions, you are aware that Aptiv won 16:30:10
11 the PACE Award for the dual role hub? 16:30:12
12 A. Yes, I am. 16:30:15
13 Q. Because it solved what Automotive 16:30:16
14 News described as the, "Vexing problem of how 16:30:19
15 to let the iPhone connect to infotainment 16:30:21
16 center and become the host"? 16:30:24
17 A. Well, because it solved that, I think 16:30:26
18 in the -- I have to assume that it solved that 16:30:29
19 with the Microchip '243 Patent, but I don't 16:30:33
20 think the PACE Award people were aware of 16:30:42
21 that. They -- they awarded this innovation 16:30:44
22 award to Delphi for solving the vexing problem 16:30:49
23 that I have to assume, and if there is a 16:30:53
24 finding of infringement, is a problem that was 16:30:56

1 actually solved by the '243 Patent. 16:30:58
2 Q. Now, in forming your opinions, you 16:31:01
3 didn't talk to Dr. Levy, did you? 16:31:04
4 A. No. 16:31:06
5 Q. And he is Microchip's invalidity 16:31:06
6 expert? 16:31:10
7 A. He is. 16:31:10
8 Q. You didn't talk to him about how 16:31:11
9 claim 23 is different from the prior art? 16:31:13
10 A. No. 16:31:14
11 Q. You didn't ask anybody about that? 16:31:15
12 A. No. 16:31:16
13 Q. In your report, you say that the '243 16:31:17
14 Patent describes a shared USB device that can 16:31:20
15 be simultaneously configured and accessed by 16:31:23
16 two or more USB hosts using the multi-host 16:31:25
17 capable device controller; right? 16:31:29
18 A. I'll take your word that those are 16:31:31
19 the words I used in my report, but it sounds 16:31:33
20 like what I said. 16:31:36
21 Q. You caught me reading. 16:31:37
22 And you thought that was a fair 16:31:38
23 summary of the claims in terms of your 16:31:40
24 analysis for evaluating the entities; right? 16:31:43

1 A. It's fair at the level of me not 16:31:47
2 being any of the technical experts in this 16:31:50
3 case. I last practiced engineering more than 16:31:53
4 30 years ago, so I -- it's a mere layman's 16:31:56
5 assessment of or description of what I 16:32:02
6 understood the technology to be. 16:32:05
7 Q. And do you have any basis to conclude 16:32:07
8 that any of those things that you used to 16:32:09
9 describe the scope of the invention are not 16:32:12
10 present in claim 1 of the '243 Patent? 16:32:14
11 A. I have no opinion or basis one way or 16:32:17
12 the other. 16:32:21
13 Q. And when you talked to Mr. Zatkovich, 16:32:21
14 he didn't tell you that claim 1 is invalid, 16:32:23
15 did he? 16:32:26
16 A. No. 16:32:26
17 Q. Well, and you don't say anything in 16:32:27
18 your report about the PTAB, the Trial -- the 16:32:31
19 Patent Trial and Appeal Board decision 16:32:35
20 anywhere in your report; right? 16:32:37
21 A. Correct. 16:32:39
22 Q. Your report doesn't analyze the 16:32:40
23 impact of the findings of the PTAB on the 16:32:41
24 remaining claims? 16:32:44

1 A. It does not. 16:32:45
2 Q. No one at Microchip told you that 16:32:46
3 some of the claims had been found invalid? 16:32:48
4 A. I don't recall anybody telling me 16:32:51
5 that. They may have; I just -- it wasn't 16:32:53
6 relevant to my analysis. 16:32:56
7 Q. And so you don't have any basis for 16:32:57
8 offering an opinion about the difference 16:32:59
9 between the claims that were invalidated and 16:33:00
10 the claims asserted in this case; right? 16:33:02
11 A. Correct. 16:33:04
12 Q. In terms of what they're worth; 16:33:06
13 right? 16:33:07
14 A. Correct. 16:33:07
15 Q. Let's talk about the timeline a 16:33:08
16 little bit in this case. 16:33:10
17 MR. WIENER: Mr. Glass, would you 16:33:11
18 put up slide 1. 16:33:12
19 BY MR. WIENER: 16:33:16
20 Q. So you're aware that Unwired began 16:33:17
21 developing the technology of the Boston 2 chip 16:33:20
22 around 2013; right? 16:33:23
23 A. Yes. 16:33:25
24 Q. And it successfully tested that chip 16:33:25

1 in March of 2014? 16:33:28
2 A. Yes. 16:33:30
3 Q. And that's the date you use for your 16:33:30
4 hypothetical negotiation? 16:33:32
5 A. Yes. 16:33:33
6 Q. Okay. 16:33:34
7 And then it won contracts with The 16:33:34
8 Big 3 automakers later in 2014; right? 16:33:37
9 A. Yeah. That arrow on the chart fits 16:33:42
10 with my recollection. It was before the end 16:33:47
11 of the year. 16:33:49
12 Q. And after Aptiv was awarded those 16:33:50
13 contracts with The Big 3, Microchip decided to 16:33:53
14 begin developing a solution similar to 16:33:55
15 Unwired; right? 16:33:58
16 A. I believe that the development -- you 16:34:01
17 know, I don't know exactly when the 16:34:04
18 development began, but the substantial part of 16:34:07
19 it was underway in 2015. 16:34:11
20 MR. WIENER: May I approach, Your 16:34:16
21 Honor? 16:34:18
22 THE COURT: Yes. 16:34:18
23 BY MR. WIENER: 16:34:37
24 Q. Dr. Becker, I have handed you what's 16:34:37

1 been marked as Exhibit 264. 16:34:40
2 (Whereupon, Trial Exhibit 264 was 16:34:40
3 introduced.) 16:34:40
4 MR. WIENER: We offer it into 16:34:42
5 evidence. 16:34:43
6 MR. GRAY: No objection. 16:34:46
7 THE COURT: Okay. 16:34:48
8 BY MR. WIENER: 16:34:50
9 Q. Dr. Becker, down at the second 16:34:50
10 email -- 16:34:51
11 MR. WIENER: And actually, Mr. 16:34:52
12 Glass, if you could put it up. 16:34:53
13 BY MR. WIENER: 16:34:53
14 Q. The second email on the first page, 16:34:55
15 it is an email from Mitch Obolsky and it's an 16:34:57
16 email to Ganesh Moorthy who was the CEO of 16:35:00
17 Microchip at the time; correct? 16:35:04
18 A. Yes. 16:35:05
19 Q. And this is an email that's dated 16:35:05
20 December 9th, 2014. 16:35:07
21 And down in the one, two, three, 16:35:09
22 four, fifth paragraph of that email that 16:35:11
23 starts, "We are debating" -- 16:35:13
24 A. Yes. 16:35:14

1 Q. It says, "We are debating the merits 16:35:14
2 of developing an Unwired-like solution." 16:35:17
3 This is in December of 2014? 16:35:20
4 A. Yes. 16:35:22
5 Q. Okay. 16:35:22
6 MR. WIENER: So, back to the 16:35:23
7 timeline, Mr. Glass. 16:35:25
8 BY MR. WIENER: 16:35:28
9 Q. Shortly after Aptiv won the contracts 16:35:32
10 with The Big 3, Microchip considered an 16:35:35
11 Unwired-like solution and then decided to 16:35:40
12 ultimately develop that competing chip in 16:35:42
13 January of 2015; correct? 16:35:45
14 A. Yeah. That's -- this is reminding me 16:35:47
15 of the timeline. 16:35:51
16 So here on December 9th, it seems 16:35:52
17 like they've got some pieces of what would 16:35:54
18 become Sandia in the pipeline, but they 16:35:57
19 haven't made the decision to add the 16:36:01
20 multi-host controller solution. So I think 16:36:04
21 your timeline is not -- I can agree with that. 16:36:08
22 Q. Thank you. 16:36:12
23 And you read Mr. Obolsky's 16:36:13
24 deposition testimony in this case; correct? 16:36:16

1 A. I did. 16:36:18
2 Q. And he testified that in 2014, 16:36:18
3 Microchip didn't think that providing 16:36:22
4 persistent USB as a feature was critical to 16:36:24
5 winning contracts; correct? 16:36:28
6 A. Yeah. I think there's more context 16:36:31
7 to it than just saying that it was critical. 16:36:33
8 It was the whole discussion about their view 16:36:36
9 of whether the OEMs would accept non-standard 16:36:39
10 solutions and whether -- what Apple would 16:36:47
11 allow. But I know -- I do recall the 16:36:51
12 testimony where, at the time, they didn't 16:36:53
13 think it was that critical. 16:36:56
14 Q. And you've seen evidence that once 16:36:57
15 Microchip heard about the Unwired solution 16:37:03
16 later in 2014, even by October, they didn't 16:37:06
17 think it was possible to achieve the solution 16:37:09
18 that Unwired had come up with; correct? 16:37:12
19 A. I would say not possible while 16:37:17
20 remaining standards compliant. 16:37:20
21 Q. Well -- 16:37:22
22 A. I haven't seen anything in the record 16:37:23
23 that says that they thought it was literally 16:37:24
24 technically infeasible. All of that is 16:37:27

1 impossible stuff that I recall is within the 16:37:32
2 context of it's not possible to do this and 16:37:34
3 remain compliant with the standard. 16:37:37
4 MR. WIENER: Mr. Glass, could you 16:37:40
5 put up Exhibit 62 that's in evidence, please. 16:37:42
6 BY MR. WIENER: 16:37:46
7 Q. So this is -- and if you can go to 16:37:46
8 page 2 of this. This is an email from Chris 16:37:49
9 Behal, who is an engineer in the sales group 16:37:51
10 at Microchip, and he mentions that -- they're 16:37:57
11 talking about Chrysler and he says down 16:38:00
12 towards the bottom of the email, "How is that 16:38:01
13 possible to provide that functionality without 16:38:04
14 an iPhone allowing it? I have no idea. Is it 16:38:07
15 possible they know something about CarPlay 16:38:11
16 that we don't? I don't think so, but I can't 16:38:12
17 figure out why they want this either." 16:38:14
18 He doesn't mention compliance with 16:38:16
19 USB, does he? 16:38:18
20 A. Not with USB. He's -- he does 16:38:19
21 mention compliance with Apple and we're 16:38:23
22 talking about CarPlay, so it's -- when I talk 16:38:26
23 about can you do it in a standard -- in a 16:38:30
24 compliant way, it is the USB standard and 16:38:33

1 staying within the lanes that Apple is going 16:38:37
2 to make you play within. 16:38:40
3 Q. Well, let's go back to the timeline 16:38:41
4 then and we'll split the difference by saying 16:38:43
5 that in addition to not knowing how it's 16:38:46
6 possible to do it this way, Microchip 16:38:48
7 thought -- go to the next slide, please, Mr. 16:38:51
8 Glass -- that it was not compliant. 16:38:53
9 And that even at this point, once 16:38:55
10 Microchip learned about the Unwired solution, 16:38:58
11 so they knew that it was possible to provide 16:39:01
12 something that it was not critical to the OEMs 16:39:04
13 to have a noncompliant -- or a compliant 16:39:09
14 solution or a noncompliant solution, still 16:39:12
15 then Microchip was debating whether or not to 16:39:15
16 fund a competing chip; correct? 16:39:17
17 A. Correct. 16:39:19
18 Q. Okay. 16:39:20
19 And in early January, they were 16:39:20
20 considering whether or not to invest 16:39:25
21 two-and-a-half to 3 million -- or 16:39:27
22 one-and-a-half to $2 million to develop that; 16:39:29
23 correct? 16:39:31
24 A. Well, I think they were considering 16:39:34

1 it. Just when you put -- label it not worth 16:39:35
2 it, they clearly kicked off the development, 16:39:40
3 so they -- right around where you've got that 16:39:43
4 arrow, they made a decision that it was worth 16:39:46
5 it because they did start the development. 16:39:48
6 Q. But up until that point, they didn't 16:39:50
7 think it was worth it, at least enough to kick 16:39:52
8 off the development; right? 16:39:54
9 A. I think in terms of committing the 16:39:56
10 resources to it at that point, given what they 16:39:57
11 knew. But I wouldn't -- it's your chart, you 16:40:00
12 can put it there. You can draw whatever 16:40:04
13 conclusion you want. I don't think that the 16:40:06
14 economic evidence sort of supports that all 16:40:09
15 the way up to the day before they kicked off 16:40:11
16 the development, they thought it was not worth 16:40:14
17 it. 16:40:16
18 Clearly before they realized that 16:40:17
19 they had lost the clarity of the OEMs 16:40:20
20 purchasing requirements, it was clarified for 16:40:26
21 them when they lost those deals at the end of 16:40:29
22 December, I think made it clear that it was 16:40:33
23 worth it. So I would move your not worth it 16:40:38
24 probably somewhere to the left because once 16:40:41

1 they lost the business, I think it became 16:40:43
2 pretty clear that they needed to do something. 16:40:47
3 Q. It was losing that business that made 16:40:49
4 them realize they needed to develop this chip? 16:40:51
5 A. Well, it was losing that business 16:40:53
6 that made them realize that their assumptions 16:40:54
7 about the OEM demands and the compliance 16:40:57
8 issues were incorrect. 16:41:00
9 Q. And so looking at this timeline, the 16:41:02
10 hypothetical negotiations happen right around 16:41:05
11 there, in March of 2014; correct? 16:41:09
12 A. Yes. 16:41:11
13 Q. Right -- and let's talk a little bit 16:41:12
14 about the hypothetical negotiation. 16:41:15
15 MR. WIENER: Mr. Glass, can you go 16:41:17
16 to the next slide? We have our own table. It 16:41:19
17 looks a little different, I suppose, than 16:41:21
18 their table, but the same concept, just have 16:41:22
19 similar graphics concepts here. 16:41:25
20 BY MR. WIENER: 16:41:26
21 Q. I'd like to talk a little bit about 16:41:27
22 the Aptiv side of the negotiating table, the 16:41:29
23 thing that would have been motivating them to 16:41:31
24 push for a lower royalty. 16:41:34

1 So first, you'd agree that Aptiv 16:41:35
2 spent millions of dollars to develop the 16:41:37
3 Boston 2 chip; correct? 16:41:40
4 A. No doubt. Well, Unwired did, Aptiv 16:41:41
5 didn't. 16:41:45
6 Q. And that it developed that despite 16:41:45
7 the fact that there was a risk that the OEMs 16:41:47
8 wouldn't accept a noncompliant solution, in 16:41:50
9 your words; correct? 16:41:52
10 A. Yes. 16:41:53
11 Q. Okay. 16:41:54
12 And they also would point out the 16:41:54
13 fact that they had their own innovations that 16:41:56
14 went into developing that product; correct? 16:41:59
15 A. No doubt there were some innovations 16:42:01
16 in there, yes. 16:42:04
17 Q. And on the Microchip side of the 16:42:05
18 table, we know that at least in March of 2013, 16:42:07
19 2014, they didn't think it was possible to 16:42:12
20 have a solution that would work the way that 16:42:15
21 Apple wanted it to; right? 16:42:18
22 A. I think it's fair in March of 2014. 16:42:21
23 We -- in this negotiation, of course, 16:42:24
24 remember, we're dealing the cards face up and 16:42:27

1 things that Unwired knows that it was not 16:42:31
2 telling Microchip in the context of the 16:42:35
3 hypothetical negotiation, like the information 16:42:37
4 that the carmakers were going to accept, at 16:42:43
5 least one carmaker was going to accept a 16:42:47
6 non-standard solution. That would be known. 16:42:49
7 So the didn't think it was 16:42:54
8 possible, I think we have to modify that a 16:42:54
9 little bit in the context of this particular 16:42:56
10 table. 16:42:58
11 Q. And this is your point about the 16:42:58
12 cards being laid up, face up? 16:43:00
13 A. Face up. 16:43:01
14 Q. They are all face up? 16:43:02
15 A. Right. 16:43:03
16 Q. And at the end of 2014, the cards in 16:43:04
17 terms of what the carmakers wanted and the 16:43:07
18 compliance issues and the possibilities, those 16:43:09
19 cards were face up? 16:43:11
20 A. Yes. 16:43:12
21 Q. Okay. 16:43:12
22 Let's talk a little bit about your 16:43:13
23 cost savings methodology. Now, you calculate 16:43:16
24 a royalty using what you determined is the 16:43:19

1 costs that you can save by using the patented 16:43:23
2 invention; correct? 16:43:26
3 A. It is the -- in a sense, it's the 16:43:28
4 comparison of the patent-practicing solution 16:43:31
5 to the next best alternative and isolating the 16:43:37
6 things that will change if you couldn't use 16:43:40
7 the patent-practicing solution. 16:43:43
8 Q. And to calculate your cost savings, 16:43:45
9 you don't just use one next best alternative, 16:43:48
10 you use two; correct? 16:43:51
11 A. Yes. It's -- there are definitely 16:43:52
12 two. 16:43:54
13 Q. Okay. 16:43:55
14 So it's not -- it's not the next 16:43:55
15 best; it's one of the best next best 16:43:57
16 solutions? 16:44:00
17 A. Well, it's -- in order to actually -- 16:44:00
18 because you've got to give stuff up to 16:44:04
19 triangulate on what the real value is, you 16:44:07
20 can't see that without looking at both of 16:44:10
21 these alternatives. 16:44:12
22 Q. Okay. 16:44:13
23 Now, it's your opinion that 16:44:14
24 between these two, and these are the two sort 16:44:18

1 of cost comparisons you did, right, the one 16:44:20
2 wire on the left and the two wire on the 16:44:23
3 right? 16:44:24
4 A. Yes. 16:44:25
5 Q. And you determined the one wire, 16:44:25
6 comparing the cost of the patent solution to 16:44:28
7 the one-wire architecture gives you a cost 16:44:31
8 savings of 63 cents; right? 16:44:33
9 A. Yes. 16:44:35
10 Q. And using the two-wire solutions in 16:44:35
11 the comparison, it's $3.28; right? 16:44:38
12 A. Right. 16:44:41
13 Q. But you confirmed, did you not, that 16:44:42
14 the customers were generally demanding a 16:44:45
15 single-lane solution; correct? 16:44:48
16 A. As one of the requirements was single 16:44:50
17 lane. They were also demanding some other 16:44:54
18 features as well, but one of the solution -- 16:44:56
19 one of the demands was or desires was for a 16:45:00
20 one-wire solution. 16:45:05
21 Q. And you agree that ultimately, Aptiv 16:45:06
22 would have pursued or would have essentially 16:45:10
23 forced the marketplace to accept in that 16:45:12
24 period of time a one-wire solution; correct? 16:45:15

1 A. Ask it again. I lost you. 16:45:18
2 Q. Sure. 16:45:19
3 You agree that Aptiv would have 16:45:20
4 pursued or would have essentially been forced 16:45:22
5 by the marketplace to accept, if, in the 16:45:25
6 period of time that Sandia was -- between when 16:45:28
7 Boston 2 was launched and Sandia, I have 16:45:30
8 assumed that the one-wire solution is what 16:45:32
9 they would have pursued, in effect, and would 16:45:35
10 have been required that its customers accept; 16:45:38
11 correct? 16:45:40
12 A. Yes. In that period of time before 16:45:41
13 Sandia came out, given that you've got either 16:45:43
14 what they can ask the market to do and what 16:45:49
15 the market is going to accept. 16:45:52
16 You really have to ask the 16:45:55
17 question, is the market going to hold firm on 16:45:56
18 persistent or -- the persistence requirement 16:46:00
19 or is it going to hold firm on the one wire 16:46:03
20 and give up on persistence? And the market 16:46:06
21 evidence tells me that they are going to give 16:46:09
22 up on persistence. 16:46:10
23 And this, in part, tells you why, 16:46:15
24 is that the persistence, there's a lot of 16:46:16

1 value in being able to do persistence in an 16:46:21
2 inexpensive way. 16:46:23
3 Q. Okay. 16:46:24
4 Now let's look at how you do your 16:46:25
5 calculation. 16:46:27
6 MR. WIENER: So, Mr. Glass, go to 16:46:28
7 the next slide. 16:46:29
8 BY MR. WIENER: 16:46:30
9 Q. You take the cost savings from these 16:46:31
10 two approaches, you take the average; right? 16:46:33
11 A. Yes. 16:46:36
12 Q. Which is 1.95? 16:46:37
13 A. Yep. 16:46:39
14 Q. And then you apply a discount to take 16:46:39
15 into account the market realities and the fact 16:46:42
16 that Aptiv would have been first to the 16:46:43
17 market; correct? 16:46:45
18 A. Unwired and Aptiv would have been 16:46:47
19 first to the market, and really because of 16:46:48
20 what you just said in that prior question, 16:46:51
21 which is that the marketplace reality for the 16:46:53
22 period of time when Sandia wasn't on the 16:46:57
23 market is one that favors the -- the market 16:47:00
24 would have said look, we're going to give up 16:47:05

1 on persistence because it's too expensive to 16:47:07
2 get it. 16:47:10
3 Q. Okay. 16:47:10
4 And that works out to roughly a 16:47:11
5 28 percent discount of that average number; 16:47:13
6 right? 16:47:17
7 A. If you've done the math. I didn't 16:47:20
8 get there by taking a discount off of the 16:47:22
9 1.40. How I got there is by taking a weighted 16:47:25
10 average of $1.95 for the period of time once 16:47:28
11 Sandia -- once the marketplace didn't have to 16:47:33
12 compromise on persistence and weighting it 16:47:36
13 with the period of time that the marketplace 16:47:39
14 reality was that they would have to give up on 16:47:42
15 persistence. 16:47:44
16 Q. You agree it worked out to, in terms 16:47:45
17 of the numbers, about 28 percent? 16:47:48
18 A. I don't have a calculator. I'll 16:47:49
19 trust -- 16:47:51
20 Q. Want to check it? 16:47:51
21 A. I'll trust your math. 16:47:52
22 Q. Okay. Thank you. 16:47:53
23 So I'd like to go through what the 16:47:55
24 numbers would be like if we decide that the 16:47:57

1 two-wire solution is not actually the next 16:48:00
2 best alternative; get rid of that solution. 16:48:02
3 Your starting point for the cost savings would 16:48:06
4 be 63 cents; right? 16:48:08
5 A. If it's just gone? 16:48:10
6 Q. Yeah. 16:48:12
7 A. Well, mechanically it might be, but 16:48:14
8 then there would be a missing piece of the 16:48:19
9 whole value of the technology and a missing 16:48:21
10 piece of the realities of what Aptiv had to 16:48:23
11 gain from the benefit of the invention, which 16:48:29
12 is you've taken away the persistence USB 16:48:31
13 feature completely out of the analysis, which 16:48:34
14 is undeniably a feature that is in the Aptiv 16:48:37
15 chip that's infringing. 16:48:42
16 Q. If the jury decides that the next 16:48:43
17 best alternative to the Boston 2 solution 16:48:45
18 would have been using a one-wire alternative, 16:48:48
19 in terms of valuing the cost savings, that 16:48:51
20 would be your starting point; correct? 16:48:53
21 A. If they decide that that's the next 16:48:56
22 best alternative for literally the entire time 16:48:59
23 period all the way even after Sandia comes 16:49:02
24 out? 16:49:04

1 Q. Yes. 16:49:06
2 A. I mean, if they conclude that, that 16:49:07
3 would ignore the fact that Sandia was on the 16:49:12
4 market offering the persistence feature. 16:49:14
5 Q. And if we apply the 28 percent 16:49:16
6 discount, because in this negotiation, Aptiv 16:49:18
7 still would have been first to market in that 16:49:21
8 market reality that you considered; right? 16:49:23
9 A. Well no, in this -- in the 16:49:25
10 hypothetical that you are painting here, there 16:49:26
11 would be no discount because we're already at 16:49:29
12 this, what I'll call sort of barebones -- 16:49:31
13 we're only valuing the portion of the patented 16:49:37
14 technology that wasn't yet on the market. 16:49:40
15 Q. Okay. 16:49:48
16 But if you did take the 16:49:49
17 28 percent, you'd end up -- if you didn't take 16:49:51
18 the 28 percent reduction, you'd end up with 45 16:49:53
19 cents, and if you applied that to the sales 16:49:58
20 that Microchip accuses of infringing, you 16:50:00
21 would get a total damages outcome of 20 16:50:03
22 million; right? 16:50:06
23 A. I trust your math. 16:50:06
24 The logic of the prior step you 16:50:08

1 made is the 28 percent discount doesn't make 16:50:10
2 sense if you -- if you're applying 63 cents 16:50:12
3 across the whole time period. 16:50:15
4 MR. WIENER: And then finally, if 16:50:16
5 we could bring up Exhibit 36, which is already 16:50:17
6 in evidence. 16:50:20
7 BY MR. WIENER: 16:50:20
8 Q. Dr. Becker, Exhibit 36 is an email in 16:50:31
9 the January 2015 timeframe. You've seen this 16:50:36
10 before; correct? 16:50:38
11 A. Yes. 16:50:39
12 Q. And this was an email where Microchip 16:50:40
13 had not yet decided to pursue development of 16:50:43
14 the Sandia chip and the threshold question for 16:50:47
15 them was to decide whether or not the market 16:50:51
16 opportunity would be worth 15 to 20 million; 16:50:54
17 right? 16:50:57
18 A. That's what this said. 16:50:57
19 MR. WIENER: I have no further 16:51:00
20 questions. 16:51:01
21 MR. GRAY: No questions, Your 16:51:03
22 Honor. 16:51:04
23 THE COURT: All right. You may 16:51:04
24 step down. 16:51:06

1 (Whereupon, the witness was 16:51:06
2 excused.) 16:51:08
3 THE COURT: This seems like as 16:51:14
4 good a place as any to break for the weekend. 16:51:15
5 I am going to give you all the 16:51:18
6 same caution I have been, but with a little 16:51:20
7 bit more emphasis than I do sometimes because 16:51:22
8 you're going to be gone for a couple days. 16:51:26
9 You are going to talk to a lot of people that 16:51:28
10 are not here that are going to want to know 16:51:30
11 what you're doing. And so I'm just going to 16:51:32
12 remind you that it's important. Other than to 16:51:34
13 tell them you're serving on a jury, that's 16:51:36
14 about as much as you should say. 16:51:38
15 Don't tell them about the case, 16:51:41
16 don't tell them what you're hearing. Any 16:51:42
17 details are likely to invoke questions, 16:51:44
18 thoughts, things like that, that can affect 16:51:48
19 your thinking about the case here. Again, you 16:51:50
20 can blame me for that if anyone presses you. 16:51:53
21 The other caution I'm going to 16:51:56
22 give you, and it's really important, is do not 16:51:58
23 go looking up anything about the case. Do not 16:52:00
24 investigate it, don't Google it, just steer 16:52:03

1 clear of it. Use the weekend to just forget 16:52:08
2 about it, basically, and don't worry about it 16:52:11
3 and then come back on Monday. 16:52:14
4 So we'll start again Monday at 16:52:16
5 9 o'clock. Just for your planning purposes, 16:52:19
6 as we look ahead, I know that -- I think a 16:52:22
7 couple of you may have commitments Monday 16:52:25
8 afternoon to get to. That works out well 16:52:27
9 because I actually have to spend a little bit 16:52:30
10 of time with the lawyers going over some legal 16:52:32
11 things to get the case to conclusion. So 16:52:34
12 we'll plan to sort of wrap up at the point 16:52:37
13 where we would normally take our mid-afternoon 16:52:39
14 break on Monday, so in the range of 3:15 to 16:52:42
15 3:30, in that ballpark, to get you out of 16:52:46
16 here. But then we'll plan for full days after 16:52:49
17 that later in the week as we try to move the 16:52:52
18 case forward. 16:52:54
19 If people have issues, you can 16:52:55
20 speak up and let me know on scheduling. Okay. 16:52:58
21 I think that's everything. Everybody have a 16:53:02
22 good weekend and we'll see you back here 16:53:04
23 Monday for a 9:00 a.m. start. 16:53:07
24 (Whereupon, the jury was excused 16:53:09

1 from the courtroom.) 16:53:11
2 THE COURT: Okay. 16:53:32
3 You guys can all be seated. I 16:53:35
4 don't know if there's any particular 16:53:37
5 housekeeping we need to tackle before we break 16:53:38
6 for the weekend. 16:53:41
7 MR. WIENER: If there are any 16:53:44
8 issues that arise over the weekend, should we 16:53:46
9 email you by 9:00 p.m. on Sunday? 16:53:48
10 THE COURT: Yeah, just email and 16:53:51
11 if you email me before that, that's helpful. 16:53:52
12 Doesn't have to be 9:00 p.m. Sunday. 16:53:55
13 MR. WIENER: It's sometimes 16:53:58
14 helpful to have a deadline. 16:53:59
15 THE COURT: Yes. So certainly you 16:54:00
16 can get it to me by then, but it can be 16:54:01
17 issues, it can also be if you reached any 16:54:04
18 compromises on language on the jury 16:54:06
19 instructions, let me know that, too. 16:54:08
20 We will, in the interim, try to 16:54:12
21 get you a draft, hopefully today; it could be 16:54:14
22 tomorrow morning. 16:54:18
23 MS. DURIE: Perfect. And you're 16:54:19
24 thinking the charge conference would be Monday 16:54:20

1 afternoon? 16:54:21
2 THE COURT: That's my expectation. 16:54:22
3 I want to use the time obviously 16:54:24
4 so we stay on case, and I do want to let our 16:54:26
5 juror go so that she can pick up her kids and 16:54:28
6 not lose her. So that would be my 16:54:31
7 expectation. 16:54:32
8 MS. DURIE: Okay. 16:54:33
9 THE COURT: Okay. 16:54:34
10 And then I guess I'll see you 16:54:37
11 Monday unless anything pops up. Okay? 16:54:39
12 MS. DURIE: Thank you. 16:54:41
13 THE COURT: All right. Everybody 16:54:41
14 have a good weekend. Stay safe. 16:54:43
15 THE COURT CLERK: All rise. 16:54:46
16 (Whereupon, the Court adjourned 16:54:52
17 proceedings at 4:55 p.m.) 16:54:55
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1 C E R T I F I C A T E

2

3 I do hereby certify that I am a
Notary Public in good standing, that the
4 aforesaid testimony was taken before me,
pursuant to notice, at the time and place
5 indicated; that said deponents were duly sworn
to tell the truth, the whole truth, and
6 nothing but the truth; that the testimony of
said deponents was correctly recorded in
7 machine shorthand by me and thereafter
transcribed under my supervision with
8 computer-aided transcription; that the
transcript is a true and correct record of the
9 testimony given by the witnesses; and that I
am neither of counsel nor kin to any party in
10 said action, nor interested in the outcome
thereof.
11
WITNESS by hand and official seal
12 this 8th day of April, 2022.

13 _____
Notary Public
14

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17 Job No. 5162169

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