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/CHARGE CONFERENCE

VOLUME 4

- - -

Date: Monday, April 11, 2022

Time: 8:30 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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(Whereupon, the Court resumed proceedings at 8:30 a.m.)

- - -

THE COURT CLERK: All rise.

Honorable Joshua D. Wolson presiding.

THE COURT: Good morning, everybody. Have a seat, please.

I know we have several emails with issues that you wanted to tackle this morning. Let me -- just a couple of things; let me lay a predicate for that.

Number one, and this is not a predicate for that, it's just a housekeeping matter, but I will say something about, there were a couple of cell phones that went off Friday. I just want to caution everyone not to have that happen anymore. We're going to treat that -- I'm going to treat it with Olympic grace, the false start gets charged to everybody.

So going forward, if I hear a cell phone, you are going to turn it in to Mr. Koehler and be without it for the day. So

just make sure there's silence. 08:32:49

Second thing, just, Mr. Slayden, I know I got a couple of emails over the weekend that talk about the Aptiv testimony. I wasn't clear at the end of Friday whether Microchip is resting for Phase 1 or whether you've got a couple things left to do before we turn to Aptiv? 08:32:51 08:32:57 08:32:59 08:33:02 08:33:05 08:33:08 08:33:10

MR. SLAYDEN: We've got a video deposition -- 08:33:10 08:33:12

THE COURT: Okay. 08:33:13

MR. SLAYDEN: -- to play this morning, Your Honor. 08:33:13 08:33:14

THE COURT: Okay. All right. Fine. Okay. 08:33:15 08:33:16

So then the other thing I just want to sort of note, obviously we've got a somewhat shortened day with the jury today, given both the schedule for our one juror and given -- so we're going to use that time for the charge conference this afternoon. 08:33:16 08:33:19 08:33:22 08:33:25 08:33:29 08:33:33

I understand that -- I don't know what the order of things to come up today is. I want to maximize the time we have with the 08:33:35 08:33:36 08:33:40

jury while they're here. 08:33:42

And so I would just say that I'm 08:33:44

happy to take up all of the issues you've 08:33:45

given me from a pure triage standpoint. 08:33:48

Anything that we can do -- anything that we 08:33:51

need to do now, I am happy to do now. I just 08:33:53

thought we could defer -- 08:33:56

MS. DURIE: Understood. The thing 08:33:58

we need to do now is the proffer with respect 08:33:59

to Mr. Voto, because there is going to be a 08:34:03

little bit of deposition testimony and then he 08:34:05

will be the next witness. 08:34:06

THE COURT: That's fine. If you 08:34:07

want to start there, that's fine. And again, 08:34:08

we can do some of it -- I don't mind doing 08:34:10

stuff -- taking a very abbreviated lunch break 08:34:13

and doing some over lunch, if you need to do 08:34:15

it then, in the advance of the afternoon, and 08:34:18

then if there's other stuff we can do this 08:34:20

afternoon. 08:34:22

I looked quickly at the redlines 08:34:22

of the jury charge. I don't think it's two 08:34:26

hours' worth of discussion, and so we have 08:34:27

time to do some additional discussion today. 08:34:29

MR. SHAW: I just wanted the Court ready to go with Mr. Voto, and knowing the time, I just wanted to get the two objections out so you were clear as you were listening as to what's happening. 08:34:33 08:34:35 08:34:37 08:34:39 08:34:42

THE COURT: Okay. 08:34:43

MR. SHAW: So as I understand things, Mr. Voto has desired to testify from Aptiv on his patents and that those patents cover the accused products. 08:34:44 08:34:45 08:34:49 08:34:53

So the two objections that we are dealing with in this morning phase is, first, he has not been disclosed, wasn't disclosed about testifying concerning whether these patents covered the Aptiv products. That's for the initial disclosures. 08:34:55 08:34:56 08:34:58 08:35:01 08:35:05 08:35:07

The more substantive issue, which I believe Your Honor had termed foundation at the pretrial conference, is whether, under Rule 701 of the Federal Rules of Evidence, he is permitted to testify as a layperson about the coverage of his patents on the Aptiv products. 08:35:09 08:35:12 08:35:13 08:35:15 08:35:19 08:35:20 08:35:24

It's our position that that is not 08:35:24

permitted under Rule 701, and I think the best lens through which to look at it is the advisory committee notes from the year 2000. When the rule was amended, they cited a number of decisions, including several from the Third Circuit that draw the distinction between, for example, a layperson who is an amphetamine user able to testify about something that's amphetamine, but not able to testify about methods of manufacture. 08:35:27 08:35:30 08:35:32 08:35:34 08:35:36 08:35:39 08:35:41 08:35:44 08:35:46 08:35:49

The same thing is true with police officers might be able to testify to the lay testimony that something is suspicious activity, but not that the activity they have seen is activity that's an indication of a drug cartel or drug situation without being qualified as an expert. 08:35:50 08:35:52 08:35:54 08:35:56 08:35:58 08:36:02 08:36:05

The issue we have here is Mr. Voto has not been qualified as an expert to talk about patent coverage. 08:36:06 08:36:09 08:36:11

THE COURT: Okay. All right. I understand the issue. 08:36:13 08:36:14

Go ahead. 08:36:15

MR. WIENER: Your Honor, we call 08:36:16

Mr. Voto, Mr. Robert Voto, to lay the foundation for 187 through 191.

THE COURT: All right.

MR. WIENER: Mr. Voto.

THE COURT: I'm sorry, did you say it was 187 to 190?

MR. WIENER: It is Exhibit 187 through 191.

THE COURT: All right.

Go ahead, Mr. Koehler. Swear him in.

THE COURT CLERK: Please state and spell your name for the record.

MR. VOTO: Robert Martin Voto, R-O-B-E-R-T, M-A-R-T-I-N, V-O-T-O.

- - -

...ROBERT M. VOTO, after having first been duly sworn and/or affirmed, was examined and testified as follows...

- - -

DIRECT EXAMINATION

- - -

BY MR. WIENER:

Q. Good morning, Mr. Voto.

Can you please introduce yourself to the Court? 08:37:23 08:37:24

A. Good morning. My name is Robert Voto. 08:37:25 08:37:29

Q. And can you explain to the Court your role in the development of the dual role hub in the Boston 2 chip? 08:37:29 08:37:32 08:37:35

A. Yes. So my background is engineering. I was the developer, along with my team, of the Boston chip. 08:37:37 08:37:41 08:37:43

Q. And do you have an understanding of how the product works from a technical perspective, Mr. Voto? 08:37:45 08:37:48 08:37:49

A. Yes, I do. 08:37:50

Q. Did you apply for patent protection in connection with your work developing the dual role hub and Boston 2 chip? 08:37:52 08:37:56 08:37:58

A. Yes, we did. 08:38:01

Q. And what was the invention or inventions you were seeking protection of? 08:38:02 08:38:04

A. The invention was our development of a new type of USB hub. It had different elements that previously were not part of hubs, such as the bridge, the USB switches, 08:38:06 08:38:11 08:38:15 08:38:20

the hub, itself. 08:38:22

I felt that our combination of 08:38:24

those different technologies, in making them 08:38:26

work together for this new application, was 08:38:28

novel and unique. 08:38:31

Q. And did that work lead to the 08:38:32

development of the Boston ASIC and the dual 08:38:34

role hub module? 08:38:39

A. Yes. 08:38:39

Q. And did that work lead to a chip and 08:38:40

a module that provided a one-lane solution 08:38:43

that provided CarPlay on all downstream ports 08:38:47

which allowed the non-CarPlay downstream 08:38:50

ports -- 08:38:53

A. Yes. 08:38:53

Q. -- to obtain data? 08:38:53

A. That is correct. 08:38:55

Q. Okay. 08:38:55

Did you -- did the patent office 08:38:57

ultimately award you patents based on the 08:38:59

invention you had provided? 08:39:03

A. Yes. 08:39:04

Q. Okay. 08:39:06

You mentioned that you applied for 08:39:06

the patents. Did you work with lawyers in seeking that patent protection? 08:39:08 08:39:13

A. Absolutely. We worked with lawyers; I was describing the invention to the lawyers; they helped with the construction and correspondence with the patent office. 08:39:14 08:39:16 08:39:19 08:39:21

Q. And did you provide functional diagrams and other information about your invention to the lawyers to provide to the patent office in connection with seeking the patents? 08:39:23 08:39:25 08:39:27 08:39:29 08:39:31

A. Yes. 08:39:32

Q. Okay. 08:39:34

MR. WIENER: I'd like Mr. Glass to put on the screen Exhibit 17. This is not yet in evidence, Your Honor. We will be offering it in evidence during Mr. Voto's testimony. I'm happy to offer it in evidence now if -- 08:39:35 08:39:38 08:39:41 08:39:42 08:39:45

THE COURT: I mean, this is all foundational, it's not necessary, actually. 08:39:48 08:39:49

MR. WIENER: Okay. And, Mr. Glass, if you could turn to Slide 11. 08:39:52 08:39:54

BY MR. WIENER: 08:39:58

Q. Mr. Voto, is this a type of 08:39:59

functional diagram information you provided to the lawyers to help describe to them what the invention was that you were seeking protection for? 08:40:00 08:40:02 08:40:04 08:40:07

A. That's correct. 08:40:08

Q. And what's shown on this slide? 08:40:08

A. So this slide gives some context for how our dual role hub module works in the larger automotive system. 08:40:11 08:40:15 08:40:20

Q. And in the slide right now, is the system in CarPlay mode? 08:40:21 08:40:24

A. The system in this diagram is in device mode. We know that because we can see the head unit has a connection to the iPhone through the hub, but not through the bridge. 08:40:25 08:40:31 08:40:33 08:40:37

MR. WIENER: And, Mr. Glass, if we could turn to Slide 12 of the document, please. 08:40:42 08:40:44 08:40:47

BY MR. WIENER: 08:40:47

Q. And how about page 12, what's shown there? 08:40:48 08:40:49

A. So this is the other mode that our hub can operate in. The chip is able to route the iPhone data, either directly to the hub or 08:40:49 08:40:51 08:40:54

to the hub via the bridge, which is what's shown here. So this is the CarPlay mode. 08:40:58 08:41:00

MR. WIENER: Mr. Glass, I'd like to put up Figure 4, which is on page 6 of Exhibit 188 that's one of the five patents at issue. 08:41:03 08:41:05 08:41:08 08:41:11

BY MR. WIENER: 08:41:21

Q. And, Mr. Voto, what's shown on Figure 4 from the -- from Patent No. 9,619,420, Exhibit 188? 08:41:21 08:41:24 08:41:32

A. Another block diagram. It's similar to what we just talked about. It's showing a lot of the same components and content, specifically the USB hub, the bridge, the switches, upstream connection to a head unit, downstream connection to USB devices. 08:41:35 08:41:38 08:41:40 08:41:44 08:41:47 08:41:51

Q. And did the claims that ultimately issued in the five patents you received, were they claims that were resulting from the work that you had done in connection with developing the solution to CarPlay? 08:41:53 08:41:56 08:41:58 08:42:02 08:42:05

A. That's absolutely correct. 08:42:07

Q. Okay. 08:42:09

I'd like to take a look at one of 08:42:10

the claims from the '188 patent particularly. 08:42:12

MR. WIENER: Claim 7, please, Mr. 08:42:16

Glass, if you could put it up side-by-side 08:42:17

with Exhibit 17. 08:42:20

BY MR. WIENER: 08:42:21

Q. So, Mr. Voto, the words in the claims 08:42:22

here, were these your words? 08:42:25

A. The claims were constructed with 08:42:28

myself, my technical team, together with the 08:42:31

lawyers. 08:42:34

Q. Okay. 08:42:34

I'd like to look at the elements 08:42:35

that are in claim 7. The first is an 08:42:38

integrated circuit. Is the Boston 2 chip an 08:42:40

integrated circuit? 08:42:46

A. It is. 08:42:47

Q. Okay. 08:42:48

The next element is a USB hub 08:42:48

configured to be interconnected to a first USB 08:42:51

port connected to a USB host and a second USB 08:42:54

port connected to a consumer device. 08:42:58

Does the Boston 2 chip have a USB 08:43:03

hub configured to be interconnected to a first 08:43:06

USB port connected to a USB host and a second 08:43:09

USB port connected to a consumer device? 08:43:12

A. Those both components are shown in 08:43:16

the drawing. 08:43:20

Q. And would it help, Mr. Voto, to have 08:43:21

a laser pointer to show? 08:43:23

A. Yes, it would. 08:43:26

MR. WIENER: May I approach the 08:43:28

witness, Your Honor? 08:43:29

THE COURT: Yes. 08:43:31

THE WITNESS: Thank you. 08:43:34

Okay. So if you go back, a first 08:43:36

USB port connected to a USB host, this is the 08:43:41

USB host for the system. It connects via this 08:43:46

first port to the USB hub. 08:43:50

BY MR. WIENER: 08:43:53

Q. And then the second USB port 08:43:53

connecting to a consumer device, can you show 08:43:55

where that is in the Boston 2 chip? 08:43:58

A. These are the consumer devices, these 08:44:00

two points here. Remember, this is the hub 08:44:03

module, itself, so the ports that you would 08:44:05

connect into that module would be here and 08:44:08

here. So this is port No. 2 in this example. 08:44:10

Q. The second element is a USB bridge 08:44:14

interconnected to the USB hub. 08:44:16

Does the Boston 2 chip contain a 08:44:19

USB bridge interconnected to the USB hub? 08:44:21

A. We see that, the hub, itself, and the 08:44:26

bridge here, and there is the connection. 08:44:30

Q. And then the next element in claim 7 08:44:32

is a USB routed switch interconnected to the 08:44:35

USB bridge, the USB hub, and the second USB 08:44:39

port. 08:44:43

Does the Boston 2 chip have a USB 08:44:44

routing switch interconnected to the USB 08:44:47

bridge, the USB hub and the second USB port? 08:44:50

A. This is the routing switch network, 08:44:56

and here we have the USB bridge and the USB 08:44:58

hub and they're all interconnected. 08:45:01

Q. And that limitation goes on to say, 08:45:03

"wherein the USB routing switch is configured 08:45:06

to connect the second USB port and the first 08:45:09

USB port through the USB bridge thereby 08:45:12

providing bi-directional initiation of 08:45:17

communication between the USB host and the 08:45:18

consumer device when the consumer device 08:45:21

connected to the second USB port is in a USB 08:45:25

host mode." 08:45:29

Does the Boston 2 chip have a USB routing switch that's configured to connect the second USB port to the first USB port through the USB bridge, thereby providing bi-directional initiation of communication between the USB host and the consumer device when the consumer device connected to the second USB port is in a USB host mode? 08:45:30 08:45:32 08:45:35 08:45:38 08:45:42 08:45:43 08:45:46 08:45:48

A. Basically that's a really long sentence in a way of saying that the consumer device here is routed through the switches, through the bridge, through the hub, back to port 1, back to the head unit. 08:45:52 08:45:54 08:45:57 08:46:01 08:46:05

Q. And that's when it is in host mode? 08:46:06

A. Correct. 08:46:09

MR. WIENER: Mr. Glass, could you switch it to Slide 11 and Figure 17, please. 08:46:09 08:46:11

BY MR. WIENER: 08:46:14

Q. And, Mr. Voto, Slide 11 is showing it when it's not in host mode; correct? 08:46:15 08:46:17

A. Correct. 08:46:20

Q. For the Boston 2 chip? 08:46:20

A. That's correct. 08:46:22

Q. And then the last portion and the 08:46:22

last limitation of claim 7 of Exhibit 188 is, "and wherein the USB routing switch is configured to connect the second USB port directly to the first USB port through the USB hub; thereby only responding to communication initiated by the USB host when the consumer device is connected to the second USB port is in a USB device mode." 08:46:25 08:46:28 08:46:31 08:46:33 08:46:35 08:46:39 08:46:42 08:46:45

Does the Boston 2 chip have a USB routing switch that's configured to connect the second USB port directly to the first USB port through the USB hub; thereby only responding to communication initiated by the USB host when the consumer device connected to the second USB port is in a USB device mode? 08:46:48 08:46:52 08:46:54 08:46:57 08:47:02 08:47:03 08:47:06

A. So now in this example, we have the iPhone here in USB device mode. It connects the port to port, 2 routes through the switch. The switch is currently set in bottom right-hand device mode so that we have a data path back to the hub, and the hub has a connection from port 1 back to the head unit, so it would only respond for messages via the host through the USB device. 08:47:12 08:47:14 08:47:18 08:47:21 08:47:24 08:47:25 08:47:29 08:47:32 08:47:35

Q. Thank you. 08:47:37

MR. WIENER: Your Honor, based on 08:47:37

Mr. Voto's testimony about the scope of the 08:47:39

work that was used to form the basis for the 08:47:41

patent applications, the fact that he received 08:47:44

patent applications for that work, the fact 08:47:46

that that work was the work that went into 08:47:50

developing the accused product and his 08:47:52

description of how each and every single one 08:47:55

of the claim limitations for one of the claims 08:47:57

in Exhibit 188, those limitations are, in 08:47:59

fact, present in the accused Boston 2 chip, we 08:48:02

move 188 into -- or we offer 188 into 08:48:06

evidence. 08:48:09

THE COURT: Okay. 08:48:11

Mr. Shaw? 08:48:13

MR. SHAW: Your Honor, moving it 08:48:14

into evidence, first of all, has to happen 08:48:15

when the jury is here, and second, we're here 08:48:17

to work on whether or not he's permitted to do 08:48:19

this. We've heard a lot about his technical 08:48:21

expertise, but the issue is does he, as an 08:48:23

individual, have the expertise to interpret 08:48:29

and discuss patent claims. 08:48:30

What I just saw was going through a claim chart as you would have an expert do. We have not had the opportunity to assess methodology yet and whether he does this on a day-to-day basis as a layperson. 08:48:32 08:48:33 08:48:36 08:48:38 08:48:40

MR. WIENER: Your Honor, let me respond. 08:48:42 08:48:43

THE COURT: Hold on. Let me just -- I mean -- okay. I've already said, I think, that subject to -- I mean, I want to see what his testimony is as he views patents, but as far as the patents go, whether it's 188 or one of the other ones, you know, I think they are a pass for you to admit them into evidence during trial. Okay? 08:48:43 08:48:47 08:48:54 08:48:55 08:48:59 08:49:01 08:49:04 08:49:06

But I'm not going to do it now; I agree. If there was an objection, I could rule on it, but I'll overrule the objection and admit it into evidence right now. 08:49:09 08:49:11 08:49:13 08:49:15

As far as testimony goes with respect to the coverage and scope of the patents, I agree that any testimony about the coverage and scope of the patent is expert testimony, it's not layman's testimony under 08:49:17 08:49:25 08:49:27 08:49:33 08:49:35

Rule 701. It may be a ploy as expert testimony, but it's expert testimony. It wasn't disclosed. 08:49:38 08:49:44 08:49:46

That said, I am in the same place on this testimony that I was with respect to the issues in limine, on the in limine motions with respect to the other expert issues that had come up at the hearing in November, which is that I raised the issue in November. 08:49:49 08:49:52 08:49:58 08:50:03 08:50:07 08:50:09

We're now here in April and I haven't seen anyone do anything to try to cure it. The Third Circuit says the exclusion of evidence is an extreme sanction that should only be invoked when there is no ability to cure, and I think there was an ability to cure here over the last six months. 08:50:13 08:50:15 08:50:18 08:50:23 08:50:26 08:50:30 08:50:32

MR. SHAW: Your Honor, on this particular issue, this was not raised in November. This was an issue that first came up on Monday, as I understand it, correct me if I'm wrong, from the pretrial conference last week, that their idea is to get these patents into evidence and to have an expert testify about them was a foundational issue 08:50:35 08:50:36 08:50:38 08:50:40 08:50:43 08:50:46 08:50:48 08:50:51

and they were going to raise it this week. 08:50:53

THE COURT: Let's break that 08:50:55

apart, first of all. I mean, there's no 08:50:57

question in my mind that Mr. Voto can testify 08:50:58

about the work he did to develop and get the 08:51:02

patent. That's all facts. That's fact 08:51:04

evidence. 08:51:08

MR. SHAW: We agree with that, 08:51:08

Your Honor. 08:51:09

THE COURT: Okay. So if we get 08:51:10

that far, then that's fine. 08:51:11

I thought the issues with respect 08:51:13

to Mr. Voto had come up before, but remind me, 08:51:19

Mr. Wiener, when was the first time you raised 08:51:23

them? 08:51:26

MR. WIENER: The issue of Mr. Voto 08:51:26

had not specifically come up before. However, 08:51:28

Aptiv put its patents on preliminary exhibit 08:51:31

lists that were exchanged back when -- 08:51:33

THE COURT: That's different. 08:51:35

Putting your patents on an exhibit list are a 08:51:36

little different than the question of telling 08:51:39

Microchip that someone is going to get up and 08:51:45

do an expert analysis of those patents to 08:51:48

explain the coverage of the patents and how they apply to the dual role hub. 08:51:52 08:52:00

MR. WIENER: Your Honor, if I can perhaps allay that concern, we are happy to not have Mr. Voto provide coverage style testimony and simply put in the fact that they applied for and received patents based on the work that they had done in connection with developing the dual role hub. 08:52:04 08:52:05 08:52:08 08:52:10 08:52:13 08:52:15 08:52:17

THE COURT: Okay. That's fine. Let's do it that way. Because I do think otherwise you can start treading disclosures, so yeah, I have no problem with him testifying, I think it's fair game for him to testify about the work he did in developing and obtaining the patents. 08:52:18 08:52:20 08:52:21 08:52:25 08:52:27 08:52:29 08:52:32

MR. WIENER: And then that would serve as a foundation for admitting the patents into evidence, subject to what you heard him testify during -- 08:52:33 08:52:35 08:52:38 08:52:40

THE COURT: I think so. Again, I need to hear exactly what -- I mean, I don't have a problem with him, again, putting the patents in. I've already said the patents can 08:52:43 08:52:44 08:52:46 08:52:48

come in on various issues, subject to certain arguments that you're going to make. You know, there will be some limits as to what the jury can do with them. They're certainly going to be in the final instructions. 08:52:51 08:52:54 08:52:57 08:53:00 08:53:03

But yes, I think that the answer is he can testify to the work that was done, and the patents are a public document that can come into evidence. 08:53:04 08:53:06 08:53:11 08:53:15

MR. WIENER: I think the jury will appreciate not having to sit through that portion anyway, so thank you. 08:53:15 08:53:17 08:53:19

MR. SHAW: What we don't have, Your Honor, to make sure the record is clear -- I understand your ruling. I don't believe we have any evidence from a damages expert or another person that says these claims do something to the damages analysis which is, I believe, what Your Honor had said it might be relevant to, and we have a jury instruction on infringement saying that ownership of a patent is not a defense of infringement. 08:53:20 08:53:22 08:53:24 08:53:26 08:53:27 08:53:29 08:53:32 08:53:34 08:53:36 08:53:38 08:53:42

So there may be the need, for 08:53:42

example, for a further limiting instruction. I don't know what they are going to say when they get their damages expert up here, but it's certainly not in the scope of the report.

THE COURT: I don't know either, so let's see where it goes and then it may be -- it may require either a limiting instruction or if you think that some further modification of the instruction is necessary, just let me know. Okay? All right.

It is 8:55. We can check and see if the jury is here and just get started, or if there's other issues...

MR. WIENER: There is one outstanding issue with respect to a demonstrative we would like to use with Mr. Voto.

THE COURT: Okay.

MR. WIENER: There is an issue with that. Mr. Voto, in developing this host-to-host bridge within this chip, looked at, existing at the time in 2013, USB host-to-host bridges, and would like to show what one of those looks like to the jury.

We don't plan to enter it into evidence, we just want him to be able to show what it looked like. He is going to say he looked at it and considered it when he was developing the product. Microchip has objected to the demonstratives. 08:54:35 08:54:36 08:54:39 08:54:41 08:54:43 08:54:45

MR. RUSSELL: We are objecting to it, Your Honor. You can see it here, we can put a picture of it up on the screen if you'd like. It is clearly intended to be a prior art thing that they are talking about. It has extremely limited relevance to infringement or his development story. 08:54:48 08:54:49 08:54:51 08:54:53 08:54:56 08:54:58 08:55:01

There is no need for the jury to see something that looks like a prior art reference that's only really relevant to whether the concepts in our patent were known. He can explain -- you know, to the extent it's not otherwise objectionable, he can explain what he used it for and why he used it without actually explaining to the jury without the box that looks like prior art and sets out the idea for the jury that this was known. 08:55:02 08:55:03 08:55:05 08:55:07 08:55:11 08:55:14 08:55:16 08:55:19 08:55:23 08:55:26

THE COURT: Let me make sure I 08:55:27

understand. Is your suggestion that it looks old and therefore, the jury is going to infer that it goes back further in time to somehow be prior art as to your patent? 08:55:28 08:55:30 08:55:33 08:55:36

MR. RUSSELL: Well, I think that's what they're trying to imply here, and they are going to use this both with Mr. Voto and with their invalidity expert, Mr. Garney. And the only reason for them to put this physical thing in an ancient-looking box in front of the jury is to imply that this is a known idea, and I think that's what they are really getting at with this demonstrative. 08:55:39 08:55:40 08:55:43 08:55:45 08:55:49 08:55:51 08:55:54 08:55:56 08:55:57

Like I said, we are not objecting to their story about how they came up with their device; it's just that they don't need this thing that looks like an old prior art reference to tell that story. 08:55:59 08:56:00 08:56:03 08:56:05 08:56:07

THE COURT: So if they get rid of the box, does that cure the problem? 08:56:09 08:56:11

MR. RUSSELL: I think it is the box and the cable, because they shouldn't be putting this at issue as a prior art reference really. 08:56:13 08:56:15 08:56:16 08:56:19

THE COURT: If they're not and they are just saying this is something I looked at in 2012 and it's a cable, I mean, is the jury really going to look -- can you hand that cable up to me? I mean, you know, I understand the box may be beat up. 08:56:19 08:56:20 08:56:22 08:56:28 08:56:30 08:56:33

MR. RUSSELL: Your Honor, I would be happy to bring the box up as well. 08:56:40 08:56:41

THE COURT: But, so I'm starting -- I mean, is there any reason, Mr. Wiener, they need to see the box? Does the box do anything to the testimony? 08:56:43 08:56:45 08:56:48 08:56:50

MR. WIENER: Not really, it's the cable. 08:56:52 08:56:54

THE COURT: The cable. 08:56:54

MR. WIENER: And I just note Mr. Garney is also our infringement expert, so we're not offering this as prior art or with the date claim. 08:56:56 08:56:57 08:57:00 08:57:01

MR. RUSSELL: But this device has extremely limited relevance to anything. 08:57:02 08:57:03

THE COURT: Maybe. I mean, I haven't heard what he is going to say about it, but, I mean, I don't know. I'm looking at 08:57:07 08:57:08 08:57:09

this cable in my hand. It is -- it's got USB plugs on either end. It's got some sort of link in the middle. I am not a technical expert so I don't know what happens in that link, but I assume this isn't going to be more than 10 seconds of looking at this; right? 08:57:13 08:57:17 08:57:21 08:57:23 08:57:25 08:57:30

MR. RUSSELL: Well, they put this cable in and they also put two in with their invalidity expert, and it seems to us that the only relevance here is that they are trying to say that this idea, connecting a host to a host, was known before our patent came out and they are trying to illustrate that. 08:57:33 08:57:35 08:57:38 08:57:41 08:57:44 08:57:46 08:57:48

THE COURT: They can't say -- okay. This is not based on this and Mr. Voto is not going to say anything about invalidity. 08:57:49 08:57:51 08:57:53

So I understand your concern that they are going to infer that, you know, that the jury might infer that, but I don't see why -- I don't see why they necessarily would, and I don't see anything about this -- you know, look, I mean, I'll say it myself, but if they were putting up, like, you know, some device that everyone looks at and goes, I know 08:57:58 08:58:00 08:58:04 08:58:06 08:58:09 08:58:11 08:58:15 08:58:19

that this is ancient, right, or a TRS ancient computer, then everybody is going to look at it and go wow, that thing is old, it must have existed for a long time. 08:58:21 08:58:26 08:58:28 08:58:31

To the extent anyone has seen -- all they are going to see here, I think, is a cable with a couple USB connections on the end. I don't know that it's terribly relevant, but it's a piece of -- it's just there. 08:58:32 08:58:35 08:58:37 08:58:40 08:58:42 08:58:44

MR. RUSSELL: I agree, Your Honor, it's really not relevant. 08:58:44 08:58:46

THE COURT: Hold on. Let me finish. Just to demonstrate this is the kind of thing I looked at, I don't have a problem with this. I don't see this being a problem. 08:58:47 08:58:49 08:58:51 08:58:53

MR. RUSSELL: Okay. 08:58:57

THE COURT: So I'll overrule that objection. 08:58:57 08:58:59

MR. RUSSELL: Your Honor, just to clarify, the box can't be used, though; right? 08:59:00 08:59:01

THE COURT: I mean, it doesn't sound like the box is necessary for anything. Frankly, I'd rather save the time of having to 08:59:04 08:59:05 08:59:07

fumble with the box and getting the cable out of it anyway, so we'll just hand up the cable. 08:59:10 08:59:12

MR. RUSSELL: There is another one of these cables that may come up with Mr. Garney, but we can deal with that later. 08:59:15 08:59:16 08:59:18

THE COURT: Okay. 08:59:20

MR. WIENER: Your Honor, can we excuse Mr. Voto? 08:59:21 08:59:22

THE COURT: Sorry. You can step down. Just so you understand, just for the optical purposes, too, we'll swear Mr. Voto back in in front of the jury. 08:59:24 08:59:25 08:59:30 08:59:32

MR. WIENER: All right. 08:59:35

THE COURT: Please go check if the jury is here. If they are, bring them in. 08:59:37 08:59:39

MR. GRAY: Your Honor, could I make one point of clarification? 08:59:44 09:00:52

THE COURT: You can, but the jury may be coming in, so I don't want to be in the middle of that when they come in. 09:00:53 09:00:54 09:00:56

MR. GRAY: I just want to make sure, we are not closing right after this video; there's a couple other small things. 09:00:58 09:01:00 09:01:01

THE COURT: Okay. That's fine. 09:01:10

(Whereupon, the jury entered the courtroom.) 09:01:14 09:01:29

THE COURT: You can all be seated. 09:01:45

All right. Good morning, everybody. I hope you had a good weekend. I once again just want to commend you for your promptness. We really appreciate it. 09:01:51 09:01:54 09:01:56 09:01:59

So we're going to resume this morning with Microchip's presentation and, Mr. Slayden -- I'm sorry. 09:02:01 09:02:03 09:02:10

MR. GRAY: Thank you, Your Honor. 09:02:12

At this point, Microchip calls Mr. Craig Petku, who is an engineer -- we are going to call him by deposition. 09:02:14 09:02:17 09:02:18

THE COURT: Okay. 09:02:19

MR. GRAY: He is an engineer for Aptiv. And just for context, this is a video that's about 10 minutes long. 09:02:20 09:02:22 09:02:24

THE COURT: Okay. 09:02:26

So, ladies and gentlemen, just so you understand, and you may have heard reference to this, a deposition is questioning that takes place under oath during the course of preparing the case. 09:02:27 09:02:28 09:02:30 09:02:32 09:02:35

So it happens in a conference room somewhere typically. There is a court reporter, the witness has been sworn in, and the parties are allowed to, under certain circumstances, play that testimony for you, either by video or put the transcript in front of you. That's what we are going to do here now. 09:02:37 09:02:40 09:02:42 09:02:44 09:02:48 09:02:49 09:02:53 09:02:55

MS. DURIE: And, Your Honor, can I just clarify, he is a former employee. 09:02:55 09:02:56

THE COURT: Former employee. Okay. 09:02:58 09:03:00

MR. GRAY: Your Honor, may I approach the Court? 09:03:00 09:03:01

THE COURT: Yes. 09:03:03

(Whereupon, portions of the videotape deposition of Craig Petku were played for the jury.) 09:03:13 09:03:20 09:03:22

THE COURT: All right. 09:14:10

MR. GRAY: Thank you, Your Honor. 09:14:11

At this time, we'd like to move Exhibit 128 into evidence. 09:14:13 09:14:15

MR. WIENER: No objection, Your Honor. 09:14:17 09:14:43

THE COURT: Okay. 128 will come in. 09:14:43 09:14:46

MR. GRAY: Thank you, Your Honor. 09:14:50

THE COURT: All right. 09:14:51

Mr. Gray, what's next? 09:14:53

MR. GRAY: So at this time, I'd like to read just a handful of what are known as uncontested facts, and believe it or not, there are a few of those here. The parties have agreed to these specific facts being read to you. 09:14:55 09:14:57 09:14:59 09:15:02 09:15:04 09:15:07

First, Microchip Technology Incorporated owns all rights, title and interest in and to the patents asserted against Aptiv in this case. 09:15:08 09:15:12 09:15:14 09:15:16

The '243 Patent was originally assigned to Standard Microsystems Corporation, also known as SMSC, which assigned all rights, title and interest to the '243 Patent to Standard Microsystems, LLC in August 2016, who in turn assigned all rights, title and interest to the '243 Patent to Microchip in August 2016. 09:15:18 09:15:22 09:15:25 09:15:28 09:15:31 09:15:36 09:15:38 09:15:42

Neither SMSC nor Microchip has 09:15:43

licensed the '243 Patent to any other company. 09:15:47

Aptiv has had knowledge of the 09:15:50

existence of the '243 Patent since at least 09:15:52

January 12, 2015. 09:15:56

Aptiv has tested and used the dual 09:15:58

role hub in the United States. 09:16:03

Aptiv offers for sale and sells 09:16:04

the dual role hub in the United States. 09:16:06

THE COURT: That's it? 09:16:12

MR. GRAY: That's all of those. 09:16:13

THE COURT: Great. 09:16:14

MR. GRAY: And the parties have 09:16:15

agreed that Microchip may hold open its case 09:16:16

in chief until after Mr. Voto's testimony to 09:16:19

avoid the need to call him up twice. 09:16:21

THE COURT: Okay. All right. 09:16:24

Great. 09:16:25

And that's correct, Mr. Wiener? 09:16:26

MR. WIENER: That is correct. 09:16:27

THE COURT: Okay. All right. 09:16:28

So what we are going to do, ladies 09:16:29

and gentlemen, now, is the last couple of 09:16:33

days, you have been hearing testimony 09:16:35

Microchip has been putting on to make its case 09:16:38

to you, and now we are going to turn to Aptiv and give Aptiv an opportunity to present its own evidence and its own witnesses who will -- Aptiv will both defend itself against the charge of infringement and also make its argument that it thinks that the claims 23 through 25 of the patent are invalid. 09:16:41 09:16:44 09:16:48 09:16:52 09:16:54 09:16:58 09:17:03

MR. WIENER: Your Honor, Aptiv calls Mr. Robert Voto. 09:17:06 09:17:08

THE COURT: Mr. Voto, you can step up. 09:17:09 09:17:10

THE COURT CLERK: Please state and spell your name for the record. 09:17:31 09:17:38

THE WITNESS: Robert Martin Voto, R-O-B-E-R-T, M-A-R-T-I-N, V-O-T-O. 09:17:41 09:17:41

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...ROBERT M. VOTO, after having first been duly sworn and/or affirmed, was examined and testified as follows... 08:37:07 08:37:11 08:37:14

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DIRECT EXAMINATION 08:37:18

\- - - 09:18:19

BY MR. WIENER: 09:18:19

Q. Good morning, Mr. Voto. 09:18:20

Can you please introduce yourself to the jury. 09:18:21 09:18:23

A. Good morning. My name is Robert Voto. 09:18:23 09:18:26

Q. Mr. Voto, why are you here today to testify? 09:18:26 09:18:28

A. Well, I am here today, I was -- myself and my team developed this Boston chip many years ago, and I really feel strongly that the Boston chip does not infringe on Microchip's patent, and I really wanted to come here and explain to you the whole history of how we developed it so you understand that from my perspective. 09:18:30 09:18:33 09:18:37 09:18:41 09:18:45 09:18:48 09:18:49 09:18:51

Q. Mr. Voto, can you please tell the jury about yourself? 09:18:52 09:18:54

A. Yes. So I'm born and raised in Michigan, went to school for electrical engineering degree at Purdue University, graduated there, came back to Michigan, started working in the automotive electronics business. 09:18:55 09:18:58 09:19:01 09:19:04 09:19:06 09:19:09

So I was working for Delphi at the time. We were developing different types of 09:19:10 09:19:13

electronic products for cars, got a master's degree in electrical engineering while I was doing that. 09:19:15 09:19:19 09:19:21

And then in 2009, I decided to leave Delphi; I went to Unwired Technology. Unwired Technology was another automotive company, and I was the Vice President of Engineering at Unwired Technology. 09:19:21 09:19:26 09:19:29 09:19:33 09:19:37

And I stayed with that until 2014 when Unwired Technology was actually purchased by Delphi, the company actually got bought by Delphi, so now I'm back to being a Delphi employee in 2014. 09:19:39 09:19:42 09:19:47 09:19:50 09:19:53

After that, the company, Delphi, changed its name, so it became Aptiv. And in 2020, I decided to leave Aptiv and move to Indie Semiconductor. 09:19:55 09:19:58 09:20:02 09:20:09

Q. So, Mr. Voto, you are not currently an Aptiv employee? 09:20:09 09:20:12

A. That's correct. 09:20:13

Q. Are you being compensated for your work in connection with this trial by Aptiv? 09:20:14 09:20:16

A. I am. 09:20:19

Q. And how much? 09:20:20

A. I am being paid $230 an hour. 09:20:21
Q. And what's the nature of your 09:20:25
engagement with Aptiv on this matter? 09:20:27
A. So I am here as a consultant for the 09:20:30
case. 09:20:33
Q. And how did you come up with the rate 09:20:34
of $230 per hour? 09:20:37
A. So the rate -- the rates are like -- 09:20:39
I have a full-time job, right, so the rate is 09:20:42
kind of based on what I normally make anyway 09:20:44
in my day job. 09:20:46
Q. Now, do you have experience in USB, 09:20:48
Mr. Voto? 09:20:51
A. I do. 09:20:51
Q. How much? 09:20:52
A. I first started working with USB 09:20:55
products in about 2011. 09:20:58
Q. And are you the named inventor on any 09:21:00
patents relating to USB? 09:21:02
A. Yes, I believe five patents. 09:21:06
Q. Okay. 09:21:08
Now, earlier, Mr. Voto, you 09:21:09
mentioned that for your brief stint away from 09:21:11
Delphi, you worked at a company called Unwired 09:21:14

Technologies.

Can you tell the jury a little bit more about that company, Unwired Technologies?

A. Yes. So it was 2009. I had been working for Delphi for my whole career, so quite a long time. I decided I wanted to make a change. I moved to Unwired Technology, which was very different. Unwired Technology was a very small company compared, you know, to big Delphi.

I was in charge of engineering. Like I said, I was the vice president. A big title, but actually it was a small company. We only had, I don't know, maybe 20 or so engineers in the whole company, so it was a very different environment.

But at Unwired, I was, you know -- on day one, I was responsible for product design, technology development, and at the time, there were these wireless headphones. That was what the company did, it's called Unwired, because it made these wireless headphones for rear seat entertainment systems and the back seat kind of entertainment

systems for the kids. 09:22:18

Q. So, Mr. Voto, at the time, who were Unwired's customers? Were you selling those headphones directly to the kids in the back seat and their parents or -- 09:22:19 09:22:22 09:22:24 09:22:26

A. So -- so the headphones were part of the package. If you bought that option in a car, then when you got the car, it would come with the headphone stream and all that stuff. 09:22:28 09:22:33 09:22:35 09:22:38

So our customers were, in large part, you know, the carmakers. So General Motors was big, you know, Chrysler was big, Ford, you know. So all these OEMs, the vernacular, you know, for the car companies, car manufacturers, we call them OEMs, so those were our customers. 09:22:41 09:22:44 09:22:48 09:22:52 09:22:59 09:23:01 09:23:05

Q. The jury has heard about OEMs over the last week, so can you just tell them what those letters stand for? 09:23:06 09:23:08 09:23:10

A. Sure. 09:23:11

OEM is just the acronym for Original Equipment Manufacturers, is what we call the carmakers. 09:23:12 09:23:15 09:23:16

Q. So did Unwired have any products 09:23:18

other than those wireless headphones that were for the back seats of the car? 09:23:20 09:23:22

A. Initially, no. In 2009 when I started, that was really what the company was all about. Like I said, it was a small company, not a big company. 09:23:24 09:23:27 09:23:30 09:23:33

But the company was doing well and there was definitely an appetite to try to expand the growth of the business. We had a lot of relationships with a lot of these customers and we thought well, maybe we can get into some other products, too. Maybe there's some other stuff that we can make for cars, so there's plenty of opportunity. 09:23:36 09:23:39 09:23:43 09:23:46 09:23:48 09:23:50 09:23:52 09:23:54

Q. Did you get into any of those other products, Mr. Voto? 09:23:56 09:23:58

A. We did. We were fortunate, you know, that we got the opportunity at General Motors, our biggest customer for headphones. General Motors gave us the opportunity to bid on some USB hub modules. 09:23:59 09:24:01 09:24:05 09:24:09 09:24:11

Q. So you bid on the USB hub modules. Can you tell the jury a little bit about what a USB hub module is? 09:24:13 09:24:15 09:24:17

A. Right. So all of the components that go into cars are, in some way, you know, uniquely created, you know. It's like you don't go -- generally, you don't find the parts that you need -- if you want to make a brand new car, if you want to make a new Corvette or something, your engineers at General Motors are going to think about what every single component of the car needs to do. 09:24:19 09:24:25 09:24:28 09:24:31 09:24:34 09:24:35 09:24:38 09:24:41 09:24:42

You are going to then find suppliers that can design and manufacture that for you. 09:24:45 09:24:46 09:24:48

So in the case of the hub module, so GM was thinking about functionally, what do they want the module to do, which you'll see later, you know, it's basically a small box and it's got some circuit boards inside of it. It's got some plastic around it, and most importantly, it's -- when you -- as the consumer, when we get in our cars and we look at these USB ports, that's what we're talking about, is that particular piece of the car that provides that USB function and those connectors that you can plug into. 09:24:49 09:24:51 09:24:55 09:24:59 09:25:02 09:25:04 09:25:06 09:25:10 09:25:13 09:25:15 09:25:17 09:25:19

Q. All right. 09:25:22

So you bid on the USB hub module 09:25:23
contract with GM. How did that go? 09:25:25

A. So the very first time, you know, 09:25:28
there was multiple opportunities, but the very 09:25:32
first time, we were not selected as the 09:25:34
supplier. 09:25:37

It's a pretty fierce competition. 09:25:38
GM wants to make sure that they get the best 09:25:41
bang for their buck. They want the best 09:25:46
price, they want the best technology. So 09:25:48
everyone has to compete for that. And it took 09:25:50
us a couple tries, but we finally got GM to 09:25:52
award us the USB business. 09:25:56

Q. And around when was that? 09:25:58

A. 2011. 09:25:59

Q. Okay. 09:26:01

Did you have any other carmaker 09:26:01
customers for the USB hub business at Unwired? 09:26:04

A. So initially, yes, that comes next, 09:26:09
right? So first we have some great success 09:26:13
with General Motors. Then it was pretty big 09:26:16
business at GM, too, because it was going to 09:26:19
be for like all the trucks, and that's like a 09:26:22

lot of business, it's super important. 09:26:24

So little Unwired, we were pretty 09:26:26

excited about this, it was like our big break. 09:26:29

We wanted to see if we could offer similar 09:26:33

kinds of products to other OEMs as well. 09:26:35

So we knew it would be hard to get 09:26:40

into other OEMs that we didn't already have a 09:26:42

relationship with, so we went to Jaguar next 09:26:45

because we sold a lot of headphones with 09:26:48

Jaguar. We called up and said, what do you 09:26:50

think about us trying to be your USB module 09:26:53

supplier? 09:26:56

They gave us a chance to bid on 09:26:56

the business, similar process like what we did 09:26:58

with GM, and Jaguar ended up awarding Unwired 09:27:00

some USB module business. 09:27:04

Q. I know this was awhile ago, but do 09:27:07

you recall around when you were awarded the 09:27:10

Jaguar Land Rover contract? 09:27:11

A. I think we were -- we were starting 09:27:13

that process in, you know, 2012 and, you know, 09:27:15

about maybe the end of 2012, 2013, we were 09:27:18

awarded that business. 09:27:21

Q. All right. 09:27:22

And what was the product you were supposed to provide to Jaguar Land Rover? 09:27:22 09:27:24

A. What Jaguar Land Rover was really looking for was a hub module, but it was different than the hub module from General Motors. You know how every car has its own unique styling? Well, all the engineers at the car companies think they know best, too, so they're all going to want something a little bit different, right? 09:27:29 09:27:33 09:27:36 09:27:41 09:27:43 09:27:47 09:27:49 09:27:51

So with Jaguar, we had to develop a whole new product. So just to make it clear, when I say things like Jaguar awarded us the business, what that really means is Jaguar selected us to develop a custom product, to get it ready for manufacture, to do all the testing, to make sure it passes all the requirements that would make it a good product for the customer, right? So that's a very long process, you know. 09:27:52 09:27:55 09:28:00 09:28:03 09:28:06 09:28:10 09:28:12 09:28:15 09:28:19 09:28:22

So you start with just requirements from the customer on paper saying hey, can you make something that does this for me, right? So we go on this multi-year 09:28:24 09:28:26 09:28:28 09:28:30

process with the customer to do that. 09:28:33

Jaguar's product was a little 09:28:35

different from GM's because Jaguar wanted a 09:28:38

more upscale product, so they selected faster 09:28:41

USB communication, we call it super speed USB. 09:28:43

So that was a big difference. 09:28:47

Q. Did the hub that you were providing 09:28:49

at the time to General Motors, did that meet 09:28:52

the requirements that Jaguar Land Rover had 09:28:54

provided to you? 09:28:57

A. No, it didn't. You know, a big 09:28:58

reason why was because Jaguar wanted a higher 09:29:03

end, you know, class product. So not only did 09:29:06

we have to face the design of a new product, 09:29:10

but we needed to use different components, 09:29:13

different chips that made it a faster USB 09:29:15

setup. 09:29:21

And also, during the development 09:29:21

of that product, we ran across a requirement 09:29:22

that Jaguar had written, so remember, Jaguar 09:29:28

gives me the requirements, please make a 09:29:31

product that does X, Y and Z. Then we read 09:29:34

all the requirements and we understood them 09:29:37

all. We had some experience in doing this. 09:29:39

Except there was one requirement that they asked for that absolutely made no sense. They said the downstream port of the hub module needed to support role reversing, which means that you could hook up a USB host or a USB device to the downstream ports of the hub module. 09:29:42 09:29:43 09:29:46 09:29:53 09:29:59 09:30:04 09:30:07

Q. And did the hub that you had designed the module for GM, did it support that role reversing? 09:30:10 09:30:14 09:30:18

A. No, that's what I'm saying. As far as I knew, nothing supported that requirement. That requirement was bogus. It didn't even make sense to me, and I told Jaguar that. I said, I don't understand, is this a mistake? No hubs work like this today and you're asking me to make a hub that does something that hubs don't do, so what gives? 09:30:19 09:30:20 09:30:23 09:30:26 09:30:29 09:30:33 09:30:36 09:30:38

So it took awhile to sort through that because eventually Jaguar was saying maybe that was a mistake, maybe we shouldn't have put that in our requirements for you. 09:30:40 09:30:42 09:30:45 09:30:47

But eventually, there was a specialist, and let's say an engineering 09:30:49 09:30:51

specialist within Jaguar that came forward and explained, like, you know, that's not a mistake. That was very much intentional. 09:30:53 09:30:58 09:31:01

And so he went on to explain the reason that that requirement was in there was because Jaguar was trying to work cooperatively with Apple to implement this -- this new iPhone application that they would call CarPlay. 09:31:05 09:31:09 09:31:12 09:31:15 09:31:21 09:31:24

Q. Mr. Voto, can you turn to Tab 192 of your binder, please, and look at Exhibit 192. 09:31:25 09:31:31

Can you describe what 192 is, please? 09:31:37 09:31:39

A. Sure. 09:31:41

Exhibit 192 is a presentation that I put together after finally understanding this new requirement from Jaguar. 09:31:44 09:31:48 09:31:52

Remember, it's my job to design a product that Jaguar wants so I didn't know how to do it. I had to go out and research a bunch of options, try to figure out how the heck am I going to pull this off. And so this presentation shows the results of that. 09:31:57 09:32:00 09:32:03 09:32:05 09:32:08 09:32:10

(Whereupon, Trial Exhibit 192 was 09:32:10

introduced.)

MR. WIENER: Your Honor, we offer Exhibit 192 into evidence.

MR. SHAW: No objection, Your Honor.

THE COURT: It's admitted.

MR. WIENER: Mr. Glass, can you put 192 up on the screen. And if you could please zoom in so that we can see the first slide.

Actually, before you do that, Mr. Glass, if you can zoom in on -- actually a little -- yeah, the first slide will do just fine.

BY MR. WIENER:

Q. Okay.

Now, first, Mr. Voto, in the bottom right-hand corner, it says, "Jan 2013." Does that mean that this document was created in January of 2013?

A. Yeah, thereabouts. That's actually, you know, kind of part of the slide template, so I would say we probably started writing this in January 13. It probably got updated a

couple times, but about right. 09:33:09

Q. All right. 09:33:10

Looking at the first slide of 09:33:11

Exhibit 192, can you explain to the jury 09:33:14

what's being shown on this slide? 09:33:16

A. Yeah, sure. 09:33:18

So, I mean, keep in mind, the 09:33:19

whole point of this presentation was me, as 09:33:21

the supplier to Jaguar engineering, going 09:33:23

okay, what's the problem, how can we fix it? 09:33:25

What are the options, you know. 09:33:29

So we started this saying what is 09:33:30

the current system? And you can see at the 09:33:32

top it says, "Vehicle System Diagram," the 09:33:34

baseline design, you know, that sort of thing. 09:33:38

This is just saying this is what we thought we 09:33:42

were going to make for you, right? 09:33:44

So what we did is the basic 09:33:46

description of the different bits and pieces 09:33:48

here is on the left, we have this Vehicle 09:33:50

System, okay. So this is like the main radio 09:33:52

of the head unit. 09:33:56

And then over on the right here, 09:33:58

this User Interface Panel, that was Jaguar's 09:34:00

name for the hub module. The hub module obviously has all these ports on it. This particular one, again, this is all Jaguar's, you know, specifications saying I want an SD card, I want a couple USB ports, I want this place where you can plug in like a headphone jack to get audio into your car. 09:34:04 09:34:07 09:34:10 09:34:13 09:34:15 09:34:17 09:34:22

And then Jaguar also had something to say about the wiring that goes in between the two. So if you think of this is like somewhere in the car, this is somewhere else in the car and this being a bunch of wires going in between. That's the basic setup, right? Okay, Jaguar, this is what you have today. 09:34:24 09:34:27 09:34:29 09:34:31 09:34:32 09:34:35 09:34:37 09:34:40

Q. All right. 09:34:40

So you mentioned coming up with a solution that would meet the requirement that Jaguar was asking for in terms of role reversal on the port. How did you go about trying to meet that requirement? 09:34:41 09:34:43 09:34:44 09:34:49 09:34:51

A. Well, there were so many things running through my head because, number one is I didn't know where I could get the parts. I 09:34:54 09:35:00 09:35:03

mean, my job is to take parts, put them together, you know, create stuff, make circuit boards and great software and all this stuff to do it, but you have to do that under like a time crunch, you know. 09:35:05 09:35:07 09:35:09 09:35:12 09:35:14

Jaguar selected us and when they do that, they said you now have one year to complete the entire product element, presentable, all right, about a year and then after that, it's got to be done because then we need to start building things and making cars with it. You don't want to be the guy that, you know, they can't make cars because they don't have USB ports, right? 09:35:16 09:35:17 09:35:19 09:35:24 09:35:26 09:35:28 09:35:30 09:35:32 09:35:34

So we're under a time crunch. That's number one. And so that means that I need to go find parts that might be available that I can use to, you know, somehow put them together to make this new thing happen. 09:35:36 09:35:38 09:35:41 09:35:44 09:35:47

So the rest of this presentation is to show Jaguar engineers hey, this might not be perfect, but these are the ideas that I came up with. 09:35:49 09:35:52 09:35:55 09:35:58

MR. WIENER: Mr. Glass, if we can 09:36:00

scroll down to the second slide that's on the first page. Nope, that's the third slide. Let's go up one more, please. 09:36:01 09:36:04 09:36:07

Okay. Thank you. 09:36:09

BY MR. WIENER: 09:36:10

Q. What's shown on the second slide of this presentation, Option A? What is that? 09:36:11 09:36:12

A. Yeah. So we're saying Option A. All right. So how many different ideas can we come up with that we can then share back with Jaguar engineer, our customer and say hey, what do you think about this, right, or this or this? 09:36:15 09:36:17 09:36:19 09:36:22 09:36:24 09:36:26

So Option A is the first one. Option A, it looks like almost the same thing as what you just saw in the baseline design, but there is a big difference right here. This is the hub chip, itself, inside of our hub module. The hub chip, I replaced it with a chip from SMSC that had this FlexConnect feature. 09:36:27 09:36:30 09:36:33 09:36:35 09:36:37 09:36:41 09:36:47 09:36:51

So FlexConnect is going to allow us to kind of swap the role of a downstream port and the upstream port when you need to do 09:36:52 09:36:54 09:36:58

CarPlay. So it did start solving some of the problems, but it also created problems, and there was a couple big ones here. 09:37:03 09:37:06 09:37:08

The moment that you go into CarPlay mode, the other ports that the head unit should have access to will -- would be lost. So like we said, hey, you could be listening to music on one of those thumb drives in one of those other ports and it's just going to stop working. 09:37:11 09:37:12 09:37:18 09:37:21 09:37:25 09:37:28 09:37:30

So Jaguar is like, this is a no go. I mean, there's no way that we can accept these kinds of problems with Option A. 09:37:31 09:37:33 09:37:36

MR. WIENER: If we could please scroll down to the next slide, Mr. Glass. 09:37:39 09:37:41

BY MR. WIENER: 09:37:43

Q. Option B comes after Option A. Can you explain to the jury what Option B was? 09:37:44 09:37:46

A. Right. 09:37:48

So -- so Option B, okay, we've already ruled out that we need -- we need to make sure everything stays working at all times, right? 09:37:49 09:37:53 09:37:55 09:37:57

So that's why Option B -- Option A 09:37:58

was bad, so we needed to come up with something that keeps everything working the whole time, so that's what we have here with Option B. 09:38:02 09:38:03 09:38:05 09:38:07

Option B is all these ports can work simultaneously with the head unit, great. And we have a standard USB hub chip here that's available to me. That's great. 09:38:07 09:38:13 09:38:17 09:38:21

So everything was fine except for the fact that what we did to solve the problem was we said hey, let's redesign the head unit, let's add more wiring, let's add another special USB channel to this one special port that you can then plug in your iPhone to -- that can do CarPlay. 09:38:24 09:38:26 09:38:28 09:38:31 09:38:35 09:38:38 09:38:42

Jaguar says yeah, you fixed all the problems, but you just made me a massive problem because I've already sourced all these -- all these components you are talking about changing here, it's way too late for that. I've already got those things locked down. So Jaguar rejected this option as well. 09:38:44 09:38:48 09:38:51 09:38:53 09:38:55 09:38:57 09:39:00

Q. Okay. 09:39:03

MR. WIENER: Mr. Glass, let's 09:39:05

please turn to the next slide. 09:39:05
BY MR. WIENER: 09:39:07
Q. So Option A and Option B have been 09:39:07
considered, that's using the sort of available 09:39:09
on-the-shelf technology, and what was your 09:39:11
summary here on the fourth slide? 09:39:13
A. So -- so not surprisingly, you know, 09:39:17
as we portrayed it here, I wasn't particularly 09:39:22
excited about Option A or Option B and neither 09:39:25
was Jaguar. We needed to -- I felt compelled, 09:39:27
I needed to find something better for Jaguar, 09:39:31
and that's what we worked on. We worked on 09:39:33
that and we came up with another option. 09:39:34
MR. WIENER: Okay. Let's go to 09:39:37
the next slide, please. 09:39:38
BY MR. WIENER: 09:39:41
Q. Option C, the Host 2 Host Hub. Can 09:39:42
you tell the jury about the Host 2 Host Hub, 09:39:46
please? 09:39:49
A. Sure. 09:39:49
So at this point, we were running 09:39:49
out of options, you know, of parts that we 09:39:51
knew that were available for the USB functions 09:39:54
that, you know, that would be easy to do. So 09:39:58

we had to start getting a little more creative. I still needed to use chips that are available, but maybe we could be more creative in some of our, you know, fundamental thinking about solving these problems. 09:40:00 09:40:03 09:40:05 09:40:07 09:40:10

And that's where this came up to make sure that all of the downstream ports work all the time, you know, these guys over here, I need a regular hub here because that's what hubs do. They make all the downstream ports work all the time; I need that, right? 09:40:12 09:40:16 09:40:18 09:40:21 09:40:24 09:40:26

But I still have this problem where one of these USB ports might suddenly need to become a host instead of a device, so how do I tackle that problem specifically while still maintaining my hub? 09:40:29 09:40:30 09:40:33 09:40:36 09:40:38

And so in the process of researching that, we came across these Host to Host bridges that had been developed previously by other people. And the reason that they were out in the marketplace, you know, you could even buy one from Amazon or whatever, the reason that they were out there has nothing to do with CarPlay, but it had 09:40:41 09:40:43 09:40:50 09:40:52 09:40:56 09:40:58 09:41:01 09:41:04

everything to do with, if you remember quite awhile ago, before we had cloud memory storage and huge thumb drives, when we got a new computer, we needed to transfer all the data from our old computer to the new computer. That was a real problem; that was hard to do many years ago, so we -- we saw people had come up with some clever solution to that, that they made a host to host bridge and a cable that would allow you to hook two computers which are both USB hosts together.

That was a novel thing that we discovered.

Q. Mr. Voto, did you bring a demonstrative to help show the jury what these looked like?

A. We have an example of that cable.

MR. WIENER: May I approach, Your Honor?

THE COURT: You may.

BY MR. WIENER:

Q. Mr. Voto, can you hold up what I have just handed you and explain to the jury what it is?

A. Sure. 09:42:08

So basically what we have here is 09:42:08

obviously a cable, and if you look closely on 09:42:10

the two ends, this is USB A connector, so this 09:42:13

would be the exact same connector that you 09:42:16

would find like on your home computer. It's a 09:42:18

little different than the normal cable you 09:42:22

have because normally, one end hooks to your 09:42:24

computer and the other one hooks to your phone 09:42:26

or something so it is a different connector. 09:42:29

This is the computer end of both sides, okay, 09:42:30

so that's strange. 09:42:33

But the reason why it all works is 09:42:34

what's in the middle here. Inside of this 09:42:37

little box, we have a host to host bridge. 09:42:39

The host to host bridge is basically two 09:42:45

different USB device controllers and so each 09:42:49

host that's, you know, here, gets to talk to 09:42:53

the USB device here. 09:43:00

This host on its own separate 09:43:01

network, it is being attached to the second 09:43:03

USB device also in the same module and then 09:43:08

these two USB device controllers are 09:43:10

physically connected so data can transfer from 09:43:12

one to the other. 09:43:15

So in essence, the cleverness of 09:43:16

this was I have now made two USB hosts talk 09:43:19

together, but not directly; that's not 09:43:23

allowed, you can't do it directly. But the 09:43:26

concept of a host to a device, a host to a 09:43:29

device, that's maintained. That's what you 09:43:32

need to not violate any USB rules and that's 09:43:35

what this does. 09:43:38

Q. And, Mr. Voto, is that whole cable 09:43:38

sometimes referred to as a bridge device? 09:43:42

A. Yes. I pause a little bit because 09:43:47

there's -- the word "device" is pretty 09:43:55

generic, okay? So when we think of a device, 09:44:00

a device is a device like several languages, 09:44:03

it's a thing, right? So this can be a device, 09:44:08

this can be a device, I mean, we can talk 09:44:10

about devices in a more general sense. 09:44:13

But I think for the purposes of 09:44:15

what we're here for now, we need to be talking 09:44:17

about devices a little bit more in a USB 09:44:20

sense, in USB lingo. We have host devices 09:44:24

and -- a host and we have devices, right? The 09:44:29

host talks to the device. 09:44:32

So just to be clear, we can call this whole thing a device if we want, but technically speaking, there's two different device controllers inside of here to talk to two different hosts. 09:44:34 09:44:35 09:44:38 09:44:40 09:44:43

Q. Turning back to the Exhibit 192 that's on the screen -- 09:44:45 09:44:48

MR. WIENER: You can go to Slide 5, please, Mr. Glass. One up, please. Perfect. 09:44:53 09:44:54 09:45:00

BY MR. WIENER: 09:45:01

Q. Okay. 09:45:03

Mr. Voto, does Slide 5 of Exhibit 192 describe the solution you had come up with? 09:45:03 09:45:07 09:45:09

A. Yes, it does. 09:45:11

Q. Can you show to the jury sort of how this works using the laser pointer to show how the data flowed? 09:45:13 09:45:16 09:45:20

A. So this was the first picture the first time we showed the Jaguar engineers, you know, hey, I think we're onto something interesting here. We said all right, first off, we only have one lane of communication. 09:45:22 09:45:26 09:45:28 09:45:30 09:45:35

Jaguar is like yep, that's great. 09:45:38

Secondly, all my USB ports and all 09:45:40

these consumer ports will function at the same 09:45:44

time. Great. 09:45:49

Second or third is that the way 09:45:50

that I have solved the problem now is I have 09:45:53

the hub in here in this block diagram, but now 09:45:56

we've added this bridge. So that was the new 09:46:00

thing that then needed to be explained to 09:46:03

Jaguar next. 09:46:05

Q. How did Jaguar react to this idea? 09:46:07

A. They were pretty intrigued. They 09:46:10

were like wow, you guys found something where 09:46:13

I don't have to redesign all of my other car 09:46:16

parts and you can just fix this thing 09:46:18

magically in your one little module? That's 09:46:20

wonderful. 09:46:23

MR. WIENER: And, Mr. Glass, if we 09:46:26

could go down to Slide 8, please. 09:46:27

BY MR. WIENER: 09:46:32

Q. And what's shown on Slide 8, Mr. 09:46:34

Voto? 09:46:38

A. So naturally, yes, Jaguar was like 09:46:38

wow, this sounds pretty cool, but how does it 09:46:41

actually work? And naturally, they wanted to know. And so this is the mystery piece. This bridge, you know, we can tell them yeah, this is where the inspiration came from, but this is not an automotive product. This is something that we found on the web. 09:46:45 09:46:48 09:46:52 09:46:55 09:46:58 09:47:00

So how do I get it into Jaguar's product and make it meet all the requirements? How do you design it? 09:47:03 09:47:05 09:47:08

So that's what this picture is showing, is the very first bridge that we made was actually comprised of a bunch of different pieces. It had this FPGA chip, it had the USB PHY chip, another USB PHY chip and a memory chip over here, took all these different pieces and put them together to make this. 09:47:09 09:47:11 09:47:13 09:47:15 09:47:21 09:47:24 09:47:26

Q. Mr. Voto, you see up in the middle of the box, it says FPGA? 09:47:29 09:47:31

A. I do. 09:47:34

Q. Can you explain to the jury what FPGA means? 09:47:34 09:47:37

A. Sure. 09:47:38

We use the word "chip" kind of like for a lot of stuff, but there's many, 09:47:42 09:47:45

many different flavors of chips, right? And one of the types of chips that's out there is this Field Programmable Gate Array, which is the type of chip where it's kind of like a blank slate and it's got all these functional pieces inside of it and you can make a lot of different things with it. It's kind of like Legos in a sense. 09:47:47 09:47:50 09:47:53 09:47:58 09:48:02 09:48:05 09:48:09 09:48:12

If you program it to do specific functions, then you can use this off-the-shelf piece of hardware with your own custom programming that we would have to make to implement an MCU and these, you know, USB device controllers, you know, two of them, et cetera. 09:48:13 09:48:18 09:48:21 09:48:23 09:48:26 09:48:31 09:48:34

So we basically used an available chip with our own custom programming to make the bridge. 09:48:35 09:48:37 09:48:40

Q. Did you get it to work? 09:48:42

A. We did. 09:48:43

Q. Do you remember about when you got it to work? 09:48:45 09:48:47

A. I would say, you know, this wasn't a one-week or one-month endeavor, but, you know, 09:48:49 09:48:53

during the year 2013, we had it working. 09:48:56

Q. And this was a solution that was -- 09:48:59

provided a single-lane solution to the head 09:49:02

unit; is that right? 09:49:04

A. That's correct. 09:49:05

Q. And it allowed for CarPlay on all of 09:49:06

the downstream ports? 09:49:09

A. Correct. 09:49:11

Q. And the data on the non-CarPlay ports 09:49:12

remained on those ports, even when the other 09:49:17

port was in CarPlay mode? 09:49:20

A. That's right. 09:49:22

Q. Okay. 09:49:23

Did this solution have a USB hub 09:49:23

chip? 09:49:26

A. Yes. 09:49:28

Q. Okay. 09:49:28

And who made the USB hub chip that 09:49:29

was used in the solution? 09:49:32

A. So in this design for Jaguar, 09:49:34

remember I said they wanted a higher end, they 09:49:37

wanted this super speed USB, so that means 09:49:41

that we had to use a hub chip that supports 09:49:43

super speed USB, of course, and the particular 09:49:48

part that we were using in this design came from AyDeeKay. 09:49:50 09:49:52

Q. So it was not a Microchip that -- plaintiff's chip; right? 09:49:55 09:49:59

A. Correct. 09:50:00

Q. Or SMSC? 09:50:01

A. No. 09:50:02

Q. Mr. Voto, if you could turn to -- if you could turn to Tab 17 of your binder, please. If you could give a high level description of what that document is, please. 09:50:06 09:50:09 09:50:13 09:50:18

A. This document is a set of requirements that my team wrote when I was at Unwired Technology for how the -- how the technical solution would work for this dual role hub. 09:50:22 09:50:28 09:50:30 09:50:34 09:50:38

MR. WIENER: Your Honor, we offer Exhibit 17 into evidence. 09:50:39 09:50:40

(Whereupon, Trial Exhibit 17 was introduced.) 09:50:40 09:50:42

MR. SHAW: No objection, Your Honor. 09:50:42 09:50:43

THE COURT: All right. Admitted. 09:50:43

MR. WIENER: Mr. Glass, if we 09:50:45

could put the first slide of Exhibit 17 up. 09:50:48
BY MR. WIENER: 09:50:51
Q. Was this a presentation that you 09:50:52
created, Mr. Voto? 09:50:53
A. That's correct. 09:50:55
Q. And who was the intended audience for 09:50:56
this presentation? 09:50:59
A. This presentation was meant for 09:51:01
customers, primarily, to help explain to them 09:51:05
what we were proposing. 09:51:10
Q. Sounds great. Let's use it to 09:51:11
explain to us how -- 09:51:14
A. All right. 09:51:15
Q. -- the solution worked. 09:51:15
MR. WIENER: If you could turn to 09:51:18
page 11 of Exhibit 17, please. 09:51:20
BY MR. WIENER: 09:51:20
Q. Mr. Voto, can you explain to the jury 09:51:24
what's being shown on page 11, please? 09:51:26
A. Sure. 09:51:30
So in this diagram, we -- let me 09:51:33
start from the outside here. This is on all 09:51:37
vehicle systems, so from our customer 09:51:41
perspective, we are talking to the car 09:51:44

manufacturers, right, so they want to see how does it all fit together, how does it work. 09:51:46 09:51:48

The head unit, they know there is a head unit, right, we have a single lane, that's a plus, and we know we have, on the other end of this diagram here, we have these USB devices. These are the things that people can plug into the hub module. 09:51:50 09:51:53 09:51:55 09:51:57 09:52:00 09:52:02

So we have some connection points here. Here and here, these, as you can imagine these things as being, that's where you would actually have a USB connector you can plug something into as a consumer. 09:52:05 09:52:08 09:52:12 09:52:13 09:52:16

On the left here, this is internal wiring in the vehicle. That's how data goes over a USB connection from the head unit to the hub module. 09:52:19 09:52:21 09:52:24 09:52:27

And then inside of the hub module is this whole middle section. And, you know, fundamentally, to simplify it, there's three pieces. There's the hub, the hub is like a USB splitter, so to speak, so it splits data paths. 09:52:29 09:52:31 09:52:35 09:52:38 09:52:41 09:52:46

The bridge is up here. The bridge 09:52:46

has these two USB devices with data flowing in between. And then we have the switch matrix here, which is important, because you'll see that, you know, the iPhone can either go through this path or it can go through other paths. 09:52:48 09:52:52 09:52:54 09:52:57 09:52:59 09:53:02

Q. So on page 11 right now, is this showing how the product works when the iPhone is in host mode or in CarPlay mode? 09:53:02 09:53:06 09:53:09

A. Okay. So yeah, let me explain. 09:53:12

From -- think about it from the perspective of you just get in the car, you turn it on. What's going to happen next; right? 09:53:16 09:53:18 09:53:21 09:53:23

So it's important to understand the sequences. Because at the moment this whole system turns on, the head unit is going to detect this USB communication type stuff; right? So the head unit is going to say okay, something is out here, I see a hub chip, and so the hub chip gets enumerated by the head unit. 09:53:23 09:53:25 09:53:27 09:53:30 09:53:35 09:53:37 09:53:40 09:53:44

That means that the hub chip is having to answer to the head unit, what are 09:53:44 09:53:48

you? You're a USB device, I know that, but what are you and what do you do? That kind of information has to flow back to the head unit from the hub. The hub says I am a hub, this is what I can do. Great. 09:53:50 09:53:52 09:53:55 09:53:58 09:54:01

So now the head unit says okay, I recognize a hub here that I can talk to, that's good. The hub then says oh, but I see a USB device here that is connected to my hub. And so the head unit then would get that information, and it would say okay, let's play the same game. Hey, USB device, what are you? Please explain yourself to me. 09:54:02 09:54:05 09:54:07 09:54:10 09:54:14 09:54:18 09:54:20 09:54:23

This USB Device A says, I am a vendor class bridge device. So the head unit would then have to look up a driver for that, locate that driver, you know, that sort of thing. And then the head unit would basically be up and running, all these devices are now hooked up and ready for operation. 09:54:24 09:54:28 09:54:33 09:54:36 09:54:38 09:54:41 09:54:44

Then the iPhone or the devices come into the picture. It doesn't have to be an iPhone, it could be whatever you are plugging into these USB devices, now that this 09:54:47 09:54:52 09:54:54 09:54:56

whole system is set up to run. One of these things gets plugged in, it's going to have a default routing. 09:54:58 09:55:00 09:55:03

Remember, these are controllable by the whole system, but the default is that you have this connection here. Whatever you plug in is going to go to the hub. That's going to go to the hub, that's going to go to the hub. That's where you obviously start. 09:55:06 09:55:08 09:55:10 09:55:12 09:55:14 09:55:16

Q. So, Mr. Voto, you mentioned that -- you mentioned the bridge device in this context, and in the slide there in the second bullet point, it talks about a custom driver for the bridge device. 09:55:18 09:55:21 09:55:23 09:55:26 09:55:29

What does that mean in the context of Slide 11? 09:55:30 09:55:32

A. Right. 09:55:34

So we talked about, in that power-up sequence, so the moment when the hub is all set up and this USB Device A is discovered and it has to answer the question to the head unit what are you, it gives it that answer out of this, I'm a vendor class device. 09:55:35 09:55:41 09:55:44 09:55:48 09:55:51 09:55:53 09:55:56

Vendor class device is just fancy words for saying I'm a custom -- I'm a custom device. I'm something, you know, unique. So you need to go find a driver. So we have to have a driver preloaded into the head unit that, of course, knows how to communicate with this custom device. That's what it's referring to. 09:55:57 09:56:00 09:56:05 09:56:07 09:56:10 09:56:14 09:56:17 09:56:19

Q. And where on the diagram is the bridge device? 09:56:19 09:56:21

A. So the bridge -- the bridge device is what we refer to as USB Device A. 09:56:24 09:56:27

Q. Now, let's turn to Slide 12, please. It's pretty similar to Slide 11, but not quite the same. 09:56:31 09:56:37 09:56:40

MR. WIENER: Actually, Mr. Glass, could you toggle back and forth really quickly so we can see the difference between 11 and 12? 11, 12, okay. Let's stay on 12. 09:56:41 09:56:43 09:56:45 09:56:48

BY MR. WIENER: 09:56:51

Q. Mr. Voto, what's different in Slide 12? 09:56:52 09:56:54

A. So Slide 12 is the same diagram, and I think you probably picked up on the fact 09:56:55 09:56:59

that the iPhone now is no longer directly connected to the hub; it is now connected to this USB Device B. 09:57:01 09:57:03 09:57:06

So at this point, this is what happens when you would want to switch to CarPlay mode. So if the iPhone needs to be a host, a host can't connect to a downstream port of a hub because that's not allowed. USB technology doesn't allow that. 09:57:10 09:57:13 09:57:16 09:57:19 09:57:24 09:57:27

But USB technology does say a host can connect to a device, so that's exactly what we do here. 09:57:29 09:57:31 09:57:34

Q. So we've heard a lot over the last week about how there are USB rules pertaining to one host on a network. How is it possible to have these two hosts communicating with each other on a USB? 09:57:36 09:57:38 09:57:42 09:57:44 09:57:47

A. Right. 09:57:52

So the reason that you are seeing two hosts and no USB violation is because it's actually two USB networks, it's not one USB network. You have a host here talking to this device. There's nothing at all wrong with that. 09:57:53 09:57:58 09:58:01 09:58:04 09:58:09 09:58:11

You have another host here talking to this device. So they are really separate networks, so there is no -- there's no violation of having two hosts in one device. 09:58:11 09:58:13 09:58:17 09:58:19

Q. What about that green bridge, is that USB connection right there between the two devices? 09:58:22 09:58:24 09:58:27

A. In the middle here? 09:58:28

Q. Yeah. 09:58:29

A. No. So USB will -- let's say, for example, from the iPhone, this will be USB data, and at the end of the USB data pipe is this USB device controller which then knows how to interpret that data. And then once it has received that data, then you can use it for whatever you want. But it's no longer in USB form; right? 09:58:30 09:58:36 09:58:38 09:58:42 09:58:46 09:58:49 09:58:51 09:58:53

So what we've done is we've just said there's this broad data now shooting out the end of this thing and we are just going to pump it over here to this guy, and vice versa. So that's what it's doing, is just taking two, like, you can call them USB decoders or receivers or whatever you want to call them. 09:58:56 09:58:57 09:59:00 09:59:02 09:59:05 09:59:08 09:59:12

Once the data gets received, you just send it over to the other USB, and vice versa. 09:59:13 09:59:16

Q. And are those two working in concert? 09:59:18

A. Well, I mean, in a sense at a very high level, you could say well, they are just ping-ponging data back and forth. So maybe it seems like they are just kind of working together. But in reality, again, you have two USB networks, so data can be going back and forth here. 09:59:20 09:59:23 09:59:25 09:59:28 09:59:30 09:59:32 09:59:35

It doesn't mean that there's data going back and forth here. It doesn't mean that whatever is happening in this side is, you know, symmetric with what's happening at this side at any moment in time. 09:59:37 09:59:38 09:59:41 09:59:43 09:59:45

Of course, you know, when you send data, it has to go all the way through, so there is a continuation of data through the whole system, but at any moment in time, it doesn't mean that both sides are doing identical things. 09:59:47 09:59:49 09:59:51 09:59:53 09:59:58 10:00:00

Q. Does this system allow for data to continue flowing down to that other USB device, that gray box? 10:00:02 10:00:07 10:00:09

A. Of course. I mean, that's a given, that whenever we have the iPhone letters in device mode, host mode, it doesn't matter. All these other ports have to work in some case and they do. 10:00:11 10:00:14 10:00:19 10:00:22 10:00:24

Q. Can the iPhone, when it is a host in this diagram, can it control those other USB devices? 10:00:25 10:00:27 10:00:29

A. It cannot. 10:00:29

Q. So the head unit and the iPhone, they are not sharing the USB devices? 10:00:30 10:00:32

A. No. 10:00:34

Q. Let's -- 10:00:35

MR. WIENER: We can take this slide down, Mr. Glass. 10:00:40 10:00:41

BY MR. WIENER: 10:00:42

Q. I'd like to sort of go back to where you were at the end of your development of the FPGA solution with Jaguar Land Rover. 10:00:43 10:00:45 10:00:47

Was it your plan to offer an FPGA solution to other customers once you got that thing to work for Jaguar? 10:00:50 10:00:53 10:00:55

A. Well, kind of. I mean, the FPGA solution was pretty good, you know, it was 10:00:58 10:01:02

really exciting for us in the fact that we had figured out a way to solve this problem. 10:01:04 10:01:07

However, you know, there was some down sides to the design that we came up with, and namely, I think I told you, it used a lot of different parts. You know, each of these parts are chips that you have to put on the board and chips have to have other parts around it so it's kind of clunky, it's kind of big, right? So it wasn't really ideal. 10:01:10 10:01:12 10:01:15 10:01:19 10:01:22 10:01:23 10:01:25 10:01:28

Q. So does that mean that it wouldn't be something you could -- well, let me ask it this way. 10:01:31 10:01:35 10:01:37

So it wasn't ideal. What was the next step? 10:01:38 10:01:40

A. Well, we knew what we wanted, you know, functionally. We knew how to implement it with these FPGAs and other things like that; we just didn't like how big it was. It was kind of expensive, too. 10:01:41 10:01:46 10:01:48 10:01:52 10:01:54

So we said well, how do we solve those kinds of problems? We could maybe get a custom chip made that would do exactly what we want it to do. Instead of just buying a bunch 10:01:56 10:01:58 10:02:03 10:02:07

of off-the-shelf pieces, what if we made something precisely to what we want? 10:02:09 10:02:12

And so we started looking at that option and trying to find suppliers that could do that sort of thing for us. 10:02:14 10:02:16 10:02:18

We had already had a supplier that was making chips for our headphones, so we went to talk to them. We said hey, what do you guys think about, you know, trying to make a USB module? And, you know, USB is pretty well-known technology. It's been around for a long time. This bridge thing, while, you know, it needed development, that concept worked. We showed proof of concept. 10:02:20 10:02:22 10:02:24 10:02:27 10:02:29 10:02:33 10:02:36 10:02:39 10:02:42

So long story short, we ended up getting a proposal from our current chip supplier to make a custom chip for us that did the hub switching and the bridge function. 10:02:45 10:02:47 10:02:49 10:02:54

Q. And was that the AyDeeKay company that we heard Mr. Petku testify about? 10:02:57 10:03:00

A. That's correct. 10:03:02

Q. Can you describe for the jury what the relative roles were between you at Unwired and AyDeeKay in terms of development of the 10:03:03 10:03:06 10:03:10

chip? 10:03:13

A. Okay. Sure. 10:03:14

So I think the best way to think 10:03:15

about it is like just from an analogy view, if 10:03:21

you want to build a house, you need an 10:03:27

architect. Somebody has to make the high 10:03:30

level decision, how many floors, how many 10:03:32

rooms, how many bathrooms, you know, just 10:03:34

there's so many decisions. You've got to kind 10:03:37

of have to set those parameters of what is it 10:03:40

that you're really looking for. 10:03:42

But we weren't in a position at 10:03:44

Unwired -- we knew all that stuff, right, so 10:03:48

we wrote it all down; we were the architects, 10:03:51

my team was the architect of what to do. But 10:03:53

what we didn't have was the capability of 10:03:57

designing chips, ourselves. That's a very 10:03:59

specialized knowledge. 10:04:02

And so that's where we worked with 10:04:03

AyDeeKay and said okay, AyDeeKay, I've got 10:04:06

some documents to show you, this is what I 10:04:10

want you to make for me. Could you please, 10:04:11

you know, translate this into an actual chip 10:04:14

design for us and get it fabricated and built 10:04:17

and provide that to us. 10:04:19

Q. Did you pay AyDeeKay to do that work? 10:04:20

A. We paid AyDeeKay a lot of money. It was probably in the order of $5 million just to pay them to develop a chip. 10:04:23 10:04:26 10:04:30

Q. Did it result in a working chip? 10:04:34

A. It did. It did. 10:04:37

Q. And is that the Boston 2 chip we've heard about? 10:04:38 10:04:42

A. Yes, that's the Boston 2. 10:04:43

Q. Why is it called that? You said you are a Michigan man; right? Why is this called the Boston chip? 10:04:47 10:04:49 10:04:52

A. Well, every summer, one of the vacations that I would look forward to is when I was in the Boston area, go fishing with my buddies, so I thought it would be fun to call it Boston. 10:04:53 10:04:55 10:04:57 10:05:00 10:05:02

Q. When did you start selling the Boston chip? 10:05:04 10:05:06

A. I would say -- I mean, okay. So first, just to be clear, we didn't sell the Boston chip to anyone. The Boston chip was developed by my team at Unwired because we 10:05:08 10:05:12 10:05:14 10:05:16

wanted to use it in the hub modules that we made, but that first hub module, probably like in the 2015 timeframe. 10:05:21 10:05:25 10:05:30

Q. Okay. 10:05:31

Did you ever sell the chip by itself? 10:05:32 10:05:35

A. No. It was never sold outside of -- outside of Unwired/Aptiv. 10:05:36 10:05:40

MR. WIENER: Just give me one second. I have some props. Let me start with this. 10:05:49 10:05:50 10:05:57

BY MR. WIENER: 10:06:01

Q. You mentioned that you were a module maker and that you developed a module that had the Boston 2 chip in it; right? 10:06:02 10:06:03 10:06:08

A. That's correct. 10:06:11

Q. And what was the name of the module? Did it have -- sorry, did you have a name that you referred to the module in terms of Unwired? 10:06:12 10:06:16 10:06:18 10:06:22

A. The dual role hub. 10:06:22

Q. The dual role hub. 10:06:24

MR. SHAW: Excuse me, Your Honor, may I see it? 10:06:28 10:06:29

MR. WIENER: Sure. 10:06:31

THE COURT: Yes. 10:06:32

MR. WIENER: May I approach, Your Honor? 10:06:36

THE COURT: Yes. 10:06:38

(Whereupon, Trial Exhibit 366 was introduced.) 10:06:39

BY MR. WIENER: 10:06:42

Q. Mr. Voto, I've handed you what's been marked Exhibit 366. Can you identify it, please? 10:06:43

A. This is a hub module that uses one of our Boston chips, and you can kind of see some of the things I was trying to describe earlier a few minutes ago. This is the front face that you would see in the car, it's got the USB ports, SD card, those type of things. 10:06:52

On the back of it is connectors where it would -- you know, this would be the hidden wiring in the vehicle that goes like to the head unit, the entertainment system. 10:07:12

So yeah, they all look a little bit different, because like I said, each customer wants a little bit different contents 10:07:22

on it or different styling, but this is generally what we are talking about when you think of media modules. 10:07:29 10:07:31 10:07:33

MR. WIENER: Your Honor, I move Exhibit 366 into evidence. 10:07:35 10:07:37

MR. SHAW: No objection. 10:07:38

THE COURT: All right. It's in. 10:07:39

MR. WIENER: That means at the conclusion of the case, the jury will be able to examine it. 10:07:41 10:07:43 10:07:45

BY MR. WIENER: 10:07:45

Q. How do you know that's a hub that has the Boston chip in it? 10:07:46 10:07:48

A. Well, because of the fact that all these different modules have kind of a unique look to them, I can look at this and I know exactly which hub module this is. This would go in the General Motors vehicles and I helped design the module, so I know what's inside of it. 10:07:52 10:07:54 10:07:58 10:08:00 10:08:05 10:08:07 10:08:10

Q. You can't see the Boston 2 chip on that one, just -- 10:08:12 10:08:14

A. No. 10:08:16

Q. Luckily, we have another one. I'm 10:08:16

handing you what's been marked Exhibit 365. 10:08:19

MR. SHAW: Thank you. 10:08:24

(Whereupon, Trial Exhibit 365 was introduced.) 10:08:24

BY MR. WIENER: 10:08:28

Q. Mr. Voto, can you describe for the jury what Exhibit 365 is? 10:08:28

A. So this, if you look at it, it's the same thing, so this is the complete product. This is how it would get shipped and actually installed into the car, you know, attach the cables and plug it into the car, good to go. 10:08:35

This is the same thing, but it's kind of taken apart, which kind of gives you a little bit of a deeper sense of what's actually all the mystery that's going on inside of this thing. 10:08:51

The first thing you see is we have two plastic pieces; this is what forms the housing of it. Inside of this, you have two circuit boards that we are taking out now. These two circuit boards work together. They have an interconnect that go between them. And now you can start to see where, on the 10:09:02

front of this, we have these different connectors. 10:09:24 10:09:26

Now we can actually see these connectors on the circuit board, right? These are the USB connectors, the audio connector, this is the connector that goes to the vehicle, you know, that's behind the product here in the back. 10:09:26 10:09:28 10:09:30 10:09:34 10:09:37 10:09:38

This is a USB connection that goes back to the entertainment system. This is an SD card connector and you can't see it from there, but there is a ton of little tiny parts all over this, like even right here there is, I don't know, there's probably 50 or 60 parts on the circuit board that are super tiny. 10:09:40 10:09:44 10:09:47 10:09:50 10:09:53 10:09:55 10:09:58

And one of the many components in this design is this black square right here which is the actual Boston hub chip. 10:10:01 10:10:03 10:10:08

Q. The reason we're all here today. 10:10:12

A. That's why. 10:10:15

MR. WIENER: Your Honor, I offer Exhibit 365 into evidence. 10:10:15 10:10:18

MR. SHAW: No objection. 10:10:19

THE COURT: All right. It will 10:10:21

come in. 10:10:22

MR. WIENER: Your Honor, 10:10:22

permission to publish them to the jury so that 10:10:23

they can see them as well? 10:10:25

THE COURT: Any objection, Mr. 10:10:27

Shaw? 10:10:28

MR. SHAW: No, Your Honor. 10:10:29

THE COURT: Okay. Go ahead. 10:10:30

MR. WIENER: I'll do the hand-off. 10:10:33

(Whereupon, the exhibits were 10:10:44

published to the jury.) 10:10:46

BY MR. WIENER: 10:10:51

Q. All right. 10:10:52

Back to the documents, Mr. Voto. 10:10:53

If you could turn to Tab 14 of your binder, 10:10:55

please. 10:10:57

(Whereupon, Trial Exhibit 14 was 10:10:57

introduced.) 10:10:57

BY MR. WIENER: 10:10:57

Q. What's shown -- what is Exhibit 14? 10:11:04

Can you describe it at a high level for the 10:11:07

jury, please. 10:11:09

A. This is a document that my team wrote 10:11:10

at Unwired describing the Host to Host Bridge 10:11:12

technical specification. 10:11:15

MR. WIENER: Your Honor, I offer 10:11:16

Exhibit 14 into evidence. 10:11:17

MR. SHAW: No objection. 10:11:18

THE COURT: Okay. It can come in. 10:11:20

MR. WIENER: Mr. Glass, if you 10:11:21

could put the first page on there. 10:11:23

BY MR. WIENER: 10:11:24

Q. Can you explain what the purpose of 10:11:25

this document is to the jury? 10:11:27

A. Sure. 10:11:30

So as I was saying in some of the 10:11:30

previous slides, we were trying to develop our 10:11:35

own Host to Host Bridge, and, you know, the 10:11:37

specific -- the specifics of it were detailed 10:11:42

and we needed to write that down because we 10:11:47

needed to come up with that custom programming 10:11:49

that we could put into the FPGA to make it do 10:11:52

what we needed it to do, and there's actually 10:11:55

a lot of work to come up with that 10:11:58

programming, so the first step is to break 10:11:59

down the requirements. 10:12:01

MR. WIENER: Mr. Glass, could you 10:12:02

take us to page 4, please. 10:12:04

BY MR. WIENER: 10:12:05

Q. Mr. Voto, can you describe for the jury what this chart or this diagram on page 4 is showing? 10:12:06 10:12:08 10:12:11

A. This diagram is similar to what we were showing customers in those previous drawings for the middle section here. It's just got a little bit more detail to it, this is more of an internal engineering specification, but if you see this USB Device A, Device B, those are both of the device controllers inside of the bridge, and then these are the switches down here at the bottom that is allowing it to do different routing between the USB ports and the hub and bridge. 10:12:13 10:12:16 10:12:19 10:12:23 10:12:26 10:12:28 10:12:30 10:12:35 10:12:37 10:12:40 10:12:42

Q. So if you could orient the jury and show them where the head unit plugs in on this, I think that would be helpful. 10:12:46 10:12:48 10:12:50

A. Okay. Sure. 10:12:52

So you're not seeing the whole picture here because this picture is specifically kind of about the bridge, itself, right, just trying to track what's going on in the bridge. 10:12:54 10:12:55 10:12:57 10:13:01 10:13:04

But if we back up and look at the whole system, and let's say over here, we have the head unit, the head unit has a data connection, we have the hub right here. One of the downstream ports of the plug would be plugging in here as you would see Device A. 10:13:04 10:13:06 10:13:08 10:13:11 10:13:14 10:13:16

Q. Now, at the top it says, "FPGA." Does that mean that this is just a diagram of how the FPGA implementation works and there is a different diagram somewhere for the chip version? 10:13:19 10:13:23 10:13:25 10:13:30 10:13:32

A. No, it's the same diagram. Just think about the sequence of events was we first had to tackle Jaguar's problem and we needed to do it quickly, we used FPGA, so the first order of business was to get that done. 10:13:32 10:13:35 10:13:38 10:13:41 10:13:46

And then we made working prototypes and then we said okay, how can we make it smaller, cheaper, that sort of thing. That's when we took the exact same concept, because we already knew it worked, and tried to put it into the chip. So at the end of the day, it is the same thing in both the FPGA and the chip. 10:13:48 10:13:51 10:13:54 10:13:57 10:13:59 10:14:00 10:14:02 10:14:05

Q. So this diagram on page 4 of Exhibit 14 also describes how the bridge functionality in the Boston chip works as well? 10:14:06 10:14:10 10:14:12 10:14:15

A. Correct. 10:14:15

Q. Okay. 10:14:16

Mr. Voto, if you could turn to Tab 16 in your binder, please. 10:14:17 10:14:19

(Whereupon, Trial Exhibit 16 was introduced.) 10:14:19 10:14:19

BY MR. WIENER: 10:14:19

Q. When you get there, if you could provide a high level description of what that document is to the jury. 10:14:24 10:14:28 10:14:29

A. Yeah. This is what we call the Boston data sheet. This is describing the technical requirements or the features of the Boston chip. 10:14:31 10:14:33 10:14:36 10:14:40

MR. WIENER: Your Honor, I offer Exhibit 16 into evidence. 10:14:41 10:14:44

MR. SHAW: No objection. 10:14:45

THE COURT: All right. It will come in. 10:14:46 10:14:47

MR. WIENER: Mr. Glass, if you 10:14:48

could put this up. And, Mr. Glass, if you could turn to page 18 of Exhibit 16, please. 10:14:49 10:14:54

BY MR. WIENER: 10:14:57

Q. Now, Mr. Voto, here on page 18, we have another diagram that looks a little different from the block diagrams we have been looking at so far. 10:14:58 10:15:01 10:15:03 10:15:05

Can you explain to the jury what this diagram on page 18 is showing? 10:15:06 10:15:08

A. Sure. 10:15:11

So to put this into context, this is page 18 out of 150. This is a huge document that describes like every little detail that we can think of about how the Boston chip, itself, needs to be designed and work. 10:15:12 10:15:15 10:15:18 10:15:20 10:15:22 10:15:25

So in the midst of all that detail, it's nice to start with kind of a let's go high level, like what does this thing look like at the top level. What are we dealing with here. 10:15:25 10:15:28 10:15:31 10:15:33 10:15:34

And so this diagram is, in essence, it's like a cartoon of what the chip is actually going to be. It represents the 10:15:35 10:15:40 10:15:42

chip, itself. So around the perimeter, you can see this little tiny square, each of them has words next to it. Those are the signals that flow in and out of the chip. They all have a name, they all have a purpose, they all have a function. 10:15:45 10:15:48 10:15:51 10:15:53 10:15:55 10:15:57

And then inside the box, these -- each of these little boxes represent some sort of a function, some sort of a subsystem, if you will, that does something. They all have to work together, all that stuff works together to make the overall chip function. 10:15:58 10:16:02 10:16:04 10:16:09 10:16:11 10:16:14

Q. And is there a portion of this diagram that relates specifically to this host-to-host bridging functionality we have been talking about? 10:16:16 10:16:18 10:16:20 10:16:22

A. Yes. So specifically we see this box down here that says, "H2H controller." That's what we had to add, you know, largely on top of everything else that the hub already did to make the bridge function work. 10:16:24 10:16:28 10:16:32 10:16:36 10:16:38

MR. WIENER: Mr. Glass, if you can zoom back out, please. 10:16:41 10:16:42

BY MR. WIENER: 10:16:44

Q. Now, this diagram, is this to scale from, like, a physical perspective? 10:16:44 10:16:48

A. No, no. It's -- again, you can kind of think of it as from -- from a top down view, high level, like what are all the different bits and pieces that go into this chip. If you have to design the chip, you've got to deal with every one of those things, but I think it's also fair to say that the boxes aren't all the same size because somebody that created this diagram realized, there's a heck of a lot of digital logic, there is a whole lot of USB-to-hub logic and many, many other little bits and pieces it takes. 10:16:49 10:16:54 10:16:58 10:17:01 10:17:03 10:17:05 10:17:07 10:17:10 10:17:12 10:17:14 10:17:17 10:17:20 10:17:22

So kind of -- maybe by chance, it sort of does somewhat compare in terms of the complexity and how it's shown here. 10:17:23 10:17:26 10:17:29

Q. And are all of the components shown on this page, are they all involved when -- or necessary for using the hub in CarPlay mode? 10:17:31 10:17:34 10:17:38

A. No, they're not. 10:17:41

Q. Mr. Voto, from start to finish, how long did it take Unwired to develop the Boston 10:17:50 10:17:53

2 chip? 10:17:56

A. Well, we had already been working 10:17:57

kind of with Jaguar for a while, but then when 10:18:02

we started trying to develop the chip, itself, 10:18:04

that was probably a couple years before we 10:18:08

had, like, something that worked well enough 10:18:10

and had been tested thoroughly enough to put 10:18:12

it in a product and sell it. 10:18:14

Q. And how many people from Unwired 10:18:16

worked on this project to develop the Boston 10:18:18

chip? 10:18:20

A. I mean, for the initial development, 10:18:22

probably, you know, rough guess, probably 10:18:24

around 10 guys, 10 people. 10:18:27

Q. And all told, how much did Unwired 10:18:29

invest to develop this chip? 10:18:31

A. We paid -- the contract with AyDeeKay 10:18:36

was for about $5 million and we worked on this 10:18:40

for those two years with 10 people, a lot of 10:18:44

outside testing. I don't have really a 10:18:47

precise number for you, but I am going to 10:18:49

ballpark it, like $10 million. 10:18:51

Q. How would you characterize an 10:18:52

investment of around $10 million for a company 10:18:55

like Unwired at the time that it made that investment? 10:18:58 10:19:00

A. I mean, it was enormous, like we were working at a little company. We made headphones, you know. We made $10 products that go in cars. We made a lot of them, but this was unprecedented for us. We didn't have $10 million to just throw around and hope it worked, you know. So this was a huge -- this was a big deal. 10:19:02 10:19:06 10:19:08 10:19:12 10:19:16 10:19:21 10:19:24 10:19:26

MR. WIENER: Mr. Glass, if we can go back to the first page of this exhibit. 10:19:30 10:19:31

BY MR. WIENER: 10:19:36

Q. Mr. Voto, when Unwired invested the money to develop the Boston 2 chip, were there any risks associated with that investment? 10:19:37 10:19:40 10:19:44

A. Besides the fact that it might not work? 10:19:47 10:19:49

Q. Yeah, besides the elephant in the room, other risks? 10:19:50 10:19:52

A. Yeah. So, I mean, all joking aside, it was -- it was -- it was super exciting and super scary at the same time. We thought hey, man, this is so cool. We figured out how to 10:19:54 10:19:57 10:20:01 10:20:04

solve this problem in a unique way. All we have to do is crack this nut on figuring out how to do it small enough so I can use it on all these other customer programs. 10:20:07 10:20:10 10:20:13 10:20:15

It turned out to be a pretty hard problem, you know. We were a module maker, so working with some other company to make a chip and make it meet all the requirements was pretty tough. 10:20:17 10:20:20 10:20:23 10:20:25 10:20:28

And along the way, even though we were getting positive feedback of, you know, we built something, we tested, you know, it's got some problems, but we're moving in the right direction, there was always a risk that some requirement could change. What if Apple changed their mind about what they would accept? 10:20:30 10:20:32 10:20:35 10:20:37 10:20:39 10:20:42 10:20:45 10:20:46

Q. Looking at Exhibit 16 towards the top of the document, the first feature that's listed underneath features, it says, "USB 2.0 - Compliant," and there is a footnote. 10:20:50 10:20:54 10:20:59 10:21:04

MR. WIENER: And, Mr. Glass, if we could zoom back out and take a look at that footnote at the bottom of the page. Just 10:21:06 10:21:07 10:21:10

above that.
There we go. Perfect. Nope, we were close. If we could zoom in. Thanks.
BY MR. WIENER:
Q. So this is the footnote, "With the exception of suspend current."
Does suspending current have anything to do with CarPlay?
A. No.
MR. WIENER: Let's zoom back out and go back to that top requirement, the main features, Mr. Glass. Perfect.
BY MR. WIENER:
Q. "Main Features: USB 2.0 - Compliant HUB operation." Can you explain to the jury what that means?
A. Well, USB 2.0 is a version of USB we had for a long time. We can call it USB high speed, but it is a very complex specification. I mean, you wouldn't even fit it in this binder hardly. It is massively complex.
So we wanted to make sure that AyDeeKay understood -- remember, we are the architect, so we are like hey, when we get

this thing done, it better actually work with all USB. It needs to follow all the USB guidelines, all the USB regulations and, you know, even get certified through the USB standards. 10:22:14 10:22:17 10:22:20 10:22:24 10:22:30

Q. You mentioned get certified with the USB standards. Can you tell the jury a little bit about that process? 10:22:30 10:22:32 10:22:38

A. Think about all the different USB products you've seen in your life. There's so many companies making chips and modules and products that all use USB technology. And we all hope that they all work together right. We expect it. 10:22:39 10:22:40 10:22:43 10:22:45 10:22:49 10:22:53

It doesn't mean that's always the case, though. There is plenty of examples where stuff doesn't seem to be compatible with each other. 10:22:55 10:22:56 10:22:59 10:23:01

And the USB organization, themselves, try to safeguard against that happening and they set up a certification program, so they said for anyone that's, you know, serious about doing USB products, that you want to know that your -- the quality of 10:23:03 10:23:06 10:23:10 10:23:11 10:23:14 10:23:17

your product is, you know, to the highest level. Send your product through our certification lab. 10:23:20 10:23:22 10:23:26

The USB certification lab, this is an independent third-party kind of testing, right, so only the USB is the one that's prescribing how to test it and who is qualified to test it. 10:23:27 10:23:31 10:23:33 10:23:35 10:23:38

So that's -- that's really the gold standard when you want to say, you know, something is or it is not compliant to the USB standard. You can't really -- shouldn't really make those claims yourself unless you've taken your product and sent it to one of these qualified labs and they independently said yep, that looks good. 10:23:39 10:23:41 10:23:44 10:23:46 10:23:49 10:23:51 10:23:53 10:23:57

Q. Did you submit the Boston 2 for certification to one of these labs? 10:23:58 10:24:00

A. We did. 10:24:01

Q. Did it pass? 10:24:02

A. It did. 10:24:03

Q. How about the dual role hub as a whole, did you submit that to one of these labs for USB certification? 10:24:03 10:24:06 10:24:07

A. Yeah. So expectation of our customers and Apple was that all of our chips, all of our modules were USB certified. So we had to do that and we did. 10:24:09 10:24:11 10:24:16 10:24:19

Q. Now, you mentioned that it mattered to Apple. Why did it matter to Apple? 10:24:21 10:24:23

A. So Apple -- Apple has its own business interests and its own complex story, but Apple basically was doing more and more trying to integrate the iPhones in particular into the cars. 10:24:27 10:24:34 10:24:37 10:24:41 10:24:44

They were doing this CarPlay thing now. Even before CarPlay, you could stream music over USB from your iPhone into the car if your head unit supported it and all this stuff. 10:24:45 10:24:47 10:24:49 10:24:53 10:24:55

So Apple is smart, you know. They are always on the lookout to avoid anything that makes Apple look bad, right? They don't want to have accessories, Apple accessories, that don't work well because the consumer gets confused. They are like well, is this crappy Apple product why my boom box doesn't work or whatever? All right. We are just not even 10:24:56 10:25:00 10:25:03 10:25:06 10:25:09 10:25:13 10:25:16 10:25:19

going there, right. 10:25:21

So if you want to make an 10:25:22

accessory for an Apple product, you need 10:25:24

Apple's permission. And Apple is going to 10:25:26

say, and we are not going to make it easy on 10:25:29

you either. Particularly for USB products. 10:25:31

The first thing they ask, is everything in 10:25:34

your system, in this brand new system that, 10:25:36

let's say, Ford wants to launch or any OEM, is 10:25:39

every single component in it USB certified? 10:25:43

If they are not, go back and get that before 10:25:46

you start talking to me about whether or not 10:25:49

your system is approved by Apple. 10:25:50

Q. So could you submit the Boston 2 chip 10:25:52

by itself to Apple for certification or 10:25:55

approval? 10:25:57

A. No. So Apple wouldn't even have 10:25:57

looked at that, you know. Apple is not 10:26:00

interested in even really talking to component 10:26:02

suppliers that much. Their main interest, and 10:26:08

to keep things simple from their perspective, 10:26:11

is they want a relationship with car 10:26:14

manufacturers. 10:26:16

So Apple wants to talk to GM and 10:26:16

say hey, GM, what are you working on? What's your new Cadillac that's going to come out in a couple years? Can you give me a prototype, give me a sneak peek on what you guys are working on? Because here at Apple, we want to make sure that it's all working smoothly and to Apple's expectation. 10:26:20 10:26:23 10:26:27 10:26:31 10:26:33 10:26:35 10:26:37

So at the end of the day, it's either their car manufacturers or their representative that's submitting complete systems to Apple, not bits and pieces like a hub module. 10:26:39 10:26:41 10:26:43 10:26:45 10:26:47

Q. Did Apple ever approve Unwired's host-to-host bridge solution for CarPlay in any vehicle systems? 10:26:48 10:26:52 10:26:55

A. It got approved as part of a bigger system. 10:26:57 10:26:59

Q. And when was the first time it got that approval? 10:26:59 10:27:01

A. Around about 2015. 10:27:03

Q. Did you learn ahead of time from Apple that they were going to approve the system with your product in it? 10:27:06 10:27:08 10:27:10

A. No. 10:27:11

Q. Mr. Voto, there's been a suggestion by Microchip that you received inside information about Apple's -- about Apple's specifications and what they would and would not accept. 10:27:13 10:27:16 10:27:18 10:27:23 10:27:24

Did you get any information you shouldn't have about Apple's requirements in connection with developing this product? 10:27:26 10:27:28 10:27:31

A. No, no. So let me be clear. I don't know where that's coming from, but the -- here's how it works -- how it worked in this case. And it's just all normal stuff. 10:27:33 10:27:38 10:27:42 10:27:44

Apple and Jaguar are talking to each other and they're saying hey, you know, we are going to have this new CarPlay thing. Jaguar, here are some of the requirements, right, this is what you have to do to make it work. 10:27:50 10:27:53 10:27:55 10:27:58 10:28:00 10:28:01

And Jaguar is probably going great, that sounds good. I would love to support the latest consumer tech in a car. 10:28:02 10:28:03 10:28:05

Then Jaguar would turn around and start thinking about, okay, which of these different requirements of this do I need to 10:28:08 10:28:11 10:28:13

give to our supplier, you know, because our suppliers have to make all the parts. The suppliers have to make the hub module. And the suppliers have to use chips and these chips have to be able to do these things, too. 10:28:16 10:28:20 10:28:22 10:28:25 10:28:27

So that's how we found out, is really because of the fact that we had earned that business with Jaguar and we were in the middle of developing it, at the same time that Jaguar was talking to Apple, it just became, you know, natural for Jaguar to start feeding us some of these requirements. 10:28:29 10:28:31 10:28:35 10:28:37 10:28:40 10:28:44 10:28:48

Q. Did you ever meet with Apple to try to learn if they would approve your solution before it was approved as part of a vehicle solution in 2015? 10:28:50 10:28:53 10:28:55 10:28:57

A. Yes, we did. 10:28:58

Q. Did they tell you at that meeting whether they would be approving it? 10:29:00 10:29:02

A. No, they didn't. 10:29:04

Q. Mr. Voto, can you turn to Exhibit 12 of your binder, please. 10:29:05 10:29:07

(Whereupon, Trial Exhibit 12 was introduced.) 10:29:07 10:29:07

BY MR. WIENER: 10:29:07

Q. Can you provide a high level description of what that document is to the jury? 10:29:13 10:29:15 10:29:16

A. This is a presentation that we put together to show Apple what we were doing and to try to solicit feedback from Apple. 10:29:18 10:29:20 10:29:26

MR. WIENER: Your Honor, I offer Exhibit 12 into evidence. 10:29:28 10:29:31

MR. SHAW: No objection. 10:29:32

THE COURT: All right. It will come in. 10:29:33 10:29:34

MR. WIENER: Mr. Glass, please put it on the front. 10:29:35 10:29:37

BY MR. WIENER: 10:29:38

Q. So to set the stage in the time, this is November 10th of 2014; is that right? 10:29:41 10:29:43

A. Yes. 10:29:46

Q. So by November of 2014, you had developed -- did you have a chip that you had tested and it worked? 10:29:46 10:29:50 10:29:52

A. Yes. 10:29:54

Q. Okay. 10:29:54

And you were meeting with Apple. 10:29:55

Had you been selected by any of the car companies at this point? 10:29:59 10:30:01

A. Yes, we had. 10:30:03

Q. Okay. 10:30:04

And so you put this presentation together, and what were you -- what was the purpose of the presentation? 10:30:06 10:30:08 10:30:10

A. It was kind of twofold. The first was we had been developing this technology now since 2012, 2013, something like that, you know, so a couple years, never having had really direct anything from Apple. 10:30:14 10:30:20 10:30:22 10:30:26 10:30:31

It was understood that we needed to meet the requirements on kind of what Jaguar was telling us. It was understood that we needed working systems. It was understood that Jaguar was happy with what we had done thus far. 10:30:36 10:30:38 10:30:40 10:30:43 10:30:46 10:30:49

But it would be so much more satisfying for us, because again, this whole thing represents a big risk for Unwired being a small company. It would be so much more satisfying if we can hear back from Apple that hey, we are telling you exactly what we are 10:30:50 10:30:52 10:30:54 10:30:57 10:30:59 10:31:03

doing. We are laying it all out there for you, Apple. Could you please tell me this is okay. 10:31:05 10:31:07 10:31:09

Because we don't know, Apple can change their mind about anything at any moment in time. They could just swipe this whole thing away and we would be totally gone. So that's what we were doing and that's what the presentation was for. 10:31:10 10:31:12 10:31:13 10:31:16 10:31:21 10:31:22

Q. So did you explain to Apple how your dual role hub in the Boston 2 chip worked? 10:31:23 10:31:26

A. Yes. 10:31:29

MR. WIENER: Mr. Glass, if we could go to Slide 4. This is the last one of these you'll see from me today. 10:31:30 10:31:31 10:31:35

BY MR. WIENER: 10:31:37

Q. Can you explain to the jury what this is? 10:31:38 10:31:40

A. Sure. 10:31:40

I hope at this point we can go really fast, right? This is like the fourth time I think we've looked at this. But it's a safeguard, like if we wanted to have Apple understand. Of course there is a head unit, 10:31:40 10:31:42 10:31:44 10:31:47 10:31:52

it has a single link connection to a two-wired chip. Our chip has the hub, has the bridge, it has the routing device, it has the consumer device ports on the right. 10:31:53 10:31:56 10:31:59 10:32:01

MR. WIENER: And if we could go to the last page of the exhibit, Mr. Glass. 10:32:04 10:32:05

BY MR. WIENER: 10:32:07

Q. What's shown on this slide? 10:32:08

A. So after walking through -- we skipped over a bunch of pages, right, but after walking through all this, you know, hey, Apple engineers, I want you to understand, you know, how it all works and kind of like the bits and pieces, talk about the technical. 10:32:10 10:32:12 10:32:14 10:32:16 10:32:18 10:32:22

Before we walked away from this meeting with Apple, we thought we should really make sure that they understand, like, who we are because they probably didn't even know who Unwired was, at least their engineers probably wouldn't have really known much about us. 10:32:25 10:32:27 10:32:30 10:32:33 10:32:35 10:32:38 10:32:41

So we put this slide together just as -- so by the way, we have a chip that we just have been talking about. It's going -- 10:32:41 10:32:44 10:32:48

this bridge concept is going into this JLR project, right? 10:32:51 10:32:56

Q. That's Jaguar? 10:32:57

A. Jaguar, yeah, JLR, Jaguar Land Rover. 10:32:58

The second is we have our own custom chip in development. It's gone through some revisions, it's going to have more, but it's working. We are going to get it cleaned up and ready for production and it is going to go into awarded programs that we already have from GM, Ford and Chrysler. So you can see down here, five million vehicles. 10:33:04 10:33:06 10:33:09 10:33:11 10:33:13 10:33:16 10:33:18 10:33:21

We are basically telling Apple hey, guys, if there's something wrong with this, you need to like raise your hand now because this is going to be in a lot of cars where there is going to be a lot of heartache about what's wrong with it. 10:33:23 10:33:27 10:33:29 10:33:32 10:33:34 10:33:36

Q. Did they give you the satisfaction of letting you know they would approve this? 10:33:38 10:33:39

A. Man, I was really hoping they would say this looks great, no problem, but we didn't get that answer. The answer we got was yeah, this looks fine, but please understand 10:33:41 10:33:43 10:33:45 10:33:48

that, you know, Apple's policy is we write requirements. We publish those requirements in places for you and your competitors to ask us and you have to follow the same sort of issues as anyone else. 10:33:52 10:33:57 10:33:59 10:34:04 10:34:07

I mean, the good news is they didn't look at what we said -- look at what we were proposing and say whoa. But at the same time, they were making no guarantees that it was going to be acceptable to Apple. We had to follow the same certification process as everyone else. 10:34:09 10:34:10 10:34:13 10:34:16 10:34:18 10:34:21 10:34:23

MR. WIENER: Your Honor, I am probably at a good breaking point now, if it would be a good time to take a morning break? 10:34:25 10:34:26 10:34:28

THE COURT: Okay. 10:34:31

Sounds good to me. So why don't we take 5 to 10 minutes, plan to be back here at quarter of, okay? 10:34:31 10:34:33 10:34:36

(Whereupon, the jury was excused from the courtroom.) 10:34:39 10:34:41

THE COURT: Okay. 10 minutes be back. Thanks, everyone. 10:35:04 10:35:06

(Whereupon, a 10-minute recess was 10:35:08

taken at 10:35 a.m.) 10:35:11

THE COURT CLERK: All rise. 10:45:32

THE COURT: All right. You may be seated. 10:45:41 10:45:44

Please bring the jury back in. 10:45:45

(Whereupon, the jury entered the courtroom.) 10:45:47 10:45:49

THE COURT: All right. You can all be seated. 10:46:55 10:46:57

Mr. Wiener, proceed. 10:46:59

BY MR. WIENER: 10:47:01

Q. Mr. Voto, at the beginning of your testimony this morning, you said you were here to talk to the jury because Microchip was accusing the Boston 2 chip you developed of infringement; you wanted to tell the story how you developed that product. You have done that. 10:47:02 10:47:03 10:47:04 10:47:07 10:47:11 10:47:14 10:47:17

And now I want to focus on when you learned from Microchip that they were accusing you of patent infringement. 10:47:17 10:47:19 10:47:20

When did you first learn that Microchip thought Aptiv infringed its patents? 10:47:23 10:47:24

A. In January of 2015, I received a 10:47:29

letter from Microchip.

MR. WIENER: Mr. Glass, can you put up Exhibit 9 that's already in evidence.

BY MR. WIENER:

Q. Mr. Voto, is this the letter you received?

MR. WIENER: If we can just zoom out, Mr. Glass, it is just a one-pager. Thanks.

THE WITNESS: Yes, this is the letter I received.

MR. WIENER: Okay.

BY MR. WIENER:

Q. What do you remember about getting the letter?

A. Being stunned, shocked even that after everything we had gone through to develop this new technology, that I was being accused of stealing somebody else's ideas.

Q. What did you do when you got the letter?

A. I mean, the first thing I did is shared it with my boss and made sure that management was aware of it. This was pretty

big news. 10:48:26

Secondly, I started looking at 10:48:27

these patents, because there was two patents 10:48:33

listed in this letter, which I can -- you 10:48:36

know, anyone can access freely. I started 10:48:39

studying those, together with my co-worker, 10:48:42

Craig Petku. 10:48:47

Both of us were trying to 10:48:48

understand how could we be infringing on these 10:48:49

patents; it's not explained in the letter. So 10:48:52

we were trying to understand where this was 10:48:55

coming from. 10:48:57

Q. And what did you do as part of that 10:48:59

investigation? 10:49:02

A. Well, you know, it kind of comes down 10:49:04

to reading the patents, the numbers that are 10:49:07

listed here, you read through those patents 10:49:12

very carefully, you read through all the 10:49:14

claims, try to understand what the meaning is 10:49:17

of all the claims and, you know, so whether or 10:49:19

not at the end of the day, are we doing 10:49:24

something inside of our hub chip, which Craig 10:49:27

and I obviously knew very well because we 10:49:30

developed it. 10:49:32

And we said okay, how -- how could -- knowing what we know about how our chip works, what is it that we might have done that would have used some of what's in these patents? And we looked hard for it. I mean, just couldn't find it. 10:49:35 10:49:37 10:49:40 10:49:43 10:49:46 10:49:50

Q. And did you -- so you came to a conclusion as to whether or not you were using -- let me strike that. 10:49:52 10:49:55 10:49:59

You came to a conclusion as to whether or not any of those claims in those patents covered something you were doing? 10:50:00 10:50:02 10:50:04

A. Well, let's put it this way. We were trying to see how anything could be construed that we were violating these patents, and we couldn't find it. 10:50:08 10:50:11 10:50:13 10:50:16

Q. Okay. 10:50:17

Why did you find -- or why did you determine that that was the case? 10:50:18 10:50:21

A. Well, you know, at the danger of oversimplifying it, these two patents that are listed, what I remember about them is -- just as you can see by the data here, but those two patents, from my recollection, are largely 10:50:23 10:50:27 10:50:31 10:50:37 10:50:43

about multi-host systems with shared USB devices or functions like printers, for example. So that was something I remember from the patents. 10:50:47 10:50:56 10:50:59 10:51:01

And if you think about a system like that where maybe there is two computers hooked to a printer, each has an active data path to the printer, and the idea being, you know, it would be kind of neat if you have multiple computers hooked to one device like a printer, and you could kind of very quickly alternate access between being able to print different documents; like if I wanted to print a document and you wanted to print a document, the printer can't print two things at one time, but we both could have a connection to the printer and the printer can then decide with some controller logic how to kind of take turns, you know, that sort of thing. That's really what their invention was about. 10:51:02 10:51:04 10:51:07 10:51:11 10:51:19 10:51:21 10:51:24 10:51:27 10:51:30 10:51:32 10:51:35 10:51:37 10:51:39 10:51:42 10:51:45 10:51:47

We didn't do that, though. I mean, I think that's the important distinction, is when I look at the way both the bridge and the hub and the switches and 10:51:49 10:51:51 10:51:53 10:51:59

all of that stuff inside of our chip work together, we don't have two different hosts trying to share some sort of a device. 10:52:01 10:52:04 10:52:06

Q. During your time at Aptiv, did you believe, at any point, the dual role hub or the Boston 2 chip infringed the Microchip '243 Patent? 10:52:09 10:52:11 10:52:15 10:52:19

A. No. 10:52:19

Q. Okay. 10:52:20

Did you ever ask Microchip to explain why it thought Aptiv was infringing its patent? 10:52:21 10:52:23 10:52:26

A. Sure. 10:52:28

Q. Can you tell us a little bit about that? 10:52:30 10:52:32

A. So as I explained, we looked at these patents over and over again very hard, couldn't really connect the dots to what they were claiming. That was in like January, February of 2015. 10:52:33 10:52:38 10:52:41 10:52:44 10:52:48

Later in that same year, we had a face-to-face meeting with Microchip. I think it was, to my recollection, it was the first actual meeting we had had since this letter 10:52:50 10:52:52 10:52:57 10:52:59

from many, many months ago. And part of that discussion was okay, we knew that they think we were violating the patents, but we really didn't understand why, and asked, you know, can we get a clear explanation? Where -- how do you justify -- I'm sorry, what is it -- what claim, what specific thing are we doing inside of our chip that's violating the patent? But we didn't get a clear answer. 10:53:02 10:53:07 10:53:11 10:53:15 10:53:16 10:53:20 10:53:23 10:53:26 10:53:29

Q. Was there a face-to-face meeting that you had with them where this came out? 10:53:31 10:53:35

A. That's what I'm referring to, yeah. 10:53:37

Q. Okay. 10:53:38

And when did this meeting happen? 10:53:39

A. It was like October/November of 2015. 10:53:41

Q. Okay. 10:53:43

And who was at that meeting from Microchip? 10:53:44 10:53:46

A. Gosh, Mitch Obolsky was there, I think a couple other Microchip plaintiffs were there. 10:53:47 10:53:54 10:53:56

Q. And how about from Aptiv's side, who was there from Aptiv? 10:54:00 10:54:03

A. On the Aptiv side, it would have been 10:54:03

Craig Petku, myself, my bosses, Stephanie Pennell and I believe Mike Dreon. 10:54:06 10:54:12

Q. Before we get into what happened at the meeting, just earlier you were testifying when you said you had looked at the patents and you couldn't connect the dots. What do you mean, you couldn't connect the dots? 10:54:16 10:54:17 10:54:19 10:54:22 10:54:24

A. I mean that I couldn't find any part of our Boston chip that used any part of their patented technology. 10:54:26 10:54:33 10:54:39

Q. Okay. 10:54:41

So we're in this meeting between you and Mitch Obolsky and other people from your group and their group. What was the meeting set up to talk about? What was the purpose of this meeting? 10:54:41 10:54:43 10:54:47 10:54:50 10:54:52

A. If I'm not mistaken, I think Microchip wanted to come in and talk to us, since we hadn't done a lot of talking for many months, you know, past this letter that kind of chilled the relationship pretty significantly. 10:54:54 10:54:57 10:55:01 10:55:04 10:55:06 10:55:08

They came in, and I'm recalling that the intention I think from their side was 10:55:12 10:55:15

maybe to be more -- less threatening and more hey, I want you to know, Rob, that, you know, we have been developing some new chips, too. We think these new chips would be very interesting to you. In fact, we think that it would make a lot of sense for both sides if you just stopped using your own hub chip and started using these brand new Microchip hubs instead. 10:55:18 10:55:23 10:55:30 10:55:32 10:55:34 10:55:37 10:55:39 10:55:42 10:55:47

Q. And what did you say to Mr. Obolsky about that? Did you take him up on that? 10:55:47 10:55:49

A. Well, yeah. Long story short is I said yes, conditionally, right? Because, okay, why did we develop the chip in the first place? It's not because Unwired is in the chip business. In fact, it was really hard to do and I really didn't think that that's something that I needed to do. 10:55:51 10:55:56 10:56:01 10:56:03 10:56:06 10:56:08 10:56:10

My business, Unwired's business or Aptiv's business, for that matter, is to make modules for car companies, right? If you have to make the underlying technology, too, that's a lot of extra work. 10:56:11 10:56:14 10:56:16 10:56:19 10:56:22

But at the same time, our job is 10:56:23

to do what it takes, do whatever it takes, in fact, to help our customers, the OEM carmakers, make the best car that they can make for all of our benefits. 10:56:25 10:56:31 10:56:34 10:56:36

So I told Mitch, that's what I do. I don't have to make my own chip. I can use your chip. In fact, if you price your chip attractively to me, that means I can make attractive products for our customer. If you are correct in your claims about, you know, it works just as well, doesn't have all these downside issues that we have seen from Microchip in the past, we're past all that and everything is good, then I absolutely told him I would use his chip. 10:56:38 10:56:41 10:56:43 10:56:47 10:56:50 10:56:54 10:56:56 10:56:58 10:57:00 10:57:02 10:57:05

Q. And what did he say? 10:57:06

A. Well, I don't think he was real thrilled with the repercussions of what I was saying because it would mean that he would probably have to sell chips to us at a much lower price than what they would prefer. So it didn't -- the meeting really didn't end well. 10:57:09 10:57:12 10:57:18 10:57:20 10:57:23 10:57:28 10:57:31

Q. How did the meeting end? 10:57:31

A. More or less ended with Microchip being very upset and saying we would hear from their lawyers. 10:57:33 10:57:38 10:57:42

Q. Okay. 10:57:42

I'd like to shift gears a little bit. Earlier you mentioned that you received five patents relating to USB. Can you tell me about those patents? 10:57:43 10:57:46 10:57:48 10:57:50

A. Yeah. So along the way of developing this new stuff, we thought, you know, it would be smart of us to patent them, too. 10:57:52 10:57:56 10:57:59

So the very first patent application that was submitted was around the idea of combining the switches, the hub and the bridge together. 10:58:02 10:58:03 10:58:05 10:58:08

Q. Now, why did you decide to seek patent protection for the work you had done in developing this Boston 2 chip? 10:58:10 10:58:12 10:58:15

A. Well, because we thought there was, you know, significant value in it. We didn't want to see other companies, you know, after us having done all this hard work, just go and copy our solution. 10:58:18 10:58:20 10:58:22 10:58:25 10:58:28

Q. And in connection with applying for 10:58:29

the patents, what information did you provide to your lawyers to provide to the patent office? 10:58:32 10:58:35 10:58:37

A. I provided, you know, a multi-page document of description of a lot of the things that we talked about today, diagrams showing how things worked, you know, those sort of things, so that from -- I worked with a patent attorney. The patent attorney kind of knew how to lay out a patent, how to format it, how to submit it, how to communicate with the patent office, but all the technical content had either originated with me or had been approved by me. 10:58:38 10:58:42 10:58:45 10:58:47 10:58:50 10:58:54 10:58:56 10:58:58 10:59:01 10:59:04 10:59:06

Q. And was the information you provided to the attorney regarding what you had invented the information about the work you did to develop the Boston 2 chip? 10:59:08 10:59:10 10:59:13 10:59:15

A. That's correct. 10:59:18

Q. Okay. 10:59:19

Can you turn to Exhibit 187 of your binder, please. 10:59:20 10:59:23

(Whereupon, Trial Exhibit 187 was introduced.) 10:59:23 10:59:23

BY MR. WIENER: 10:59:23

Q. Can you describe what is -- what 10:59:32

Exhibit 187 is? 10:59:36

A. This is a U.S. Patent that was 10:59:37

granted to my team for the invention of the 10:59:41

Boston chip. 10:59:44

Q. Okay. 10:59:45

MR. WIENER: Your Honor, we offer 10:59:46

Exhibit 187 into evidence. 10:59:48

MR. SHAW: Your Honor, no 10:59:50

objection, subject to our discussion about 10:59:51

instructions later. 10:59:53

THE COURT: Okay. It will be 10:59:54

received. 10:59:56

MR. WIENER: Mr. Glass, can you 10:59:57

put 187 up on the screen, please. 10:59:58

BY MR. WIENER: 11:00:07

Q. Mr. Voto, what is the title of this 11:00:08

patent? 11:00:12

A. "Flexible mobile device connectivity 11:00:13

to automotive systems with USB hubs." 11:00:16

MR. WIENER: Mr. Glass, could you 11:00:19

zoom back out, please, for a second. 11:00:20

BY MR. WIENER: 11:00:22

Q. And up at the upper right, does it show when the date -- when this patent issued? 11:00:23 11:00:25

A. Yeah, the patent issue date was October 2016. 11:00:28 11:00:31

Q. And is that when you learned that you were going to get patent claims? 11:00:35 11:00:36

A. We would have known maybe two or three months in advance of that. The patent office typically sends a notification of allowance, I think they call it, and it lets you know that your patent is going to be granted soon. 11:00:38 11:00:42 11:00:44 11:00:47 11:00:50 11:00:52

Q. And then what do you see at the bottom of the page on Exhibit 187? 11:00:52 11:00:54

A. The diagram. 11:00:58

Q. And we won't spend long going over that, we've seen these enough at this point, but is this one of the diagrams you provided in connection with the information that you gave to the attorney about the invention you had come up with for applying for this patent? 11:01:02 11:01:04 11:01:07 11:01:09 11:01:12 11:01:15

A. Yeah. You can see how it's significantly similar to a lot of the other diagrams we looked at that I prepared for 11:01:17 11:01:19 11:01:20

customer presentations, and it's essentially the same thing here in the patent application. 11:01:23 11:01:26

Q. Okay. 11:01:28

Can you turn to Tab 188 of your binder, please. 11:01:28 11:01:31

(Whereupon, Trial Exhibit 188 was introduced.) 11:01:31 11:01:31

BY MR. WIENER: 11:01:31

Q. And what is Tab 188? 11:01:35

A. Another U.S. Patent, this would be the second patent that was granted under the same family. 11:01:38 11:01:41 11:01:44

Q. And again, this was a patent that was issued for your work in developing the Boston 2 chip and dual role hub? 11:01:44 11:01:47 11:01:49

A. Correct. 11:01:51

MR. WIENER: Your Honor, we offer Exhibit 188 into evidence. 11:01:52 11:01:54

MR. SHAW: No objection, subject to the same instruction. 11:01:55 11:01:56

THE COURT: It is received. 11:01:57

BY MR. WIENER: 11:01:58

Q. Can you turn to Tab 189 of your book, please. 11:01:59 11:02:01

(Whereupon, Trial Exhibit 189 was introduced.) 11:02:01

BY MR. WIENER: 11:02:01

Q. And what is tab -- Exhibit 189? 11:02:02

A. This would be the third patent that was granted as part of the Boston chip project. 11:02:07

MR. WIENER: Your Honor, we offer Exhibit 189 into evidence. 11:02:12

MR. SHAW: No objection, subject to the instruction. 11:02:16

(Whereupon, the Judge acknowledges receipt.) 11:02:18

BY MR. WIENER: 11:02:19

Q. And then Exhibit 190? 11:02:19

(Whereupon, Trial Exhibit 190 was introduced.) 11:02:19

THE WITNESS: Patent 4. 11:02:24

BY MR. WIENER: 11:02:25

Q. And when was that issued? 11:02:25

A. January 2020. 11:02:27

Q. And was this patent issued for the work you did in connection with developing the Boston 2 chip and the dual role hub? 11:02:28 11:02:31 11:02:33

A. It was. 11:02:36

MR. WIENER: We offer it into 11:02:36
evidence. 11:02:37

MR. SHAW: No objection, subject 11:02:37
to instruction. 11:02:39

(Whereupon, the Judge acknowledges 11:02:40
receipt.) 11:02:41

BY MR. WIENER: 11:02:41

Q. And last but not least, Exhibit 191. 11:02:41

(Whereupon, Trial Exhibit 191 was 11:02:41
introduced.) 11:02:41

THE WITNESS: Patent No. 5 related 11:02:47
to the Boston project. 11:02:49

MR. WIENER: We offer it into 11:02:51
evidence. 11:02:52

MR. SHAW: No objection, subject 11:02:53
to the instruction. 11:02:54

THE COURT: Okay. It will be 11:02:55
received. 11:02:56

BY MR. WIENER: 11:02:57

Q. If you could turn back to 11:02:57
Exhibit 188, please, Mr. Voto. And if you 11:03:00
could turn to the second page. 11:03:04

MR. WIENER: Mr. Glass, if you 11:03:08

could get the second page there. 11:03:09

BY MR. WIENER: 11:03:11

Q. And you'll see there is a portion of 11:03:12

the patent that says, "References Cited." 11:03:15

What is your understanding of the list of 11:03:19

documents that are shown there? 11:03:20

A. So in every patent, there is a 11:03:24

section for stating other works that are 11:03:28

similar or that look similar or could be 11:03:33

related to the invention. 11:03:36

So you're trying to submit a new 11:03:38

idea to the patent office that you think you 11:03:40

may have invented. There needs to be work to 11:03:43

see, is this really new or is it maybe already 11:03:46

covered by somebody else's invention, right? 11:03:49

So References Cited is where a 11:03:51

statement can be made to say hey, these things 11:03:56

ought to be considered when the patent 11:03:59

examiner thinks about this as being new or 11:04:03

novel. 11:04:05

Q. And is the '243 Patent that's 11:04:06

asserted in this case listed there? 11:04:08

A. Yes, it is. 11:04:10

Q. Okay. 11:04:12

Mr. Voto, I just have a couple more questions for you. 11:04:14 11:04:16

I want to turn back to our discussion about Microchip's allegations about their patent. They sent you the notice letter in 2015 and then you had a meeting in October 2015. 11:04:18 11:04:20 11:04:23 11:04:27 11:04:30

What happened next? 11:04:31

A. So after the meeting, nothing happened for a long time. We are talking from the fall of 2015 until probably the next significant thing, from my perspective, was in the summer of 2016, we received a notification from the patent office that our first patent was going to be issued, our Aptiv patent was going to get approved for the Boston chip by the patent office. 11:04:35 11:04:39 11:04:44 11:04:51 11:04:53 11:05:00 11:05:03 11:05:07 11:05:10

Q. And what happened next? 11:05:12

A. At that point, more time went by, another month or two later, and we received notification from Microchip that they were filing a lawsuit against Aptiv. 11:05:17 11:05:21 11:05:23 11:05:25

Q. Mr. Voto, ever since you first heard from Microchip about the '243 Patent, has your 11:05:29 11:05:32

belief that the Boston chip does not infringe that patent ever wavered? 11:05:36 11:05:38

A. Not at all. 11:05:41

MR. WIENER: Thank you. No further questions. 11:05:42 11:05:43

THE COURT: Mr. Shaw. 11:05:46

- - - 11:05:47

CROSS-EXAMINATION 11:05:48

- - - 11:05:51

BY MR. SHAW: 11:05:51

Q. Good morning, Mr. Voto. 11:06:14

My name is John Shaw. I don't think we've met before, but welcome. 11:06:15 11:06:17

A. Good morning. 11:06:19

Q. All right. 11:06:21

Just after the break, if my notes are right, I believe you testified that you didn't have any interest in getting into the chip-making business? 11:06:22 11:06:27 11:06:28 11:06:30

A. Correct. 11:06:32

Q. And you just wanted to be a module maker? 11:06:33 11:06:36

A. Right. 11:06:36

Q. And was that true back at Unwired, 11:06:37

also? 11:06:40

A. Yes. 11:06:41

Q. Okay. 11:06:43

Now, when you started this morning, you testified a little bit about the USB hub that Unwired had supplied to General Motors. 11:06:43 11:06:47 11:06:48 11:06:52

Do you remember that? 11:06:52

A. I do. 11:06:53

Q. And that hub used an SMSC chip; is that right? 11:06:53 11:07:00

A. That's correct. 11:07:00

Q. Okay. 11:07:01

Now, shortly after or around that time, Unwired was thinking about getting into developing a custom chip for that module. 11:07:04 11:07:07 11:07:11

Do you remember that? 11:07:13

A. I do. 11:07:14

Q. And do you remember that there were questions about whether that would be a good investment for Unwired? 11:07:15 11:07:18 11:07:20

A. Absolutely. 11:07:22

Q. And you worked on presentations about that. 11:07:23 11:07:26

Do you remember that? 11:07:26

A. Yep. 11:07:26

Q. I think in your notebook towards the back, there is an Exhibit 13. 11:07:27 11:07:31

(Whereupon, Trial Exhibit 13 was introduced.) 11:07:31 11:07:31

BY MR. SHAW: 11:07:31

Q. Could you find that for us, please. 11:07:33

A. I see it. 11:07:39

Q. All right. 11:07:40

Now, that's the presentation -- what is that, first of all? 11:07:40 11:07:43

A. Yeah, so this is a presentation that was done -- it was created by me. It was done for an internal management review within Unwired to start thinking about this -- how do we think about this position whether we would make our own chip or not. 11:07:45 11:07:47 11:07:52 11:07:56 11:08:00 11:08:02

Q. And this is the chip you didn't want to make, but you were talking about making one? 11:08:03 11:08:05 11:08:07

A. Yeah. So to be clear about this whole business of are we in the chip business or do we want to make chips, what I'm saying 11:08:07 11:08:09 11:08:11

is Unwired or Aptiv or whoever at any Tier 1, it was an auto supplier, you want to make the best product you can. The easiest way to do that is using components and chips that are available to you. 11:08:15 11:08:22 11:08:24 11:08:27 11:08:29

But if that fails, if that lets you down, if you can't satisfy or if there is a better way that the supply base hasn't offered yet, you can be bold enough to try to make your own chip, and that's what we are talking about here. 11:08:30 11:08:33 11:08:35 11:08:38 11:08:41 11:08:43

Q. Sure. 11:08:43

And at that point in time, you hadn't gone out to suppliers in the market to ask them to make a better chip for you; right? 11:08:44 11:08:45 11:08:47

A. At what point in time? 11:08:50

Q. When you did this presentation. 11:08:51

A. We had already considered that, yes. 11:08:53

Q. My question though, Mr. Voto, was had you gone out to the marketplace to ask other suppliers to make that better chip for you? 11:08:56 11:08:58 11:09:00

A. We had talked to suppliers to see what they had available to us. 11:09:03 11:09:06

Q. Let me ask it again. 11:09:07

A. Okay. 11:09:09

Q. At the time of this presentation, had you gone out to ask suppliers to make a better chip for you? 11:09:09 11:09:10 11:09:13

A. Yeah. I mean, sure. I would say yes. We had -- I have to nuance that answer because there's a lot of different discussions. It's not as straightforward as maybe what you would like to think as we wrote a bunch of requirements, then we sent it out to supplier A, B, C, D, E, F, G and they all got to have a look at that and then we got all the responses back. It didn't really go like that. 11:09:18 11:09:22 11:09:27 11:09:30 11:09:32 11:09:35 11:09:37 11:09:40 11:09:43 11:09:45

MR. SHAW: All right. At this point, Your Honor, I would like to move into evidence Exhibit 13. 11:09:45 11:09:47 11:09:48

MR. WIENER: No objection. 11:09:50

THE COURT: All right. It's received. 11:09:50 11:09:52

MR. SHAW: Could you bring that up, please, Mr. Ferrer. So blow up the first blocks on the left. Thank you. 11:09:52 11:09:53 11:09:56

BY MR. SHAW: 11:09:59

Q. So that's the title page of the presentation you are talking about here; right? 11:10:00 11:10:02 11:10:03

A. Right. 11:10:03

MR. SHAW: Now, could you go to the next box, please, Mr. Ferrer. 11:10:05 11:10:07

BY MR. SHAW: 11:10:10

Q. And this is your needs and decisions discussion; correct? 11:10:11 11:10:13

A. Correct. 11:10:14

Q. Now, the first need you discussed here was getting "Commercial advantage over competitors using auto grade SMSC chips." 11:10:14 11:10:16 11:10:18

Do you see that? 11:10:22

A. Yes. 11:10:23

Q. And the second need or decision you focused on was "Technical advantage over competitors using SMSC chips." 11:10:24 11:10:27 11:10:29

Do you see that? 11:10:32

A. Right. 11:10:33

Q. And the third need was to find a dual source for the Hub IC you were making; is that right? 11:10:34 11:10:39 11:10:42

A. Yep. 11:10:42

Q. And the fourth need was a "Strategic advantage in marketplace as we compete for new business." 11:10:42 11:10:46 11:10:49

Do you see that? 11:10:50

A. Yes. 11:10:51

Q. And the last need you had was "Lower BOM," BOM means bill of materials; correct? 11:10:51 11:10:54

A. That's -- that's -- yes, that's saying that -- 11:10:57 11:10:59

Q. BOM means bill of materials; right? 11:11:01

A. Correct. 11:11:04

Q. And the last point says, "Lower BOM/increase profit on the existing GM business." 11:11:04 11:11:06 11:11:09

Do you see that? 11:11:09

A. Yes. 11:11:10

Q. And those were all things that Unwired wanted to accomplish; correct? 11:11:10 11:11:11

A. Correct. 11:11:13

Q. Now, could you go to the next box, please -- I'm sorry, go to the next page, the top box. 11:11:15 11:11:17 11:11:20

Now, there were some decision points to be made within Unwired about whether 11:11:22 11:11:23

it was a good investment. 11:11:25

Do you see that? 11:11:27

A. I do. 11:11:29

Q. And on this good investment chart, 11:11:29

none of them talks about costs and timeframe 11:11:32

going to third-party suppliers to make the 11:11:36

improved chip, does it? 11:11:38

A. It does. It's basically saying -- 11:11:48

when you talk about cost and timeframe, things 11:11:52

like high investment, things like the 11:11:55

engineering resources that are going to be 11:11:58

needed, those are significant. 11:12:00

Q. But those are significant, but 11:12:03

nowhere on here does it say we went to 11:12:05

third-party suppliers that couldn't meet our 11:12:08

needs; correct? 11:12:09

A. It wouldn't be appropriate to put 11:12:10

that here, so no, it's not there. 11:12:12

Q. Okay. 11:12:14

Now, in deciding whether it would 11:12:16

be a good investment to make your own chip, 11:12:17

the last bullet point you have there was "IP 11:12:20

risk?." 11:12:22

Do you see that? 11:12:23

A. That's right. 11:12:24

Q. And IP risk means things like having a lawsuit brought against you for infringing someone's patent; correct? 11:12:24 11:12:27 11:12:29

A. To me, IP risk meant how do we design our product so we don't violate any IP. 11:12:31 11:12:34

Q. Like patents? 11:12:37

A. Patents, yeah, for sure. 11:12:38

Q. And one way you addressed this IP risk question here is you looked at some patents yourself. 11:12:40 11:12:42 11:12:45

Do you remember that? 11:12:47

A. That's one way, yes. 11:12:47

Q. And that's something that you did personally; correct? 11:12:49 11:12:51

A. Yes. 11:12:52

Q. And this search occurred in 2012; right? 11:12:53 11:12:56

A. Thereabouts. 11:12:56

Q. Okay. 11:12:57

Well, thereabouts. It didn't happen in 2013; right? 11:12:58 11:12:59

A. I don't think so. 11:13:01

Q. Okay. 11:13:02

And for the search, you targeted SMSC patents; correct? 11:13:03 11:13:05

A. Correct. 11:13:08

Q. And you knew that SMSC was an innovator in the USB hub field; right? 11:13:09 11:13:11

A. I knew that they offered hub products, yes. 11:13:15 11:13:18

Q. You knew they were an innovator, that's why you looked at their patents; correct? 11:13:19 11:13:21 11:13:22

A. I knew that they had patents and I knew that they had products, yes. Sure, I'll go with innovator, that's fine. 11:13:22 11:13:24 11:13:28

Q. And you looked at more than 20 patents? 11:13:30 11:13:32

A. Yeah. 11:13:33

Q. You're not sure how many, but you know it was at least 20? 11:13:33 11:13:35

A. Right. 11:13:37

Q. And you don't remember looking at any patents from anyone other than SMSC; correct? 11:13:37 11:13:39

A. I think what I said was I don't remember one way or the other. I was not specifically targeting SMSC, but it seemed 11:13:42 11:13:45 11:13:49

like, when you combine automotive grade and hub chips, that that was where a lot of it was, right, SMSC. 11:13:53 11:13:56 11:13:58

Q. Okay. 11:14:00

And you read the patents in detail; correct? 11:14:00 11:14:02

A. That's correct. 11:14:03

Q. And you don't remember whether or not you reviewed the '243 Patent that was owned then by SMSC; right? 11:14:04 11:14:06 11:14:09

A. There was just too many. I can't remember. 11:14:10 11:14:12

Q. Now, this was the only time that you looked at the SMSC patents before you got the January 12, 2015, letter from Microchip; is that right? 11:14:16 11:14:18 11:14:23 11:14:26

A. Probably. 11:14:26

Q. Okay. 11:14:27

And I take it you were satisfied with the results of this review of the SMSC patent because Unwired signed an agreement then to design and to have manufactured its own custom chip? 11:14:28 11:14:30 11:14:33 11:14:36 11:14:38

A. That is correct. 11:14:39

Q. All right. 11:14:40

Now, the chip that you had 11:14:41

designed and manufactured wasn't the Boston 2 11:14:44

chip at that time; right? 11:14:46

A. Originally we started with what we 11:14:49

just referred to as the Boston chip. 11:14:51

Q. Right. 11:14:53

A. Which is different than Boston 2. 11:14:54

Q. And what you referred to at that 11:14:56

time, that didn't have the CarPlay 11:14:57

functionality involved; right? 11:14:59

A. Correct. 11:15:00

Q. Okay. 11:15:01

I am going to put up here, if I 11:15:03

can do this correctly, a little bit of a 11:15:05

timeline. Perfect. 11:15:08

So sometime in 2012, you looked at 11:15:14

the SMSC patents. Do I have that timeframe 11:15:21

right? 11:15:27

A. Correct. 11:15:27

Q. Okay. 11:15:28

Now, could you look in your binder 11:15:29

from this morning again at Exhibit 22. I 11:15:32

think it's also towards the back. 11:15:35

(Whereupon, Trial Exhibit 2 was introduced.) 11:15:35

BY MR. SHAW: 11:15:35

Q. Do you have it? 11:15:43

A. I have it. 11:15:43

Q. Could you take a look at it, please, and tell us what it is. 11:15:44

A. This document is titled ASIC Development and Supply Agreement between AyDeeKay and Unwired Technology for the "Boston" ASIC. 11:15:49

Q. That's the manufacturing agreement we just talked about? 11:15:58

A. It's more than that, but yes. 11:16:03

Q. But the product development agreement? 11:16:06

A. Yeah. It is a development agreement. 11:16:07

Q. Okay. 11:16:08

MR. SHAW: I move into evidence Exhibit 22, please. 11:16:10

MR. WIENER: No objection. 11:16:12

THE COURT: All right. It's in. 11:16:14

BY MR. SHAW: 11:16:16

Q. Now, in Exhibit 22 towards the back, 11:16:17

I'm sorry, I don't have a page, there is a list of the charges for development of the product. It's an exhibit to the agreement. 11:16:21 11:16:24 11:16:26

A. Appendix A? 11:16:34

Q. Did you find it? 11:16:36

A. No, I am asking you, are you referring to Appendix A? 11:16:37 11:16:39

Q. Yeah. It's page 12 to 14. 11:16:41

A. Yes. 11:16:46

Q. And the cost to develop this product, you can see the total payment of 646,000? 11:16:46 11:16:50

A. I see that. 11:16:53

Q. And that's the project you wanted to make sure there was no IP risk for; correct? 11:16:54 11:16:55

A. Yes. 11:16:59

Q. All right. 11:17:01

Now, let's switch over to Jaguar a little bit. I think you testified this morning that you got introduced to Jaguar because you had success in the GM hub business; is that right? 11:17:02 11:17:05 11:17:06 11:17:09 11:17:11

A. Not exactly right. 11:17:12

So to clarify it, we already had a relationship with Jaguar because we sold 11:17:15 11:17:18

headphones to them.
Q. Okay.
And then they had some hub business for you?
A. We convinced them to give us a chance to try to win the hub business, yeah.
Q. All right.
And it was through that chance that you first learned about Aptiv's CarPlay technology; correct?
A. That's correct.
Q. And at the time that you got introduced to it, CarPlay was under a lot of secrecy?
A. It was not publicly known.
Q. Right.
But it was also under a lot of secrecy, wasn't it?
A. Apple is pretty secret about everything they do.
Q. So that's a yes?
A. Yeah.
Q. Okay.
And this was in 2013 before it was

publicly announced; right? 11:17:57

A. Can you ask me the question again? 11:18:03

What was in 2013? 11:18:04

Q. So it's in 2013 that the CarPlay 11:18:06

project is under a lot of secrecy; correct? 11:18:08

A. At Apple? 11:18:11

Q. Well, also generally. 11:18:12

A. So let me be clear. I don't know 11:18:15

what Apple is doing in 2013. I am not talking 11:18:17

to Apple. 11:18:19

Q. All right. 11:18:20

MR. SHAW: May I approach, Your 11:18:21

Honor? 11:18:23

THE COURT: Yes. 11:18:23

BY MR. SHAW: 11:18:45

Q. Now, you were asked questions under 11:18:46

oath before in this litigation; right, Mr. 11:18:47

Voto? 11:18:50

A. That's correct. 11:18:50

Q. By my colleague, Mr. Adams? 11:18:51

A. Yep. 11:18:53

Q. And there is a point in your dep -- 11:18:54

and it is the same courtroom testimony; right? 11:18:56

A. Yes. 11:18:58

Q. Now, if you turn to page 88 of your transcript, it is in the back of the binder I just handed you. I'm sorry, in doing that, I lost my note. 11:19:00 11:19:02 11:19:05 11:19:19

All right. Now, there is a long series of explanations, over eight pages, but I want you to look at line 7. And I'm going to read your testimony and then let the jury know if it's correct. 11:19:20 11:19:27 11:19:30 11:19:33 11:19:35

"Apple, you know, we're going back to 2013. Apple didn't have CarPlay out in the market. It was still under development and, quite honestly, under a lot of secrecy, too." 11:19:37 11:19:39 11:19:42 11:19:46

Do you see that? 11:19:49

A. I do. 11:19:50

Q. And that was your testimony at the deposition? 11:19:50 11:19:52

A. That is. 11:19:52

Q. Okay. 11:19:52

Now, the time when Apple announced CarPlay to the public was in early 2014 at the Virginia auto show? 11:19:55 11:19:57 11:20:03

A. I'm not sure. 11:20:03

Q. Could you go to the tab that says, 11:20:05

"BBC," right before your deposition. 11:20:08

A. Okay. 11:20:19

Q. And take a look at that and see if that refreshes your memory as to when Apple announced publicly the CarPlay iPhone system. 11:20:19 11:20:21 11:20:23

A. I can read what it says, but I don't remember reading this particular article. 11:20:28 11:20:31

Q. All right. 11:20:32

But my question was different; it was, does this refresh your memory as to when Apple released to the public information about the CarPlay system? 11:20:33 11:20:34 11:20:36 11:20:40

A. No, because I don't know this particular article. But if your point is that it was probably released publicly in or around March '14, that's fine. 11:20:43 11:20:45 11:20:47 11:20:50

Q. March of 2014? 11:20:51

A. Yeah. 11:20:53

Q. Okay. 11:20:53

And that's how I marked up this exhibit on the document screen; right? 11:21:05 11:21:06

A. Yep, yep. 11:21:10

Q. And then back in 2012, roughly when that vertical line is, that's when the 11:21:11 11:21:14

AyDeeKay contract was for the Boston chip 1 was signed? 11:21:16 11:21:20

A. Which one? 11:21:21

Q. Roughly here. You can take a look at Exhibit 22. It will have a date on it if you want to check. I believe it was September-ish. 11:21:22 11:21:27 11:21:29 11:21:32

MR. SHAW: Can you pull up the first page, Mr. Ferrer, Exhibit 22? Oh, I'm sorry. 11:21:40 11:21:41 11:21:50

BY MR. SHAW: 11:21:51

Q. Do you see the August 1st date? 11:21:52

A. Yeah. I see that. I'm also going by the actual date it was executed, the signatures. 11:21:54 11:21:58 11:22:01

Q. And what date was that? 11:22:01

A. Match the same date, August 1st, 2012. 11:22:03 11:22:06

Q. Okay. 11:22:06

And your patent search was done before then; correct? 11:22:06 11:22:09

A. I believe so. I don't know the exact date, but again, seems reasonable. 11:22:10 11:22:15

Q. Okay. 11:22:17

Now, let's go back to Jaguar. When you learned about Apple's plans through Jaguar, you thought they were radical; isn't that right? 11:22:18 11:22:25 11:22:28 11:22:31

A. I thought this whole requirement of making a downstream port of a hub be able to hook a host to it was pretty radical. 11:22:32 11:22:35 11:22:39

Q. You thought it was radical. Okay. 11:22:41

And that was because in the automotive infotainment market, no car manufacturer had ever been allowed to basically be the USB host? 11:22:43 11:22:45 11:22:48 11:22:51

A. That's right. 11:22:54

Q. Okay. 11:22:55

A. They didn't do that. The infotainment systems were -- were USB hosts. 11:22:55 11:22:57

Q. So that's why Apple's plan about CarPlay was radical? 11:23:03 11:23:07

A. Well, Apple's -- Apple's plan to release this CarPlay feature where the phone, itself, had to go into host mode, they couldn't just do that by device mode, was quite a surprising departure from what was expected, so I called it radical. 11:23:12 11:23:19 11:23:25 11:23:27 11:23:33 11:23:35

Q. Okay. 11:23:37

Now, through the development 11:23:38

process, and I think you showed some slides 11:23:39

this morning, Unwired decided the best 11:23:41

approach was to add the host-to-host bridge in 11:23:44

the hub; correct? 11:23:47

A. Right. 11:23:48

Q. All right. 11:23:49

And at that point, you thought how 11:23:49

does Unwired take advantage of the fact that 11:23:53

we know this. And that's information that was 11:23:55

secret at that time; right? 11:23:59

A. Well, you have to remember that there 11:24:01

are a number of nondisclosure agreements in 11:24:05

place where companies can legally share 11:24:08

confidential information that is not public; 11:24:12

therefore, secret. 11:24:15

Q. Sure. And I am not trying to 11:24:16

insinuate you did anything wrong; I am just 11:24:18

trying to make clear that what you were 11:24:21

learning through Jaguar wasn't available to 11:24:23

the general public? 11:24:25

A. I believe that's true, yes. 11:24:26

Q. And then my question was, and I 11:24:27

probably made the error because I think I asked two at once. 11:24:29 11:24:31

At this point in time when you were going through the development process, you thought how does Unwired take advantage of the fact that they know this non-public information; is that right? 11:24:34 11:24:35 11:24:37 11:24:40 11:24:42

A. What I was driving after was we had -- because of the fact that we were working with Jaguar and Jaguar was working with Apple and we found out about this brand new problem, we thought okay, if we can figure out this problem, if this is going to be a problem for the whole industry, this isn't just a Jaguar problem because Apple is going to try to roll this out everywhere. 11:24:46 11:24:55 11:24:56 11:24:59 11:25:01 11:25:04 11:25:07 11:25:09 11:25:11

So we figured if we could figure out a novel solution ourself, this would be huge for our business. So we want to know how we can, you know, strengthen our business, grow our business, you know, do something great for not just Jaguar, but other car companies, too. 11:25:15 11:25:16 11:25:18 11:25:21 11:25:23 11:25:25 11:25:28

Q. Right. 11:25:29

And you knew at that point, or that was your thinking at that point, how does Unwired take advantage of this knowledge that they got from working with Jaguar; right?

A. Of course.

Q. And at that point, you realized you were lucky being in that position; right?

A. Yeah, it was quite fortunate that we were in a position where we needed to -- perhaps I'm speculating a bit -- but I believe when I made those statements under oath, as I do today, that we were probably one of the first ones to find out about this new thing that car -- this CarPlay thing that Apple was trying to do.

And, you know, we didn't get in a position where we had learned about it by chance. We didn't go to Vegas and roll the dice. We worked hard to win Jaguar's business. We worked hard to find a solution to what was being presented to us as a major problem.

No one had a chip that could fix this problem, so it was really lucky that we

were in a position where we got to see this problem, and through our own hard work and determination, find a solution. I mean, we kind of created our own luck, too. 11:26:24 11:26:27 11:26:29 11:26:32

Q. Absolutely. 11:26:35

And Unwired thought that the opportunity was enormous; correct? 11:26:35 11:26:37

A. Absolutely. 11:26:38

Q. All right. 11:26:39

Now, it was about this time that Unwired started thinking about making its own custom chip for this hub also; correct? 11:26:40 11:26:44 11:26:46

A. Well, the way that I would say it is we were already making a custom chip, right, the Boston chip. 11:26:49 11:26:53 11:26:56

Q. Right. 11:26:57

You had started development on the Boston chip? 11:26:58 11:26:59

A. That was already underway. 11:27:00

Q. Right. 11:27:01

And at this point in time, you decided or started talking about developing what you were calling the Boston 2 chip; correct? 11:27:02 11:27:03 11:27:07 11:27:09

A. Correct. 11:27:09

Q. All right. 11:27:09

MR. SHAW: Could you call up, 11:27:12

please, Mr. Ferrer, Exhibit 192. And then 11:27:13

just blow up the first box there. 11:27:20

BY MR. SHAW: 11:27:24

Q. And then you talked a little bit 11:27:24

about -- do you need time to find it in your 11:27:26

book? It's in the book you had this morning. 11:27:28

It's on the bottom. 11:27:30

A. Okay, okay. Great. It's at the 11:27:31

beginning. Got it. 11:27:44

Q. And you talked a little bit about the 11:27:45

January 2013 date, and it may have been 11:27:48

finalized a little later than that. 11:27:50

Do you remember that? 11:27:52

A. Yes. 11:27:52

MR. SHAW: And then the second 11:27:52

page, Mr. Ferrer, I think the fifth slide, 11:27:54

Option C. Could you blow that up? 11:27:57

BY MR. SHAW: 11:28:00

Q. And then there is some pros and cons 11:28:00

listed on there. 11:28:03

Do you see them? 11:28:04

A. Yes. 11:28:06

Q. Okay. 11:28:07

MR. SHAW: And then under the 11:28:07

cons, could you blow those up, please, Mr. 11:28:12

Ferrer? Just the cons. The letters are a 11:28:14

little hard to see. 11:28:18

BY MR. SHAW: 11:28:19

Q. So con was a "Custom ASIC cost," and 11:28:20

that's the custom ASIC you were thinking about 11:28:23

making at that time; right? 11:28:26

A. This presentation, you have to 11:28:31

remember, was made for Jaguar. 11:28:31

Q. Um-hmm. 11:28:33

A. So for the Jaguar project, we 11:28:34

implemented it at FPGA and didn't do the 11:28:36

custom ASIC. 11:28:40

Q. Right. 11:28:40

But you were talking about the 11:28:41

need for a custom ASIC to do this solution? 11:28:42

A. We were certainly thinking about it, 11:28:44

right, right there. 11:28:46

Q. Yes. In January. Okay. 11:28:47

Now, from that point in time, by 11:28:48

September, I believe, you decided to go 11:28:56

forward with the custom ASIC project; right? 11:28:59

A. That sounds about right. 11:29:02

Q. Okay. 11:29:03

Could you look in your notebook 11:29:04
from this morning at Exhibit 23. 11:29:05

(Whereupon, Trial Exhibit 23 was 11:29:05
introduced.) 11:29:05

THE WITNESS: You are going all 11:29:20
the way from the beginning to the end. Sorry. 11:29:21

MR. SHAW: Yeah. 11:29:23

THE WITNESS: Exhibit 23. Got it. 11:29:26

BY MR. SHAW: 11:29:27

Q. And that's the amendment to the 11:29:27
manufacturing and developing agreement, I may 11:29:29
have the title wrong, but that's the amendment 11:29:31
to the AyDeeKay agreement that was Exhibit 22; 11:29:34
correct? 11:29:37

A. Yeah. This is the modifications that 11:29:37
we needed, because we already had the Boston 11:29:39
chip in development and then we said hey, we 11:29:41
don't want to start over and make another 11:29:44
chip. 11:29:46

Q. Excuse me, Mr. Voto. I just asked a 11:29:46
question about the date and the time. I 11:29:48

didn't -- all right. 11:29:50

MR. SHAW: So I'd like to move 11:29:53

this into evidence, first of all, Your Honor. 11:29:54

MR. WIENER: No objection. 11:29:56

THE COURT: Admitted. 11:29:58

MR. SHAW: Could you pull up 11:29:59

Exhibit 23, please, which is the exhibit I 11:30:01

moved into evidence without the number. 11:30:02

BY MR. SHAW: 11:30:05

Q. And you'll see the date at the top on 11:30:05

the second line says, "September 20th, 2013." 11:30:07

Do you see that? 11:30:09

A. I do. 11:30:10

Q. All right. 11:30:10

Now, between January and that 11:30:11

PowerPoint we just looked at, and the date you 11:30:13

signed this agreement, you were negotiating it 11:30:16

for a while, I take it. You probably didn't 11:30:18

negotiate it in just a day; is that right? 11:30:21

A. Yeah, I didn't sign the agreement 11:30:24

so... 11:30:27

Q. Okay. 11:30:27

But between when this agreement 11:30:28

was signed and the January timeframe, did 11:30:29

Unwired go out to the marketplace and ask any manufacturer like SMSC if they could make the custom chip you needed? 11:30:31 11:30:35 11:30:38

A. No. 11:30:40

Q. All right. 11:30:41

Okay. And, in fact, you didn't publicize that you were making this custom chip at the time, did you? 11:30:42 11:30:46 11:30:48

A. No. 11:30:49

Q. All right. 11:30:49

And the amended agreement was a reset of the scope of the original agreement; correct? 11:30:50 11:30:53 11:30:55

A. That's correct. 11:30:56

Q. And it's a reset because you changed scope from making just this USB hub to making the USB hub with the hub-to-hub bridge technology in it? 11:30:56 11:30:59 11:31:02 11:31:06

A. That's correct. 11:31:07

MR. SHAW: Now, could you go to page 5, please, Mr. Ferrer. And blow up the chart in the middle. 11:31:09 11:31:11 11:31:19

BY MR. SHAW: 11:31:20

Q. And this is a summary of the 11:31:20

milestones and payments for the revised project; correct? 11:31:22 11:31:24

A. Correct. 11:31:25

Q. And the first part of the project was the 646,000 or so? 11:31:26 11:31:28

A. Correct. 11:31:31

Q. And that's what's labeled B1 there on the left? 11:31:32 11:31:35

A. Yes. 11:31:35

Q. And then B2 is the Boston 2 expenses? 11:31:36

A. That's correct. 11:31:40

Q. And they total somewhere around $3 million? 11:31:41 11:31:47

A. I thought it was a little more than that, but... 11:31:47 11:31:49

Q. Well, my math could be wrong as well, but 3 million, $4 million, somewhere in that range? 11:31:51 11:31:53 11:31:56

A. Yeah. 11:31:56

Q. This is all for just the B2 project, it's just for adding the hub-to-hub functionality that you worked on with Jaguar; right? 11:31:56 11:31:59 11:32:01 11:32:03

A. Not just. 11:32:03

Q. Okay. 11:32:04

But to integrate that with the 11:32:05

rest of the chip? 11:32:07

A. Yeah. So we added some new function; 11:32:08

host-to-host was one of them. 11:32:11

Q. That was the primary one, though; 11:32:13

correct? 11:32:14

A. Yeah, it was one of the primary ones. 11:32:15

Q. Well, let's go back to the first page 11:32:16

then, and pull up the third recital, please. 11:32:19

It starts, "Whereas subsequent to the 11:32:29

passage." 11:32:33

And here it references changes in 11:32:33

features principally related to the USB 11:32:35

host-to-host bridge; correct? 11:32:38

A. Yes. 11:32:39

Q. All right. 11:32:40

Now -- 11:32:40

MR. SHAW: You can take that down, 11:32:42

please. 11:32:44

BY MR. SHAW: 11:32:45

Q. From the first patent search you did 11:32:46

until this agreement was signed, did you 11:32:48

conduct another search of USB patents to look 11:32:51

for whether there were any IP risks? 11:32:54

A. Not that I recall. 11:32:57

Q. And at the time you did the first search, USB hub-to-hub wasn't even on the horizon; correct? 11:32:58 11:33:00 11:33:05

A. No, it wasn't. 11:33:05

Q. All right. 11:33:06

Now, the -- the FG -- the chip that you put together, the test war chips for Jaguar, I think you mentioned that they were too big or too costly to actually implement; is that right? 11:33:07 11:33:19 11:33:22 11:33:24 11:33:27

A. I think what I said was -- the question that was asked of me was so you developed this, did you take it to other customers, right, and my answer was yeah, we were taking -- we were super excited about the concept, but the fact that it was big and expensive, it was a little bit difficult to imagine that all the different car companies would accept. 11:33:29 11:33:32 11:33:34 11:33:36 11:33:39 11:33:41 11:33:45 11:33:47 11:33:48

Q. Would that implementation that was big and expensive have fit in the form factor that was admitted in Exhibits 365 and 66? 11:33:49 11:33:51 11:33:54

A. Maybe, but it would have been tough. 11:33:58

Q. Okay. 11:34:00

The form factor means within the 11:34:01

plastic box? 11:34:03

A. Yes, I'm sorry. 11:34:04

Q. And on the chip, it has all the other 11:34:05

things besides the Boston 2 chip; correct? 11:34:08

A. That's right. 11:34:10

Q. All right. Let's skip forward 11:34:11

another year to the fall of 2014. 11:34:13

There was a slide you showed about 11:34:15

the meeting with Apple. I noticed that Delphi 11:34:18

was on it; correct? 11:34:22

A. Right. 11:34:23

Q. And at that point in time, it's just 11:34:24

a month or so after Delphi had bought Unwired; 11:34:26

correct? 11:34:29

A. About that, yeah. 11:34:29

Q. Now, when Delphi bought Unwired, you 11:34:30

were paid about $2 million for your shares; 11:34:33

correct? 11:34:35

A. Because of the sale of Unwired, 11:34:36

that's correct. 11:34:38

Q. So you made $2 million out of that 11:34:38

transaction.

And then we come to January 2015. And that's Exhibit 9, the letter from Microchip.

MR. SHAW: And could you call that up, please, Mr. Ferrer. And could you blow up the first paragraph, please.

BY MR. SHAW:

Q. Now, it's true at this time, wasn't it, that Microchip and Delphi were valued business partners, as it says in the first phrase?

A. Sure.

Q. And they still are today, or at least as of when you left Delphi?

A. Yeah, could you please clarify that statement, because I don't work there.

Q. They were a valued business partner still as of when you left Delphi?

A. Between -- between Microchip and Aptiv?

Q. Yes.

A. As of the time that I was there?

Q. As of the time you left.

A. I think as a matter of perspective, we obviously had our differences. Other parts of Aptiv were using Microchip parts that I'm aware of, but I had nothing to do with. 11:35:39 11:35:42 11:35:45 11:35:48

Q. Okay. 11:35:50

And it's correct that at that time, as the letter states, that Unwired and then Delphi had been "developing technology related to USB device controllers designed for multiple-host connectivity for use in automotive infotainment systems"? 11:35:50 11:35:53 11:35:57 11:36:00 11:36:03 11:36:05

That's the second sentence; right? 11:36:09

MR. SHAW: Thank you, Mr. Glass. 11:36:11

BY MR. SHAW: 11:36:11

Q. That is true also; right? 11:36:13

A. Well, in a general sense, yeah. But, I mean, as of 2015, okay, right, it's Aptiv's system, it's not Unwired Technology anymore. But it kind of overlooked that fact and just said well, Unwired/Delphi, are we developing USB things? Sure. That's a true statement. 11:36:15 11:36:19 11:36:23 11:36:25 11:36:27 11:36:31

Q. All right. 11:36:35

Now, as of the date of this letter, the modules from Delphi that contained 11:36:35 11:36:39

the Boston 2 chip hadn't yet hit the marketplace; in other words, they weren't in cars that could be purchased in 2014? 11:36:42 11:36:46 11:36:48

A. I don't know. It was very close. 11:36:50

Q. All right. 11:36:51

Let's go back to Exhibit 23. And see the chart with the cost, which I believe was page 5. There we go. 11:36:52 11:36:58 11:37:11

MR. SHAW: And it shows that -- go down to the second to last line and blow up the first four boxes, one more to the right, start one more to the right, perfect, and then go back to the left. Highlight everything to the left. 11:37:13 11:37:17 11:37:20 11:37:25 11:37:28 11:37:31

BY MR. SHAW: 11:37:36

Q. And this schedule shows mass production beginning January 1st? 11:37:37 11:37:39

A. That's what it says. 11:37:41

Q. And then they have to be -- then the modules have to be manufactured and placed into cars; correct? 11:37:42 11:37:44 11:37:46

A. Yeah, but I think the schedule that you're looking at was a schedule that was written as of the date of this contract being 11:37:48 11:37:52 11:37:54

signed. 11:37:56

Q. Okay. 11:37:57

A. So that doesn't mean that it is 11:37:58

exactly how all of history unfolded. 11:38:00

Q. Sure. 11:38:03

But the car manufacturers are 11:38:04

given well -- months and months in advance of 11:38:05

schedules of when they will receive modules 11:38:07

that they can manufacture; correct? 11:38:09

A. Correct. 11:38:11

Q. And that planning takes place back in 11:38:11

2014 and even 2013, I would expect? 11:38:14

A. Your point is valid, they are 11:38:16

planning their launches far in advance. 11:38:19

Q. Right. 11:38:21

So now, when you got the letter, 11:38:21

did you offer up a module or a chip so that 11:38:26

Microchip could test it and see if it actually 11:38:30

infringed? 11:38:32

A. No. 11:38:33

Q. And when you got to -- 11:38:34

A. They also didn't ask for one. 11:38:37

Q. I understand. 11:38:38

But you said -- you testified that 11:38:39

you felt strongly that the chip didn't infringe the patent; correct? 11:38:40 11:38:42

A. That's correct. 11:38:44

Q. And you didn't offer up one of these chips to test; correct? 11:38:45 11:38:47

A. Nope. 11:38:49

Q. And it cost how much, the chip? 11:38:50

A. Oh, the chips, themselves, just the individual chip? 11:38:54 11:38:56

Q. Yeah. 11:38:57

A. We would buy them for, you know, like 1 to $2. 11:38:57 11:39:00

Q. Okay. 11:39:01

And then in this October meeting you had, you didn't offer up any chips to test? 11:39:02 11:39:05 11:39:07

A. Well, they didn't ask for one; we didn't offer it. 11:39:07 11:39:09

Q. And let me go back to this chart I was working on here. 11:39:11 11:39:13

So this is -- do you see where I put Delphi merger in 2014? Is that roughly correct on the timeline? 11:39:21 11:39:26 11:39:29

A. Yes. 11:39:30

Q. And the AyDeeKay amendment, which I'll call AyDeeKay 2, that was August 1, 2013. Have I put that correctly on the timeline? 11:39:31 11:39:37 11:39:42 11:39:44

A. Yes. 11:39:44

Q. And then the notice letter, which is probably not accurate in terms of exact distance, I've marked that roughly correctly? 11:39:46 11:39:51 11:39:55

A. Okay. 11:39:59

Q. And then between getting that letter and the first AyDeeKay, what I'm marking now in pink, through all that time, you didn't go back and investigate anyone else's patents to make sure there was no IP risk from your Boston 2 development; is that correct? 11:40:02 11:40:07 11:40:11 11:40:16 11:40:19 11:40:23

A. That's correct. 11:40:24

MR. SHAW: Your Honor, I would mark this demonstrative as Exhibit Demonstrative 1000 because I don't know what number we are, just for identification. 11:40:25 11:40:26 11:40:29 11:40:31

THE COURT: Okay. 11:40:32

(Whereupon, Demonstrative Exhibit 1000 was marked for identification.) 11:40:32 11:40:35

MR. SHAW: I pass the witness, 11:40:35

Your Honor. 11:40:36

THE COURT: Okay. Anything 11:40:36

further? 11:40:38

MR. WIENER: No further questions, 11:40:42

Your Honor. 11:40:44

THE COURT: Okay. All right. 11:40:45

Mr. Voto, you can step down. 11:40:46

THE WITNESS: Leave the binders 11:40:46

here? 11:40:47

THE COURT: No, take those with 11:40:47

you and give them back to the lawyers. 11:41:01

(Whereupon, the witness was 11:41:01

excused.) 11:41:22

THE COURT: Before you start, just 11:41:22

to clarify, I think where we were this 11:41:33

morning, that's the point at which plaintiff 11:41:36

is resting; is that correct? You have held it 11:41:38

open for that? 11:41:42

MR. SLAYDEN: Yes, Your Honor. 11:41:43

THE COURT: All right. Okay. 11:41:43

(Brief pause.) 11:41:43

MS. LI: Good afternoon. Aptiv 11:41:46

calls as its next witness, Michael Dreon. 11:41:48

THE COURT: Mr. Dreon, come on up. 11:41:50

THE COURT CLERK: Please state and spell your name for the record. 11:42:24 11:42:25

THE WITNESS: Michael Joseph Dreon, M-I-C-H-A-E-L, J-O-S-E-P-H, D-R-E-O-N. 11:42:27 11:42:29

- - - 11:42:31

...MICHAEL DREON, after having first been duly sworn and/or affirmed, was examined and testified as follows... 11:42:31 11:42:31 11:42:31

- - - 11:42:31

THE COURT: You can have a seat. 11:42:49

THE WITNESS: Thank you. 11:42:49

- - - 11:42:49

DIRECT EXAMINATION 11:42:49

- - - 11:42:50

BY MS. LI: 11:42:50

Q. Good morning, Mr. Dreon. 11:42:51

Could you please introduce yourself to the jury. 11:42:52 11:42:52

A. Hello, I am Michael Dreon. 11:42:53

Q. Now, could you tell them a little bit about yourself? 11:42:55 11:42:58

A. Yes. I grew up in Pittsburgh, Pennsylvania and attended the University of Pittsburgh for electrical engineering. During 11:42:58 11:43:03 11:43:06

my time at the University of Pittsburgh, I enrolled in a co-op program and I started working with Packard Electric, which was to become part of Aptiv Corporation, and so I have been with Aptiv Corporation for 33 years. 11:43:08 11:43:11 11:43:15 11:43:20 11:43:22

I currently reside in Michigan. 11:43:26

Q. Now, you said a co-op program. Can you explain to us what that is? 11:43:30 11:43:32

A. Yes. So it's a program offered by the university where you can work one semester in industry and then come back and go back to your studies, and you do that back and forth to gain practical experience. 11:43:33 11:43:35 11:43:38 11:43:42 11:43:45

Q. Did you enjoy that? 11:43:47

A. Yes, it was quite interesting to learn about real-world problems. 11:43:48 11:43:51

Q. Now, you mentioned Packard Electric. Does that relate to Aptiv? 11:43:53 11:43:55

A. It does. It's quite a complex history. Packard Electric, at the time, was part of General Motors. General Motors was a pretty vertically integrated company at the time, meaning they owned a lot of their supply base, so for wiring, they went to Packard 11:43:58 11:44:00 11:44:04 11:44:07 11:44:10 11:44:12

Electric, which they owned; for HVAC systems, they went to Harris Radiator, with they owned. 11:44:14 11:44:17

But they decided over time that they didn't want to be as vertically integrated, so they combined those separate divisions together which would become the Allied Component Group, and in 1999, they spun all those suppliers off to become Delphi Corporation. That allowed Delphi to then compete for business from all of the vehicle manufacturers. 11:44:20 11:44:22 11:44:24 11:44:26 11:44:28 11:44:32 11:44:35 11:44:38 11:44:40

As you may recall, during the recession in the early 2000s, many of the automakers and the suppliers went into bankruptcy, Delphi included, and so Delphi restructured itself and really focused on more the higher tech industries and components of their -- of the company. And we came out of bankruptcy and rebranded ourselves as Aptiv. 11:44:43 11:44:46 11:44:49 11:44:51 11:44:55 11:44:57 11:45:03 11:45:07

Q. And you have been at Aptiv/Delphi/Packard Electric this entire time? 11:45:11 11:45:13 11:45:15

A. I have, yes. 11:45:15

Q. What has made you stay all of these 11:45:16

years? 11:45:19

A. Yeah, so Aptiv, and all the prior 11:45:19

divisions, offered a lot of variety and work. 11:45:23

I am trained as an engineer, but I also enjoy 11:45:27

working the business. So I've had the 11:45:30

opportunity to do both engineering jobs and 11:45:32

business jobs, including working in the 11:45:34

operations and sales and business planning. 11:45:36

And so the variety has been quite 11:45:40

interesting for me, and they've been a pretty 11:45:42

good employer. I like working for them and 11:45:46

they have treated me well. 11:45:49

Q. Now, I'd like to talk a little bit 11:45:50

about what Aptiv does. Could you give us a 11:45:52

general overview of the sort of products you 11:45:54

have, groups you have? 11:45:57

A. Yeah. We are a technology company, 11:45:58

so we're supplying technology to the 11:46:01

automotive manufacturers. We have two 11:46:04

divisions within Aptiv; we have the active 11:46:06

safety and user experience and we have the 11:46:09

connection systems, and we like to brand 11:46:13

ourselves and market ourselves as supplying 11:46:16

the brains and the nervous system to the 11:46:19

vehicles. And so on the brain side, we supply products that would have the computers and sensors that do features like adaptive cruise control, and then we have the connection system side which supply all the wires that connect the sensors to the computers throughout the vehicle. So that would include the wires, the connectors and the terminals for the products. 11:46:21 11:46:21 11:46:24 11:46:27 11:46:33 11:46:35 11:46:38 11:46:41 11:46:44 11:46:46

Q. Where does the dual role hub fall in the brains of the nervous system? 11:46:50 11:46:53

A. Yeah, that business resides in the connection systems business. 11:46:54 11:46:56

Q. How come it's not in the user experience side of things? 11:46:59 11:47:01

A. A little bit from a historic standpoint, when USB was first introduced, it was really just a simple connection from the head unit to the -- where the user would put their phone or a memory stick. But as they wanted to add more ports in a car, it then had to have a USB hub added to it. 11:47:03 11:47:06 11:47:09 11:47:11 11:47:16 11:47:21 11:47:25

And then as charging standards 11:47:27

changed and they wanted to increase the charging rates and put more power to the phones, that box became quite complicated and had electronics in it. 11:47:30 11:47:33 11:47:35 11:47:40

But historically, it came from the connection system and it still resides there. 11:47:42 11:47:43

Q. And do you work with the dual role hub at Aptiv? 11:47:46 11:47:49

A. I do. 11:47:49

Q. Can you tell us a little bit about what your job is? 11:47:50 11:47:51

A. Yeah. My current role is Director of Product Line for the consumer connectivity business. That business has two product lines, the media modules, which are USB hubs, and also wireless charging. Those are the wireless charging mats that you would put your phone on and conductively charge your phone. 11:47:53 11:47:56 11:48:00 11:48:03 11:48:06 11:48:09 11:48:12

Q. Have you always been in the connectivity side of the business? 11:48:15 11:48:16

A. No. I have had a variety of different roles throughout my career with Delphi/Aptiv, but that's where I have been for the last seven years. 11:48:18 11:48:19 11:48:24 11:48:26

Q. And what drew you to connectivity seven years ago? 11:48:27 11:48:33

A. Yeah, so Aptiv had made an acquisition of a new company called Unwired, and I thought that was a pretty interesting development. And so I inquired about it and I was able to get a position on the Aptiv side to help integrate that business into the business processes of Aptiv, but also to -- I found the product very interesting. I could tell that it was going to have a meaningful impact in the market and I wanted to be part of that. 11:48:33 11:48:36 11:48:39 11:48:42 11:48:46 11:48:50 11:48:52 11:48:58 11:49:00 11:49:03 11:49:06

Q. And the product you are talking about is a dual role hub? 11:49:06 11:49:09

A. It is, yes. 11:49:11

Q. So let's talk about dual role hub a little bit more. Who are Aptiv's customers for the dual role hub? 11:49:12 11:49:15 11:49:17

A. So we supply to the vehicle manufacturers. You've heard about The Big 3, so Ford, Chrysler, General Motors, but we also supply all over the world. 11:49:19 11:49:21 11:49:23 11:49:26

Q. Are there specific features of the 11:49:28

hub that your customers care about? 11:49:31

A. Yeah, we've talked about them. The three main features of the OEMs, from a functional standpoint, are interested in is that it has a single connection to the head unit, that any downstream port can enable Apple CarPlay, and whenever CarPlay is being utilized, the other ports are still active for data communication. 11:49:33 11:49:35 11:49:37 11:49:39 11:49:42 11:49:48 11:49:51 11:49:54

Q. What about features not related to CarPlay, any of those you care about? 11:49:56 11:49:58

A. Yes, absolutely. So you've seen examples of these products. They come with a cosmetic component, and so that's very important to our customers. These are integrated into the dashboard and the look and feel of the vehicle, and so the color of it, the texture of it, it's very important, as well. 11:50:01 11:50:04 11:50:08 11:50:09 11:50:11 11:50:14 11:50:16 11:50:20

And the example you see, they are also illuminated, and so the illumination and matching the colors and the intensity within the dashboard is very important to CarPlay. 11:50:21 11:50:22 11:50:26 11:50:29

MS. LI: Your Honor, I am marking 11:50:34

Exhibit 124, which is in the binder. 11:50:35

(Whereupon, Trial Exhibit 124 was introduced.) 11:50:35

BY MS. LI: 11:50:35

Q. Could you please turn to that, Mr. Dreon. 11:50:37

A. Yes. 11:50:38

Q. Just let me know when you're there. 11:50:41

A. I have it. 11:50:44

Q. Great. 11:50:45

What is Exhibit 124? 11:50:45

A. That's a customer presentation we made to Volkswagen. 11:50:46

MS. LI: All right. I offer Exhibit 124. 11:50:48

MR. ADAMS: No objection, Your Honor. 11:50:53

THE COURT: It's received. 11:50:55

MS. LI: Let's go to Slide 13 of this exhibit. 11:50:56

BY MS. LI: 11:50:59

Q. Are these some of the hub examples you were talking about? 11:51:01

A. Yes, this is a slide demonstrating to 11:51:05

Volkswagen a variety of different products that we were supplying with the cosmetic illumination on it. You can see many of these have rings around them that would light up whenever we -- whenever the car is turned on. 11:51:12 11:51:15 11:51:18 11:51:22 11:51:24

The two in the middle are sort of unique because those were laser etched, so the front surface is painted and then laser etched, and then it's actually illuminated from behind. So a lot of complexity in the cosmetic component. 11:51:28 11:51:30 11:51:34 11:51:36 11:51:39 11:51:41

Q. Now, I'd like you to turn to previously marked Exhibit 18 in your binder. 11:51:43 11:51:45

A. Yes. 11:51:49

Q. What is Exhibit 18? 11:51:50

A. This was a presentation that we made to the judges of the PACE Award. 11:51:52 11:51:54

MS. LI: I offer Exhibit 18. 11:51:57

MR. ADAMS: No objection, Your Honor. 11:51:59 11:52:00

THE COURT: It is admitted. 11:52:00

BY MS. LI: 11:52:03

Q. What is the PACE Award? 11:52:04

A. Yeah, so the PACE Award is an award 11:52:06

that the Automotive News, in conjunction with one of the sponsors, Ernst & Young, developed to recognize innovations in the auto industry. These are innovations that have made a real impact to the features that consumers would use. 11:52:08 11:52:12 11:52:15 11:52:18 11:52:22 11:52:25

Q. Can you give us some examples that are one of the things? 11:52:25 11:52:28

A. Yes. One of the innovations that Aptiv came up with is adaptive cruise control, so this is when you're in cruise control, if it senses an object, it will actually slow down and maintain the speed of the object in front of it. 11:52:31 11:52:33 11:52:36 11:52:38 11:52:40 11:52:43

Another example is Keyless Go from Siemens. This is where your key fob, which you normally would use to unlock your car, once you enter your car, it would sense it and you can actually just push a button on your car and start it. I've sure you've seen that in some vehicles. 11:52:44 11:52:50 11:52:53 11:52:55 11:52:58 11:53:00 11:53:03

So these are very noteworthy innovations that have made a real impact to the customers. 11:53:04 11:53:06 11:53:09

Q. And did Aptiv win the PACE Award for the dual role hub? 11:53:10 11:53:13

A. We did. 11:53:14

MS. LI: Now I am going to mark as Exhibit 369 a physical copy of the PACE Award and I am going to offer it, if I don't break it first. 11:53:16 11:53:20 11:53:22 11:53:26

(Whereupon, Trial Exhibit 369 was introduced.) 11:53:26 11:53:26

MR. ADAMS: No objection, Your Honor. 11:53:28 11:53:28

THE COURT: Okay. It will come in. 11:53:28 11:53:30

MS. LI: Okay. We will leave that here for now. 11:53:31 11:53:32

BY MS. LI: 11:53:36

Q. Let's turn to Slide 31 of this presentation. 11:53:37 11:53:39

Now, this refers to FCA; is that Chrysler? 11:53:39 11:53:43

A. Yes, it is. 11:53:44

Q. And what is this slide showing? 11:53:45

A. Yeah, so an important part of the PACE Award and the judging is that nothing you 11:53:47 11:53:51

just innovated and came up with an interesting invention that sits on the shelf. They want to know that it actually made an impact. And so they want to know are customers using it. 11:53:56 11:53:59 11:54:01 11:54:03

And this particular slide was showing how we had -- were able to sell this innovation to Chrysler. 11:54:06 11:54:08 11:54:12

Q. And it says on the third bullet here, "Delphi's dual role hub will be on these 2016 and 2017 MY FCA programs." 11:54:14 11:54:17 11:54:20

What does that mean, 2016 and 2017 MY FCA programs? 11:54:23 11:54:26

A. Yeah, so that refers to model years, so those are the model years of the programs. So typically, a vehicle model year would come out the year before, so that would be in 2015 and 2016 calendar year. 11:54:28 11:54:30 11:54:32 11:54:35 11:54:38

Q. And what's the program? Is that just like a car model? 11:54:41 11:54:43

A. Yeah. In this case, it's like a car line, so you can see some of the cars here like the Dodge Charger and the Dodge Challenger featured. 11:54:44 11:54:46 11:54:51 11:54:54

Q. Now, did Aptiv win the future leader 11:54:55

for these? 11:55:00

A. No, we won some of them, but not all 11:55:01

of them. 11:55:04

Q. How come only some of them? 11:55:04

A. Yeah, so in the sourcing process, and 11:55:06

you've heard some reference to the vehicle 11:55:09

manufacturer comes out with a specification 11:55:12

and then we have to meet that specification. 11:55:14

So Chrysler was making some changes to update 11:55:16

them -- the hubs and they had a unique 11:55:21

requirement where they required the use of 11:55:23

Microchip hub, and so in their specification, 11:55:27

they said we want you to supply the hub, but 11:55:29

it has to use a Microchip IC. 11:55:32

Q. Why was that unique? 11:55:35

A. Yeah, we usually don't see that 11:55:37

specified by the vehicle manufacturers. 11:55:39

Typically they would just say we need these 11:55:41

features and these functions, and it's up to 11:55:43

the supplier, like Aptiv, to decide how they 11:55:48

actually do that. 11:55:50

Q. So you got the specification and it's 11:55:51

got Microchip's chip in it. What did you do 11:55:54

next? 11:55:56

A. Yeah, so we needed to develop a proposal to come back to Chrysler, so we would try to go get those ICs from Microchip to say hey, we want to build this into our proposal to our customer and so we need the pricing, we need to know the technical details of that chip to be able to do that. 11:55:57 11:56:00 11:56:03 11:56:07 11:56:09 11:56:12 11:56:14

We were not able to get that from Microchip, so we were sort of at a little bit of a problem being able to quote this business to Chrysler. 11:56:16 11:56:18 11:56:22 11:56:24

Q. You said ICs; are ICs the chip? 11:56:25

A. Yes, integrated circuit, chip. 11:56:28

Q. And you said that you were not able to get this information. So you went to Microchip and asked? 11:56:31 11:56:33 11:56:34

A. Yes. 11:56:36

Q. And they said no? 11:56:37

A. Yeah, we were not able to get the information to quote the Microchip solution for Chrysler. 11:56:40 11:56:42 11:56:46

Q. All right. 11:56:46

Were you here for Mr. Obolsky's testimony last week? 11:56:47 11:56:50

A. I was, yes. 11:56:51

Q. Do you recall when he said when Aptiv wins, Microchip loses? 11:56:52 11:56:55

A. I do, yes. 11:56:58

Q. Did you understand him there to be referring to Aptiv's sales of the dual role hub? 11:56:59 11:57:01 11:57:04

A. Yes. 11:57:04

Q. So does that statement make sense to you, when Aptiv wins by selling its dual role hub, Microchip loses? 11:57:06 11:57:08 11:57:11

A. No, it's really not a fair comparison because we're at different parts of the supply chain, so we work directly with the vehicle manufacturers and, you know, I don't see ourselves as the competitors against Microchip. 11:57:13 11:57:16 11:57:18 11:57:21 11:57:25 11:57:27

Q. You said you are in different areas of the supply chain. Can you expand on that a little bit more? 11:57:28 11:57:30 11:57:32

A. Yeah. So we are a direct supplier to the vehicle manufacturers and so we have to supply complete solutions, and those complete solutions are made up of a variety of 11:57:33 11:57:35 11:57:38 11:57:41

components that come from a -- many different suppliers. 11:57:44 11:57:49

When we needed to perform the hub function, and in this case for Chrysler, we needed to utilize the Microchip part. We would go to Microchip and get -- and try to get that. So we're not directly competing, they are suppliers with us. 11:57:49 11:57:52 11:57:56 11:58:00 11:58:03 11:58:09

Q. Got it. 11:58:09

You are not selling your Boston chip to other hub makers? 11:58:10 11:58:11

A. No. We don't supply our Boston chip to any other automakers -- automakers or suppliers like Aptiv. 11:58:13 11:58:16 11:58:20

Q. And, in fact, you were willing to buy Microchip's chip from them and they said no? 11:58:20 11:58:22

A. Well, there was discussions of could we work together, and I think we were open to that at the time and we would be willing to buy the Microchip solution if it met all the functional requirements, as well as the pricing needs. 11:58:26 11:58:30 11:58:34 11:58:37 11:58:39 11:58:41

Q. Now, we also heard from Mr. Obolsky last week, and from Mr. Voto this morning, 11:58:44 11:58:46

about this meeting in October of 2015 between Aptiv and Microchip. 11:58:49 11:58:52

Do you remember that? 11:58:53

A. I do. 11:58:54

Q. Were you at that meeting? 11:58:55

A. I was. 11:58:57

Q. Do you recall Mr. Obolsky's testimony about the notes from that meeting? 11:58:58 11:59:02

A. I do, yes. 11:59:04

Q. Did they seem accurate to you? 11:59:05

A. Yes. 11:59:07

Q. All right. 11:59:08

I know it was quite awhile ago, so I don't expect you to remember a lot, but can you tell us generally what happened at the meeting? 11:59:09 11:59:12 11:59:15 11:59:16

A. Yes. So a little bit of context. I was still relatively new to the business. I came in in March and I think this meeting occurred in the fall, October timeframe. So I was still learning the business. 11:59:16 11:59:19 11:59:21 11:59:23 11:59:27

This was the first time I had met with Microchip, and the meeting was called really to discuss what they have been 11:59:30 11:59:32 11:59:35

developing and talk about future features. We were interested in type C at that point and how we would implement the next generation of the connector, so we talked about those kinds of things, the features. 11:59:39 11:59:42 11:59:45 11:59:47 11:59:50

Q. And what were you talking about developing specifically? 11:59:51 11:59:54

A. Can you -- 11:59:57

Q. Was it related to CarPlay? 11:59:58

A. Yeah, we talked about a new chip that Microchip had come out with that did CarPlay. 12:00:00 12:00:03

Q. And what was your reaction to that? 12:00:06

A. Yeah, so by that time, we were already in production with CarPlay with General Motors and, you know, my feeling was that they finally figured out how we were doing it and came out with their own chip. 12:00:10 12:00:12 12:00:14 12:00:18 12:00:20

Q. But you were still willing to work with them going forward? 12:00:22 12:00:24

A. Yes. Again, Aptiv is not a chip developer and it's quite costly, it's a lot of engineering resources, there is a lot of risks associated with it. You know, we like to rely on our supply base to do that innovation, and 12:00:25 12:00:29 12:00:33 12:00:36 12:00:39

so we were open to working with Microchip. If they had features that could be at a competitive price, we would be willing to work with them. 12:00:41 12:00:44 12:00:48 12:00:50

Q. Were you still feeling like you were willing to work with them at the end of the meeting? 12:00:51 12:00:52 12:00:54

A. No. The meeting sort of changed by the end. 12:00:55 12:00:58

Q. What happened at the end? 12:00:59

A. Well, at the end, they brought up that they felt that we may be infringing on their patents and we told them we didn't think we were. And it sort of ended on a sour note. 12:01:00 12:01:03 12:01:07 12:01:10

Q. Now, I want to go back to the Chrysler bid. 12:01:15 12:01:16

Were you able to quote Microchip's chip in your proposal to Chrysler? 12:01:17 12:01:19

A. We were not. 12:01:21

Q. Did you submit a proposal anyway? 12:01:22

A. We did. We ended up submitting a proposal that used our Aptiv solution. 12:01:24 12:01:27

Q. And you mentioned that you were awarded for some programs. What was your -- 12:01:31 12:01:33

what was your understanding of why you got those programs? 12:01:36 12:01:40

A. So, the electrical functionality is one part of it, but the particular programs that we were awarded had very complex cosmetic requirements. In fact, the one had a door that when you opened it, the illumination changed, so it actually illuminated through the door. 12:01:41 12:01:43 12:01:47 12:01:51 12:01:53 12:01:57 12:01:59

And so Chrysler wanted to work with Aptiv because we have a lot of capabilities in that area. And so they were willing to allow a deviation from the Microchip requirement to use our chip. 12:02:00 12:02:02 12:02:04 12:02:07 12:02:10

Q. Do you remember which programs those were? 12:02:15 12:02:17

A. Yeah, it was the Jeep Wrangler and the Jeep Cherokee, I believe. 12:02:17 12:02:19

Q. All right. 12:02:20

Now, I want to talk a little bit about Microchip's damages expert, Dr. Becker. 12:02:21 12:02:23

Do you remember hearing from him last week? 12:02:26 12:02:27

A. I do. 12:02:28

Q. Do you recall his testimony that there are just, like, two or three out of hundreds and hundreds of models of the dual role hub that Aptiv data center does not use for CarPlay? 12:02:29 12:02:32 12:02:34 12:02:37 12:02:40

A. I do. 12:02:41

Q. What data did Aptiv provide about which of its models are and are not used for CarPlay? 12:02:41 12:02:43 12:02:46

A. Yeah, so there are rare instances where we know specifically that the vehicle manufacturer is not implementing CarPlay. The references that Dr. Becker made were to Tesla; we supply hubs to Tesla, but Tesla never implemented CarPlay. 12:02:47 12:02:50 12:02:53 12:02:57 12:03:03 12:03:06

We also supply a USB port with our hub chip in it that was used on a video module for Chrysler, I believe it was, and they never implemented it for CarPlay; it was just a video input. 12:03:07 12:03:11 12:03:14 12:03:19 12:03:21

And then I think the third example was with the customer, Renault, their head unit, which was supplied by TomTom was never updated to do CarPlay. So we were aware of 12:03:22 12:03:24 12:03:29 12:03:31

those instances. 12:03:34

Q. Did you also provide information 12:03:35

about the earliest point a customer could have 12:03:36

used the dual role hub for CarPlay? 12:03:39

A. Yeah. So in the data I provided when 12:03:41

we started to supply the chips, or supply the 12:03:44

total module to the vehicle manufacturer, and 12:03:47

based on that, we knew the earliest that they 12:03:52

could have implemented CarPlay, but we didn't 12:03:55

know exactly when or if they ever implemented 12:03:57

CarPlay. 12:04:00

Q. So you provided information on 12:04:01

hundreds of hundreds, Dr. Becker said, 12:04:04

hundreds and hundreds of models? 12:04:06

A. Yes, we supply a lot of part numbers. 12:04:07

Q. Do you have information about whether 12:04:10

those other hundreds and hundreds, excepting 12:04:13

the three we just talked about, were, in fact, 12:04:17

used by your customers to do CarPlay? 12:04:19

A. No, we don't know when or if they 12:04:20

ever implemented CarPlay on those products. 12:04:23

Q. And who decides whether to support 12:04:26

CarPlay in a car? 12:04:28

A. The vehicle manufacturer. 12:04:29

Q. Can you do CarPlay in a car with just the dual role hub? 12:04:31 12:04:34

A. No. We are just part of a system. So, you've seen the system many times. So there's the head unit, there is the cabling that goes to our hub assembly and there is our hub assembly. 12:04:35 12:04:37 12:04:42 12:04:44 12:04:48

So we are just part of the system. You can't do CarPlay with just our hub. 12:04:49 12:04:51

Q. Does the head unit need to have any particular features to work with the dual role hub to do CarPlay? 12:04:53 12:04:55 12:04:57

A. Can you restate that? 12:05:00

Q. Sure. 12:05:02

Does the head unit need to have any particular features to work with the dual role hub to do CarPlay? 12:05:02 12:05:04 12:05:07

A. Well, the head unit has to be designed for CarPlay, so you can't just take a head unit that hasn't been developed specifically for CarPlay and do CarPlay. The head unit has to have the software to talk to the Apple phone and then receive messages from the Apple phone so it can display the icons 12:05:08 12:05:10 12:05:14 12:05:16 12:05:19 12:05:22 12:05:25

and you can push the icons and enable the features on the phone. So the head unit has to be specifically developed for CarPlay. 12:05:28 12:05:31 12:05:34

Q. And who is responsible for putting that whole system together, the head unit, dual role hub, the connection? 12:05:36 12:05:38 12:05:40

A. The vehicle manufacturer determines what the requirements are for each of the components and works with the supplier of each of those components, and then is ultimately responsible for knowing that it functions all together. 12:05:42 12:05:46 12:05:48 12:05:51 12:05:54 12:05:58

Q. Now, the examples we just talked about, Tesla, Renault, the Chrysler video module, were those examples where the customers chose not to support CarPlay? 12:05:58 12:06:00 12:06:04 12:06:07

A. Yeah, those particular systems, in the case of the video, didn't have CarPlay ever considered and the other ones, they did not implement CarPlay. 12:06:10 12:06:14 12:06:16 12:06:18

Q. So what if the carmaker wants to do CarPlay, and is there a reason they might not be able to, even if they have the dual role hub? 12:06:20 12:06:23 12:06:25 12:06:27

A. Yeah. So the vehicle manufacturer has to eventually get Apple certified; I think you heard some reference to that. So once they have a system that's developed to their specifications, they need to go to Apple and get approval. And if they don't get approval from Apple, Apple could make them not provide that feature in the car. 12:06:28 12:06:30 12:06:35 12:06:37 12:06:39 12:06:43 12:06:47 12:06:51

Q. So say Ford gets Apple certified. Does that mean Chrysler can go to Apple and say hey, can I get automatically certified, too? 12:06:53 12:06:58 12:07:00 12:07:02

A. No. The systems at the OEMs are all very different, even down to the vehicle level. So in many cases, each individual vehicle has to be approved by Apple, certified by Apple. 12:07:03 12:07:06 12:07:08 12:07:12 12:07:16

There are some instances where the vehicle systems could be very similar, so it is using the same head unit, very similar cabling and the same hub assembly, and in those cases, they could get Apple certification for multiple vehicles, but never across vehicle manufacturers. 12:07:17 12:07:21 12:07:24 12:07:27 12:07:29 12:07:32 12:07:35

Q. And you said you sell lots of different models of the dual role hub. Do you track if or when the customers for those particular models get Apple certified? 12:07:37 12:07:39 12:07:41 12:07:43

A. No, we don't know when they submit for Apple certification or if they even ever get Apple certification. 12:07:46 12:07:50 12:07:53

Q. All right. 12:07:54

Let's go back to Exhibit 18, which was the PACE Award certification, and let's turn to slide 24. 12:07:55 12:07:58 12:08:01

What is this slide showing? 12:08:03

A. Yes, so part of the PACE Award, they want to understand how the innovation came about and what was the process to go from the conception of the innovation to making it commercially viable, and this is the summary of that process. 12:08:08 12:08:12 12:08:16 12:08:20 12:08:24 12:08:26

Q. If we look at Box 1 here, it says, "Identified industry relevant issues with integrating iPhone into vehicle architectures." 12:08:28 12:08:30 12:08:33 12:08:36

What relevant issues are you talking about there? 12:08:36 12:08:38

A. Yeah, so the relevant issues that we identified was the need to supply a hub that had a single upstream port to the head unit that allowed for any downstream port to do CarPlay, and then while one of those ports was in CarPlay mode, that the other port was still able to communicate data to the head unit. 12:08:39 12:08:43 12:08:46 12:08:50 12:08:53 12:08:55 12:09:00

Q. And did you address all of those issues with the dual role hub? 12:09:03 12:09:05

A. We did, yes. 12:09:07

Q. Was anyone else at the time addressing all of those issues? 12:09:07 12:09:09

A. No. 12:09:11

Q. So was it a big deal that you did? Did you get any feedback from your customers? 12:09:12 12:09:14

A. Yeah. All the customers were very excited. I came into the group in March, and one of my roles was to promote this to other customers globally, and many of the customers that we went into were very excited to see this. They were facing the same problem and same challenges. 12:09:17 12:09:19 12:09:23 12:09:26 12:09:30 12:09:33 12:09:36

In fact, I went to Korea to promote this to Hyundai and we set up a 12:09:37 12:09:40

meeting with four or five engineers, and when we turned -- we showed up for the meeting, there were 25 engineers in the meeting excited to see this innovation. 12:09:43 12:09:47 12:09:50 12:09:54

And when we demonstrated it and showed the three key features to them, they didn't believe that we had done it. There was a lot of skepticism and, quite frankly, they did not believe we had a solution. 12:09:56 12:09:57 12:10:00 12:10:03 12:10:05

Q. So you did a demo and they thought it was great? 12:10:07 12:10:07

A. Yeah, we did the demo, and even after the demo, they were quite skeptical, so it was an innovation that was almost unbelievable. 12:10:11 12:10:13 12:10:16

Q. Now, I want to go to Box No. 2. 12:10:19

It says at the bottom there, "Delphi," now Aptiv, "has a 'Patent Pending' for the Dual Role Hub innovation," and then it lists a number. 12:10:21 12:10:23 12:10:26 12:10:28

What is that referring to? 12:10:29

A. Yeah, so that was a patent that we submitted for the dual role hub innovation. 12:10:30 12:10:33

Q. Did you end up getting any patent? 12:10:36

A. Yes, we ended up getting five 12:10:38

patents.
Q. Are those the patents that we just saw Mr. Voto go through?
A. That's correct.
MS. LI: All right. Thank you.
No further questions.

- - -

CROSS-EXAMINATION

- - -

BY MR. ADAMS:
Q. Good afternoon now, Mr. Dreon. How are you today?
A. I'm doing well. Good afternoon.
Q. Good to see you again. Darryl Adams representing Microchip.
Mr. Dreon, you just testified that you worked for Aptiv Corporation, let me get my pen with me, in one form or another, for 33 years; correct?
A. Yes.
Q. And when you started at the first -- when you first started, Aptiv, what's now Aptiv, was part of General Motors; correct?
A. That's correct.

Q. And then it subsequently got, I think you used the term "spun out, divided off," from General Motors into Delphi Corporation; correct? 12:11:40 12:11:43 12:11:46 12:11:49

A. That's correct. 12:11:50

Q. Okay. 12:11:50

And Delphi Corporation, itself, was a very large corporation; correct? 12:11:51 12:11:54

A. Yes. 12:11:58

Q. It was the biggest auto parts manufacturer/supplier in the United States; correct? 12:12:00 12:12:04 12:12:06

A. I don't know where it fits in the size, but it was very large, yes. 12:12:08 12:12:10

Q. Fair enough. 12:12:13

And then Aptiv was subsequently spun off out of Delphi; correct? 12:12:14 12:12:18

A. No, it was a little different than that. Aptiv -- Aptiv was actually the part that stayed with Delphi and Delphi spun off a subsidiary and that company kept the Delphi name. 12:12:22 12:12:23 12:12:30 12:12:34 12:12:37

So it is a little complex, but the -- the company that spun off was called 12:12:37 12:12:40

Delphi, but the company that stayed was renamed as Aptiv. 12:12:44 12:12:47

Q. Okay. Thank you. 12:12:49

A. A little complicated. 12:12:51

Q. A little complicated, I'll say. 12:12:53

So Delphi, or at least some portion of it, became Aptiv; correct? 12:12:55 12:12:57

A. That's correct. 12:12:58

Q. And Aptiv, even after these spin-offs of divisions, is still a large company, isn't it? 12:12:59 12:13:02 12:13:07

A. Yes. 12:13:07

Q. And Aptiv currently has over 190,000 employees; is that correct? 12:13:08 12:13:13

A. I don't know how many exactly they have, but they have a lot of employees. 12:13:15 12:13:18

Q. Okay. 12:13:20

If I represent to you that Aptiv's website indicates it has 190,000 employees, you wouldn't disagree with that, would you? 12:13:20 12:13:23 12:13:27

A. I would say that I would believe it, yes. 12:13:29 12:13:31

Q. Okay. 12:13:31

Now, Mr. Dreon, you're not only an 12:13:31

employee of Aptiv, but you are the Aptiv corporate representative in this litigation; correct? 12:13:35 12:13:37 12:13:40

A. Yes. Yes, I'm here on behalf of Aptiv. 12:13:41 12:13:44

Q. Until recently that got you a front row seat to this, but you were here when Mr. Obolsky testified that Microchip has 18 to 19,000 employees; correct? 12:13:44 12:13:46 12:13:51 12:13:58

A. Yes. 12:14:00

MR. ADAMS: Mr. Ferrer, could you put up our demonstrative there? Do I need to do something? No? The PowerPoint on employees. 12:14:03 12:14:04 12:14:09 12:14:17

BY MR. ADAMS: 12:14:24

Q. So Microchip has about 19,000 employees, you heard Mr. Obolsky say that; correct? 12:14:24 12:14:26 12:14:29

A. Yes. 12:14:29

Q. And Aptiv has about 190,000 employees; correct? 12:14:30 12:14:34

A. Yes. 12:14:35

Q. Okay. 12:14:35

And I wouldn't use this term, I 12:14:36

think it is offensive, but you were here when your counsel referred to Microchip as a 900-pound gorilla; correct? 12:14:40 12:14:42 12:14:45

A. Yes. 12:14:46

Q. And if Microchip, at 19,000 employees, is a 900-pound gorilla, then Aptiv is a much bigger, more imposing force than that; correct? 12:14:48 12:14:52 12:14:59 12:15:02

A. I don't know how you would make a comparison between companies and gorillas. 12:15:06 12:15:10

Q. Okay. All right. Fair enough. 12:15:14

Microchip has been a long-time supplier to Aptiv; correct? 12:15:15 12:15:19

A. Yes. 12:15:21

Q. Over 25 years? 12:15:22

A. I don't know exactly, but that wouldn't surprise me. 12:15:25 12:15:27

Q. Okay. 12:15:28

You have been there for 33 years; correct? 12:15:29 12:15:31

A. Yes. 12:15:31

Q. And you have been aware of Microchip for the majority of your career; correct? 12:15:32 12:15:34

A. Yes, probably. I mean, we used some 12:15:40

of their microcontrollers early in my career, yes. 12:15:43 12:15:47

Q. And Microchip has stuck with Aptiv through some hard times for Aptiv; correct? 12:15:49 12:15:51

A. Yes. 12:15:54

Q. And you mentioned earlier that Aptiv, when it was Delphi, had filed for bankruptcy; correct? 12:15:55 12:15:58 12:16:02

A. Yes. 12:16:02

Q. And they were in bankruptcy for about four years, from 2005 to 2009? 12:16:03 12:16:07

A. That sounds about right. 12:16:11

Q. Okay. 12:16:13

And during that time, Microchip continued to supply parts to Aptiv; correct? 12:16:13 12:16:17

A. To the best of my knowledge. I wasn't involved in the supply chain at that time, so I don't know what happened between the two companies during that timeframe. 12:16:21 12:16:23 12:16:26 12:16:28

Q. Okay. 12:16:31

But you -- you wouldn't dis -- I'll just move on. 12:16:31 12:16:36

And Aptiv actually helped -- excuse me, Microchip helped Aptiv during that 12:16:37 12:16:39

timeframe design new products; correct? 12:16:43

A. I'm not personally aware of that, but 12:16:46

it's conceivable. 12:16:49

Q. Okay. 12:16:50

And in 2006, while Aptiv or Delphi 12:16:50

is still in bankruptcy, there was more 12:16:59

turmoil; correct? There was an SEC 12:17:03

investigation into fraud at Delphi; correct? 12:17:05

MS. LI: Objection. 12:17:08

THE COURT: Sustained. 12:17:09

BY MR. ADAMS: 12:17:12

Q. But through the bankruptcy and for 12:17:13

25 years, Microchip continued to supply parts 12:17:17

to Aptiv; correct? 12:17:22

A. I don't have personal knowledge of 12:17:26

the supply of Microchip products throughout 12:17:29

that timeframe. I'm certain that we had a 12:17:33

relationship. I don't know whether there were 12:17:36

disruptions or not, so I don't have personal 12:17:39

knowledge of the -- of the continuance of 12:17:41

supply during that time. 12:17:46

Q. And Microchip considered, at least at 12:17:47

the time -- 12:17:58

MR. ADAMS: Would you put up 12:17:58

Exhibit 9, please. 12:17:59

BY MR. ADAMS: 12:18:04

Q. Were you at -- were you working with 12:18:04
Delphi data connectivity when this letter was 12:18:09
received, Mr. Dreon? 12:18:14

A. I was not. 12:18:15

Q. Okay. 12:18:16

In this letter, Microchip 12:18:18
indicates that it views Aptiv as a valued 12:18:22
business partner; correct? 12:18:26

A. That's what it states, yes. 12:18:31

Q. Did Aptiv consider Microchip a valued 12:18:33
business partner; do you know, Mr. Dreon? 12:18:36

A. At that time, I wasn't involved with 12:18:39
anything related to electrical or electronic 12:18:43
components, so I don't know what the business 12:18:48
relationship was. 12:18:50

Q. Gotcha. 12:18:51

You're now involved with 12:18:53
electrical and electronic components; correct? 12:18:54

A. Yes. 12:18:56

Q. Okay. 12:18:57

Do you believe Aptiv considers 12:18:57
Microchip a valued business partner? 12:19:01

A. Yes. 12:19:04

Q. Now, Mr. Dreon, you had a discussion in your direct about CarPlay -- Apple certification and head unit changes and whether manufacturers are using -- how they're using the dual role hubs. 12:19:06 12:19:12 12:19:17 12:19:19 12:19:22

You're not an expert in this matter; correct? 12:19:25 12:19:26

A. No, I'm not. 12:19:27

Q. So you're not offering an opinion that the dual role hubs or the Boston chip would only be within the scope of the '243 Patent if it was used in an Apple certified car. That's not what you're saying; right? 12:19:28 12:19:31 12:19:34 12:19:40 12:19:42

A. Could you restate that? 12:19:44

Q. Yeah, that was a long question. Let me restate it. 12:19:46 12:19:48

You're not offering an opinion about whether the Boston chips infringe whether -- depending on whether they are used in an Apple certified car? 12:19:49 12:19:51 12:19:55 12:19:58

A. No, I am not offering that opinion. 12:19:59

Q. Okay. 12:20:01

And you are not offering an 12:20:01

opinion about whether the Boston chips only infringe if the head unit operates in a certain way? 12:20:03 12:20:09 12:20:12

A. No. 12:20:14

Q. Okay. 12:20:15

You're not offering any opinions at all about when the Boston chip does or does not infringe; correct? 12:20:15 12:20:17 12:20:22

A. No, I'm not. 12:20:25

Q. Okay. 12:20:26

And there was a discussion about Dr. Becker reviewing a spreadsheet, and there were certain items that weren't CarPlay enabled compatible. 12:20:28 12:20:30 12:20:33 12:20:38

You're not suggesting that Dr. Becker miscounted the number of Boston chips relevant to this case, are you? 12:20:40 12:20:43 12:20:46

MS. LI: Objection, calls for a legal conclusion. 12:20:50 12:20:52

THE COURT: Sustained. 12:20:53

BY MR. ADAMS: 12:20:56

Q. Are you offering any opinions about the number -- the proper number of accused devices in this case? 12:20:56 12:20:59 12:21:03

A. As far as an opinion, I mean, I know what data I provided, and that data shows where we know Apple CarPlay was not used. In any other case, we don't know when Apple CarPlay was implemented. 12:21:11 12:21:13 12:21:17 12:21:22 12:21:24

Q. And you're not offering an opinion about whether it's necessary for Apple CarPlay to be used to infringe the '243 Patent; correct? 12:21:26 12:21:28 12:21:32 12:21:35

A. I -- no, I don't have an opinion on that. 12:21:38 12:21:40

MR. ADAMS: Nothing more, Your Honor. 12:21:41 12:21:43

THE COURT: Okay. 12:21:43

Any follow-up? 12:21:44

MS. LI: No, Your Honor. 12:21:45

THE COURT: Why don't we say that this is a good moment to take a break for lunch. I am going to try to keep it, again, to -- why don't we plan to be back at 1 o'clock. That should give you enough time and also to keep things moving along. Okay. 12:21:47 12:21:50 12:21:52 12:21:54 12:21:58 12:22:02

(Whereupon, the jury was excused from the courtroom.) 12:22:05 12:22:07

THE COURT: You can be seated. 12:22:31

Just real quickly before we break, 12:22:32

I don't know what we have to take up after 12:22:34

lunch. I don't know which witness is next and 12:22:41

therefore, what kind of things are necessary. 12:22:45

MR. SAULSBURY: Yes, Your Honor. 12:22:48

It was our intention to play 12:22:49

deposition testimony by video and there are 12:22:51

some objections that were outstanding based on 12:22:54

exhibits that were received as trial exhibits. 12:22:59

We submitted, from our 12:23:05

perspective, the correlation resolves the 12:23:08

questions about the objections and we -- we 12:23:11

submit that we should be permitted to play the 12:23:14

designations, but we're prepared to discuss. 12:23:16

THE COURT: Okay. 12:23:19

So let me make sure I understand. 12:23:20

I know I got your cross-reference sheet. As I 12:23:23

read what Microchip submitted to me, it seemed 12:23:26

like there was only one exhibit that was still 12:23:28

an issue; is that correct? 12:23:30

I don't know who is speaking on 12:23:34

behalf of Microchip. 12:23:35

MR. SAULSBURY: And I understand, 12:23:38

and you guys should let me know if this is wrong, that it's Exhibit 6 of the deposition, Trial Exhibit 329. 12:23:39 12:23:42 12:23:44

THE COURT: Yeah, that's the one that I saw was still at issue. Is that right? I don't know who is getting -- 12:23:46 12:23:46 12:23:49

MR. ADAMS: I can answer that one, Your Honor. Yes, that's correct, Your Honor. 12:23:51 12:23:52

THE COURT: Okay. 12:23:53

And so the others are fine, the objections are resolved? 12:23:54 12:23:56

MR. ADAMS: That's correct. I think we resolved the other issues. 12:23:57 12:23:59

THE COURT: Okay. 12:24:01

So then the issue with respect to, let me make sure I have it, Exhibit 329, and I did re-review this testimony this morning, is the issue with the document or the testimony or both, Mr. Adams? 12:24:02 12:24:06 12:24:16 12:24:23 12:24:25

MR. ADAMS: Your Honor, the issue is the documents are hearsay. They are invoices from a third party with no business record declaration or any supporting information to indicate. 12:24:28 12:24:30 12:24:34 12:24:39 12:24:42

And to be clear, these are not invoices from Mr. Rozycki's company; this is from a third party. And there is just simply no information about how it was kept, whether it was kept in the ordinary course of business, a custodian. So they are just pure hearsay documents, Your Honor. 12:24:44 12:24:46 12:24:49 12:24:53 12:24:55 12:24:59 12:25:01

THE COURT: Understood. Okay. 12:25:03

MR. SAULSBURY: And, Your Honor, they are from a third party, but they are a third party with which Mr. Rozycki transacted, a third party he bought the devices from. 12:25:04 12:25:07 12:25:09 12:25:13

He testified that he recognized the invoices, said it was an invoice billed to us. And the law is clear that for business records exception to apply, you don't need someone with personal knowledge of the business's records, so long as there is enough foundation for the stuff in the business record. 12:25:16 12:25:18 12:25:21 12:25:23 12:25:27 12:25:28 12:25:31 12:25:35

It is an invoice that was billed to him, a company he transacts with regularly, and that's sufficient foundation from our perspective. 12:25:35 12:25:37 12:25:39 12:25:41

We have the proposition that you don't need personal knowledge of the business practice. 12:25:42 12:25:45 12:25:49

THE COURT: Give me a second. Let me look at some of his testimony. 12:25:50 12:25:51

(Brief pause.) 12:26:06

THE COURT: Just to be clear, is this multiple invoices, this exhibit? 12:26:27 12:26:28

MR. ADAMS: Yes, Your Honor, I believe there's three. 12:26:31 12:26:32

THE COURT: Okay. 12:26:33

Was there -- I don't know if you had something else. I don't know, Mr. Adams, I don't know if you were going to say something else or not? I didn't mean to cut you off. 12:26:58 12:27:00 12:27:02 12:27:03 12:27:06

MR. ADAMS: I'm sorry, Your Honor, I didn't hear you. 12:27:07 12:27:09

THE COURT: I'm sorry. I said I was looking down at the testimony. I wasn't sure if you were about to say something else. I didn't want to cut you off. 12:27:09 12:27:12 12:27:13 12:27:15

MR. ADAMS: Thank you, Your Honor. 12:27:17

And Mr. Rozycki doesn't ever say 12:27:19

he recognizes these invoices. They ask him, 12:27:21
do you recognize anything about it, and he 12:27:25
says yes, I recognize a part number on it. 12:27:26
They ask him a series of questions 12:27:29
about the invoices, but he never indicates he 12:27:31
represents the invoices or that they are 12:27:35
accurate. In fact, he says he doesn't recall 12:27:37
them. 12:27:39
And they asked him questions about 12:27:39
the invoices and they said, well, how do you 12:27:41
know that and he says, well, because you just 12:27:45
put it in front of me. 12:27:46
And, indeed, Your Honor, there's 12:27:48
one point in the deposition where the person 12:27:50
taking the deposition starts to ask the right 12:27:55
question, do these refresh your recollection 12:27:59
about these exhibits, and stops in mid 12:28:01
question because -- realizing he was going to 12:28:05
say no and then changed the question. 12:28:08
So Mr. Rozycki never says that's 12:28:11
my invoice. He just had a document put in 12:28:14
front of him and was asked to read information 12:28:17
off of it. 12:28:19
MR. SAULSBURY: And, Your Honor, 12:28:20

if I can just direct the Court to page 21, line 15 through page 22, line 10, this is where Mr. Rozycki is asked about the invoice and he says, "Do you recognize anything about Exhibit 6?" 12:28:21 12:28:25 12:28:28 12:28:31 12:28:34

And he says, "It's an invoice billed to us." 12:28:34 12:28:36

"When you say it's billed to us, I'm looking" -- 12:28:37 12:28:39

THE COURT REPORTER: I'm sorry, keep your voice up. 12:28:39 12:28:39

MR. SAULSBURY: Oh, I'm sorry. 12:28:40

THE COURT: Why don't you move a little closer to the microphone. 12:28:45 12:28:47

MR. SAULSBURY: Certainly, Your Honor. Let me try that one more time. 12:28:48 12:28:49

So this is at line 23 of page 21. "And what else do you recognize, if anything, about the first page of Exhibit 6? 12:28:57 12:29:04 12:29:06

"ANSWER: It's an invoice billed to us." 12:29:07 12:29:09

And then there is this question about who "us" is, and it says... 12:29:10 12:29:11

"QUESTION: When you say it's 12:29:13

billed to us, I'm looking at the sold line and I see here, it says, Tableau USA. 12:29:14 12:29:17

"ANSWER: Correct. 12:29:20

"QUESTION: Is that one of your companies that you told us about? 12:29:22 12:29:23

"ANSWER: Yes. 12:29:25

"Who is it invoiced from? 12:29:26

"GWC Technology." 12:29:29

And then it goes through the day-to-day invoice and so on. And so for the -- so it's not accurate that he didn't recognize the document. He recognized it as an invoice to his company that he had received. 12:29:30 12:29:31 12:29:34 12:29:36 12:29:38 12:29:40

MR. ADAMS: And, Your Honor, if I might respond. I don't want to break your train of thought. 12:29:43 12:29:45 12:29:47

THE COURT: Go ahead. 12:29:48

MR. ADAMS: He doesn't say -- they asked him if he recognized anything about the invoice, and he recognized that on the line was his company name. It doesn't say he recognized the invoice. 12:29:49 12:29:50 12:29:53 12:29:58 12:30:00

And they said, do you recognize 12:30:02

anything else? 12:30:03

And he says, well, there's a part 12:30:04

number on here. So he's really just reading 12:30:06

the invoices. 12:30:08

And then if you get down to 12:30:09

line 23:5, "Do you recall whether you 12:30:11

purchased an SS1280 for testing around that 12:30:15

time? 12:30:21

"I do not." 12:30:21

So he's looking at the invoice 12:30:22

that shows he purchased it, so a hearsay 12:30:23

invoice, and they asked him do you remember 12:30:26

this and he says no, I don't recall this. 12:30:28

It's just simply -- 12:30:32

THE COURT: I understand. It's 12:30:33

kind of the point of the document, right, is 12:30:35

he doesn't have an independent memory of it. 12:30:37

I do think it is a business 12:30:40

record. He does say he recognizes it. I 12:30:43

mean, he starts out -- I mean, he was being 12:30:46

questioned, right? 12:30:50

The question is, "It has an 12:30:53

invoice total; do you see that? 12:30:57

"Yes. 12:30:58

"Do you recognize anything else about the first page?"

And he goes to another specific item on it.

"And what else do you recognize?"

And his answer is, and so on. So I think he recognizes that as an invoice, a business record. So I'll overrule the objection, I will admit it.

Okay. All right. So that's Mr. Rozycki. I don't know if there is anything else? I mean, his testimony is not terribly long.

MS. LI: No.

THE COURT: I'm sorry, Mr. Dreon, you can step down.

(Whereupon, the witness was excused.)

THE COURT: All right. I don't know, I mean, yeah, Mr. Rozycki is not going to take real long.

MS. DURIE: Correct.

THE COURT: So I don't know what else you had, if there are issues that we need

to act on before then.

MS. DURIE: I don't think so. We are going to go to Mr. Garney after that. We've got a bunch of depositions, we have some deposition testimony.

THE COURT: Okay.

MS. DURIE: Other than the Rozycki issue, it's all agreed to. We are going to play that, then we are going to call Mr. Garney. I don't think any of these issues pertain to that.

There are maybe one or two things we want to take up at the end of the day when we do the charge conference.

THE COURT: And that's fine. And I will take as much time as we need to go through the revisions I got.

And I don't know if there are issues for Mr. Garney that we need to tackle that you just may not get to today. I mean, my suspicion is you are not going to get through all of his testimony today, but I don't know.

MS. DURIE: That's probably true.

MR. RUSSELL: Your Honor, there are issues that we want to raise with the Court before Mr. Garney goes up. 12:32:20 12:32:21 12:32:23

THE COURT: Okay. 12:32:25

These are ones that you sent me last night? 12:32:27 12:32:29

MR. RUSSELL: Yeah, it was No. 6 that we sent you on the list of six items last night. And also a little bit later last night, we sent some objections to his demonstratives and exhibits. 12:32:30 12:32:31 12:32:34 12:32:36 12:32:40

THE COURT: All right. Hold on. 12:32:41

So you sent me a list of exhibits of something, that was around 9 o'clock, about Mr. Garney's testimony should be precluded as outside the scope of his report, the proper scope of his testimony about the product and how he may refer to the product. Okay. 12:32:42 12:32:44 12:32:50 12:32:55 12:32:58 12:33:03

And then -- all right. So let's tackle those three first. 12:33:05 12:33:11

MR. RUSSELL: So on the third one, just so you know, we resolved the issue, the very last one on that line about the naming, it just refers to it now and Mr. Adams is 12:33:16 12:33:18 12:33:20 12:33:23

going to handle those. 12:33:25

THE COURT: Okay. 12:33:26

MR. ADAMS: Is it my issue? 12:33:30

MR. SAULSBURY: Go ahead. I thought it had already been addressed. Go ahead. 12:33:31 12:33:32 12:33:35

THE COURT: Go ahead. 12:33:35

MR. ADAMS: Your Honor, this is an issue we've dealt with a few times and it's really just a preview for the Court because we think this issue will come up, that Mr. Garney's testimony with regard to enablement in this written description are very focused on what he refers to as a host-to-host bridge. He also talks about enabling the car phone. 12:33:35 12:33:37 12:33:40 12:33:44 12:33:48 12:33:51 12:33:54 12:33:56

He at no point in his testimony refers to the claims, the multi-host device or any of the elements of the claim. And as long as Mr. Garney stays testifying about the host-to-host bridge that he includes in his opinions, we're fine with it. 12:33:58 12:34:01 12:34:05 12:34:07 12:34:11 12:34:13

If Mr. Garney ventures to testify about the actual claim language, that's outside the scope of his report, and we just 12:34:16 12:34:19 12:34:21

wanted to address that now before we have to address it while the jury is here. 12:34:24 12:34:27

THE COURT: Okay. All right. 12:34:30

Go ahead. You can stay there if we can hear you, you don't have to keep shuffling back and forth, but I think you have mics at your tables. 12:34:33 12:34:35 12:34:37 12:34:40

MR. SAULSBURY: Certainly. I think I was too far away from it last time. 12:34:41 12:34:42

So with respect to enablement in the description, I believe it's the same issue raised in the motion in limine we talked about at the pretrial conference that Microchip had brought and was denied. 12:34:44 12:34:46 12:34:47 12:34:50 12:34:53

Mr. Garney isn't going to testify outside the scope of his report. In his report, he says full scope of the claim is not enabled, so of course he can talk about the claims. 12:34:55 12:34:57 12:35:00 12:35:03 12:35:05

With respect to what he is going to say about why it is not enabled, we are going to stick to what he disclosed previously. I don't think it is an issue that we need to address now. 12:35:06 12:35:08 12:35:11 12:35:14 12:35:15

THE COURT: Well, if you think he's gone beyond, Mr. Adams, let me know and you can approach. But I can't rule in a vacuum. 12:35:16 12:35:17 12:35:21 12:35:23

MR. ADAMS: I understand. 12:35:24

MR. SAULSBURY: Your Honor, apologies. Just one last objection. 12:35:26 12:35:26

THE COURT: Hold on. Before you move to one last, this is still -- there were three items in their paragraph 6. We tackled two of them. Let me finish the third and then go back to you. 12:35:28 12:35:29 12:35:32 12:35:34 12:35:36

The third is the scope about -- of his testimony about the tested product, unless you resolved that as well. You didn't say if you resolved all of it. Have you resolved the scope of his testimony about the tested product or is that still at issue? 12:35:37 12:35:39 12:35:43 12:35:45 12:35:48 12:35:50

MR. RUSSELL: Your Honor, that was just the same issue, except instead of enablement, that was about whether he was going to keep his testimony within the opinions he offered within his report about the relationship between the US-98 and the 12:35:52 12:35:53 12:35:55 12:35:58 12:36:00 12:36:04

products -- 12:36:05

THE COURT: All right, but you've 12:36:06

resolved that? 12:36:06

MR. RUSSELL: We resolved that. 12:36:08

THE COURT: Great. 12:36:10

I cut you off. Go ahead. 12:36:10

MR. SAULSBURY: No worries, Your 12:36:12

Honor. 12:36:13

The only exhibit that there is an 12:36:13

objection to that I think we need to address 12:36:15

now is there was an objection as to outside 12:36:17

the scope for Exhibit 5. I think we can 12:36:19

address this one of two ways. 12:36:24

I think this is a business plan 12:36:26

for Sandia that's already in evidence, we have 12:36:29

seen it a bunch of times. 12:36:31

Mr. Garney analyzed in his report 12:36:33

a corresponding document that essentially says 12:36:36

the same thing. We are going to talk about 12:36:37

Exhibit 25 because the jury is already 12:36:40

familiar with it, and so that would be our 12:36:41

preference. 12:36:44

But if you would like us to just 12:36:46

swap out the corresponding exhibit, we can 12:36:49

give it an exhibit number. 12:36:51

THE COURT: Which one did he talk 12:36:52

about? 12:36:53

MR. SAULSBURY: Just one second. 12:36:55

I think it is 236, but we're double-checking. 12:37:09

THE COURT: 236 is the product 12:37:12

used for the hub? 12:37:17

MR. SAULSBURY: Yes, that's right, 12:37:21

Your Honor. 12:37:22

THE COURT: Let me just 12:37:22

double-check. Isn't 236 in evidence? 12:37:30

MS. LI: It is in evidence, Your 12:37:31

Honor. 12:37:31

THE COURT: So we can talk 12:37:33

about -- if that's what is in his report and 12:37:36

it's already in evidence, so I don't think 12:37:38

there is any objection to talking 12:37:40

about Exhibit 25. 12:37:41

MR. SAULSBURY: We'll just use 12:37:42

236. No problem. 12:37:43

THE COURT: Fair enough. 12:37:45

Okay. Anything else we need to 12:37:45

tackle for Mr. Garney from your end, Mr. 12:37:46

Saulsbury? 12:37:49

MR. SAULSBURY: Not right now, Your Honor. 12:37:51 12:37:53

THE COURT: And then I think, Mr. Russell, you had something to add? 12:37:53 12:37:55

MR. RUSSELL: Yes. So I had mentioned earlier today that there were demonstrative objections, I believe we resolved those in that they represented they are not going to use the other cable they disclosed and that they are going to use the cable only for infringement. 12:37:55 12:37:56 12:37:58 12:37:59 12:38:01 12:38:03 12:38:05

So as long as that's correct, I don't think there is anything we need to deal with on the demonstratives. 12:38:06 12:38:08 12:38:09

THE COURT: Okay. Good. 12:38:10

MR. RUSSELL: And then on the other exhibits that were already with the Court, we had a number of product-related exhibits and a number of data sheets that we are maintaining our objections to that we raised at the pretrial conference, and I believe your order on those was that they need to lay foundation first and we just don't want to waive those. 12:38:14 12:38:15 12:38:20 12:38:21 12:38:23 12:38:25 12:38:27 12:38:29 12:38:31

So we'll just -- to the extent they try to admit them without doing what Your Honor required, then we'll object at the time. 12:38:32 12:38:34 12:38:37

THE COURT: And that's fine. I mean, I don't know if that's something that comes in with Mr. Garney or not. If it comes up later, we can tackle it later, too, but that's fine. And, you know, you'll lay your foundation if there are objections. 12:38:38 12:38:39 12:38:41 12:38:44 12:38:46 12:38:50

MR. RUSSELL: And the final thing, Your Honor, we do have objections to certain of the Rozycki deposition designations, but I understand that's not likely to be played today. 12:38:53 12:38:55 12:38:56 12:38:59 12:39:01

THE COURT: I think it is going to be played next. 12:39:01 12:39:03

MR. RUSSELL: Then Mr. Banner here will argue those objections, if that's the case. 12:39:03 12:39:06 12:39:08

THE COURT: I guess I misunderstood. I guess I thought they were all tied to the documents, but okay. 12:39:09 12:39:10 12:39:12

So give me a moment here. 12:39:16

Just so I'm in the right place, 12:39:51

following along with you, this would be Exhibit 5 to your pretrial order; is that correct? It might be Exhibit 6, I'm sorry. It is the Aptiv designations. 12:39:53 12:39:55 12:39:57 12:40:09

MR. BANNER: That's right. And, Your Honor, it sounds like that Your Honor already ruled on one of the exhibit objections that we had that would -- that was related to Mr. Rozycki. 12:40:11 12:40:15 12:40:18 12:40:20 12:40:22

THE COURT: Right. 12:40:23

MR. BANNER: Exhibit 329. 12:40:24

THE COURT: Right. 12:40:26

MR. BANNER: And so I think that essentially -- I mean, I think Your Honor's ruling probably -- I think we'll withdraw our objections on the rest of it, so I think there is no further need to object. 12:40:26 12:40:30 12:40:33 12:40:37 12:40:39

THE COURT: Okay. 12:40:41

I understood all the objections to be sort of tied to the exhibits, and I guess I thought you had resolved the other exhibits, the others probably were resolved anyway. 12:40:42 12:40:43 12:40:47 12:40:49

MR. BANNER: I think that's correct, Your Honor. 12:40:52 12:40:54

THE COURT: All right. 12:40:54
And I think we have a game plan 12:40:55
for after lunch. So let's all eat, we'll do 12:40:56
that and then be back at 1 o'clock and we'll 12:41:01
resume. Okay? All right. 12:41:04
THE COURT CLERK: All rise. 12:41:07
(Whereupon, a 20-minute luncheon 12:41:09
recess was taken at 12:40 p.m.) 12:41:12
THE COURT CLERK: All rise. 13:01:19
THE COURT: All right. 13:07:17
Have a seat, everyone, so we can 13:07:19
get the jury. 13:07:22
(Whereupon, the jury entered the 13:07:24
courtroom.) 13:07:27
THE COURT: Mr. Saulsbury? 13:08:20
MR. SAULSBURY: The next witness 13:08:22
we'll be calling is Mr. Ghosh. He is a 13:08:23
Microchip engineer who is named as a 13:08:28
co-inventor with Mr. Bohm on the named patent. 13:08:32
We'll be calling him by deposition. 13:08:39
THE COURT: Okay. You may 13:08:41
proceed. 13:08:43
(Whereupon, portions of the 13:08:43
videotape deposition of Atish Ghosh were 09:03:20

played for the jury.) 09:03:22

MR. WIENER: Aptiv would now call 13:18:39

Mr. David Sroka by deposition. 13:18:41

Mr. Sroka was a product marketer 13:18:43

at Microchip in their USB group. 13:18:45

THE COURT: Okay. You can 13:18:48

proceed. 13:18:49

(Whereupon, portions of the 13:18:50

videotape deposition of David Sroka were 09:03:20

played for the jury.) 09:03:22

MR. WIENER: Aptiv now calls, as 13:20:36

its next witness, Mr. Donald Perkins, who also 13:20:38

was a partner at Microchip in their USB group. 13:20:41

THE COURT: Okay. 13:20:44

(Whereupon, portions of the 13:20:45

videotape deposition of Donald Perkins were 09:03:20

played for the jury.) 09:03:22

MR. WIENER: Aptiv now calls, by 13:23:08

video deposition, Mr. Craig Petku, who you 13:23:13

heard from this morning. He was an engineer 13:23:16

at Unwired who worked with Mr. Voto on the 13:23:18

solution. 13:23:20

THE COURT: Okay. 13:23:21

(Whereupon, portions of the 13:23:21

videotape deposition of Craig Petku were played for the jury.) 09:03:20 09:03:22

MR. SAULSBURY: For its next witness, Aptiv calls Mr. Rene Rozycki. He was the proprietor of USB.com, a website that sold USB products. 13:37:07 13:37:13 13:37:16 13:37:21

THE COURT: Okay. 13:37:23

(Whereupon, portions of the videotape deposition of Rene Rozycki were played for the jury.) 13:37:23 09:03:20 09:03:22

MR. SAULSBURY: In view of Mr. Rozycki's testimony, we move Exhibits 229, 368 and 329. 13:46:46 13:46:48 13:46:52

THE COURT: 229, 368 and what was the third one? 13:46:56 13:47:01

MR. SAULSBURY: The third one is 329. 13:47:02 13:47:04

THE COURT: 329. Okay. 13:47:04

Mr. Slayden? 13:47:06

MR. SLAYDEN: No objection. 13:47:07

THE COURT: All right. They are received. 13:47:08 13:47:10

Okay. Mr. Saulsbury? 13:47:12

MR. SAULSBURY: For our next 13:47:17

witness, we call Mr. Garney.

THE COURT: All right.

THE COURT CLERK: Please state and spell your name for the record.

THE WITNESS: My name is John Garney. John Irving Garney, J-O-H-N, I-R-V-I-N-G, G-A-R-N-E-Y.

- - -

...JOHN IRVING GARNEY, after having first been duly sworn and/or affirmed, was examined and testified as follows...

- - -

DIRECT EXAMINATION

- - -

BY MR. SAULSBURY:

Q. Good afternoon, Mr. Garney.

A. Good afternoon.

Q. Could you please introduce yourself to the jury.

A. Sure. My name is John Garney. I am the sole member of my consulting company, Garney Consulting, LLC.

Q. What brings you here today?

A. I am here to offer two opinions, one

on non-infringement and one on invalidity with regard to the key patent. 13:48:31 13:48:36

Q. Are you here to tell the jury what to do? 13:48:37 13:48:39

A. You guys have a rough job, you gotta do it yourselves, sorry. 13:48:39 13:48:42

Q. What is the asserted patent about? 13:48:44

A. You've heard a lot about it, but it's basically two USB hosts sharing a single USB device, and there is some need for arbitration to sort of kind of resolve making that work. 13:48:47 13:48:50 13:48:53 13:48:56

Q. You mentioned USB. Do you have expertise relevant to USB? 13:48:59 13:49:01

A. Just a little bit. 13:49:03

Q. And could you tell us a little bit about that expertise? 13:49:05 13:49:07

A. Sure. You want the five-minute answer or the two-hour answer? 13:49:08 13:49:10

Q. Let's shoot between three and five minutes. 13:49:12 13:49:15

A. I'll try. 13:49:16

So I was working at Intel Corporation, which we can talk about later if necessary, but around about 1994, I actually 13:49:17 13:49:20 13:49:22

came back from sabbatical and was invited to join the team that was working on or became USB 1.0 specification we've heard something about. I was one of the key Intel technical team members that was a part of that effort. 13:49:27 13:49:29 13:49:34 13:49:36 13:49:38

There was a number of international companies, about seven different companies that had technical experts to work on the specification. Companies like Microsoft, IBM, ABC, Digital Equipment, you may have heard of some of those. 13:49:41 13:49:42 13:49:45 13:49:48 13:49:51 13:49:54

And we got together because we saw a problem out in the industry and we wanted to go solve that. 13:49:56 13:49:58 13:50:00

And so we worked on producing this USB spec, and for USB 1, the specification actually I personally proposed about over 50 percent of the material that was in the USB 1 spec, brought it to the technical group, we debated and discussed, arm-wrestled over what the details should be, and ultimately that was included in the USB 1. And I personally wrote about a third of the 1 USB spec and it got released to the public. 13:50:01 13:50:05 13:50:11 13:50:15 13:50:18 13:50:20 13:50:23 13:50:26 13:50:29 13:50:33

And then I went off and did some other projects at Intel, came back, was invited back actually by Intel to work on the USB 2 spec, I think you saw one of the pages with my name on it. I was invited to be the chair of the hub working group for USB 2 spec. 13:50:34 13:50:35 13:50:37 13:50:40 13:50:43 13:50:45

I did a similar kind of set of work with that. I was responsible for leading the technical team. It was a slightly different set of companies involved with the USB 2 work. USB 2 was trying to have a performance improvement for USB. They had 40 times speed improvement so it could attach faster devices and more devices. 13:50:49 13:50:50 13:50:53 13:50:56 13:50:58 13:51:01 13:51:05 13:51:08

And there were kind of two parts to the USB 2 spec because we wanted to make sure we reserved back to compatibility to USB 1. 13:51:10 13:51:11 13:51:14 13:51:17

So one of the areas were some electrical changes. I had a co-worker that was the head of the working group, the share of the working group for the electrical portions, and I and my group were responsible for everything else. So if it was 13:51:18 13:51:19 13:51:22 13:51:23 13:51:25 13:51:28

intellectual, it was my problem. 13:51:31

One of the key features was the 13:51:32

definition of the enhanced USB 2 hub. There 13:51:34

was a key part of that called a transaction 13:51:36

translator, which I was the proposal person 13:51:39

for, and actually have some patents granted on 13:51:41

a number of USB technology. 13:51:44

And again, I wrote probably over 13:51:46

50 percent of the USB 2 spec and was 13:51:47

responsible for editing the whole document, 13:51:50

which I was also responsible for USB 1. 13:51:52

Again, we published that to the 13:51:55

world, and at that point, the story kind of 13:51:57

branches a couple ways. And if I back up just 13:52:03

a minute, after the completion of USB 1, we 13:52:06

already knew what USB 1 was and we wanted USB 13:52:09

1 to proliferate and solve all kinds of 13:52:12

problems. And so as device vendors, people 13:52:14

wanted to build devices to start reading the 13:52:17

spec and trying to understand it. 13:52:20

Intel actually formed a group 13:52:21

called the peripheral integration lab which is 13:52:23

just a test group, you've heard the compliance 13:52:25

talk about this, kind of pre-compliance, and 13:52:28

so we would invite or actually companies would contact us that wanted to build USB devices and they would come to this Intel lab. They would have -- they would sit down with Intel engineers that had been involved in the creation of the spec, they would work with those engineers to understand was the device doing the right things electrically. 13:52:30 13:52:33 13:52:35 13:52:38 13:52:40 13:52:42 13:52:43 13:52:46

We'd take them through a whole series of things to try to get their devices starting to work because at the time, Intel had the only host controller they could connect up to and we wanted to make sure the devices were going to work properly. 13:52:47 13:52:49 13:52:51 13:52:53 13:52:55 13:52:57

So I was involved in working with them to make sure the electrical things were working properly, that the software things were working properly. 13:52:58 13:53:00 13:53:02 13:53:04

You've heard about the standard request in USB. That was one of the chapters I was independently involved in creating, the standard replies, some of the pieces. And so we worked through with these engineers to make sure the device worked the way USB said it was 13:53:05 13:53:07 13:53:09 13:53:12 13:53:15 13:53:17

supposed to. And then go off and fix things and then come back and ultimately with a stellar product, in short. Same kind of thing for USB 2. When that happened, I did some other projects, and I don't know how far you want to go, but there's other parts of the story, too, so maybe that's the two-minute answer I can give. 13:53:20 13:53:20 13:53:22 13:53:26 13:53:28 13:53:30 13:53:35 13:53:38 13:53:40

Q. Thank you very much, Mr. Garney. Roughly when were you doing this work? 13:53:42 13:53:44 13:53:46

A. So I started in 1994, and actually I continued with some USB work up until I think like -- actually, USB 2 was published in the year 2000, and I worked with a USB 3 efforts that I was again invited back to -- by Intel and the USB high-ups group to be the vice chair of the hub working group for USB 3, and I think that happened in, I'm not exactly sure, 2008 or something like that. So it's been a long period of time. At least 25 years, I think. 13:53:46 13:53:50 13:53:54 13:53:59 13:54:03 13:54:06 13:54:09 13:54:12 13:54:14 13:54:16 13:54:18

MR. SAULSBURY: Can we please have 13:54:20

Slide 3, Mr. Glass. 13:54:21

BY MR. SAULSBURY: 13:54:23

Q. Was there a particular problem you were trying to address with the USB standard? 13:54:24 13:54:25

A. What a great picture, yeah, there was a huge problem. I don't know if anybody remembers computers at the time, but they had all these really ugly and messy connectors for different things that took up a lot of space on the back of the PC. And on the one hand, every different device had its own group of connectors. 13:54:28 13:54:29 13:54:31 13:54:32 13:54:36 13:54:38 13:54:41 13:54:44

So there was a keyboard connector at the top of the figure here, one of these -- I forget which is which, but one of these is the keyboard connector, one is the mouse connector. Why they are color-coded differently, one of these is the serial port, we haven't really talked about yet, one of these is a parallel port, which has a whole lot of pins, like 25 pins, typically used for printers. 13:54:44 13:54:46 13:54:49 13:54:51 13:54:54 13:54:56 13:54:59 13:55:01 13:55:03 13:55:07

This connector looks very much like this other one, except this is for video, 13:55:07 13:55:08

and this created a lot of confusion for end users. 13:55:10 13:55:13

Some of these were video connectors, Ethernet connector, and then these are some audio connectors. 13:55:14 13:55:15 13:55:18

And the problem was end users would buy some device they wanted to use, like a printer or something, and it needed a cable. And so sometimes the product came with a cable, sometimes they didn't come with a cable. So they'd have to go back to the store and get a cable. 13:55:19 13:55:21 13:55:23 13:55:25 13:55:29 13:55:31 13:55:33

And without being a technical guy, people like me, you know, ask what cable do I need? They buy a cable, they take it home and it would be the wrong cable. Then they'd be frustrated and they'd have to go back to the store, return that cable, get another cable, try to find the right one, and this was just a mess. It was really slowing the use of PCs down. 13:55:34 13:55:35 13:55:37 13:55:40 13:55:42 13:55:44 13:55:46 13:55:48 13:55:51

And Intel, since I was an Intel employee, wanted PCs to be used for everything they could think of. 13:55:51 13:55:53 13:55:55

So our idea, as part of USB, kind of where the universal name comes from is we wanted one connector, one technology that could be used for any device you could think of, and get rid of all this confusion. 13:55:57 13:55:59 13:56:01 13:56:04 13:56:06

On the back of a PC, just have one or two little connectors, that were a lot smaller, a lot cheaper to make and a lot easier for the end user to understand. If you buy one cable, no matter what device they bought, and they could connect those devices into the PC. 13:56:09 13:56:11 13:56:14 13:56:15 13:56:17 13:56:20 13:56:22

One of the big problems I was directly involved in was talking a lot about hubs. You only have two connectors on a PC and you want to connect five devices, how do you do it? I think some other experts or people have talked about that. 13:56:22 13:56:24 13:56:26 13:56:28 13:56:31 13:56:33

There is a single hub which is basically an expansion, like a three-way plug on your electrical system for providing electrical standard mixers or something. 13:56:34 13:56:36 13:56:38 13:56:40

So the hub would give you more connection opportunities to any connection and 13:56:44 13:56:45

you could actually connect hubs to each other. 13:56:46
So with the USB, you could connect 127 13:56:49
devices, if anybody was so crazy they wanted 13:56:53
to do that, you could just have one connector 13:56:56
on your PC, which now, in today's world, with 13:56:58
phones or laptops having one connector that 13:57:01
can connect that many devices is really a 13:57:04
useful thing. 13:57:05
Q. Now, I can see up here on the slide 13:57:06
that we have a lot of different connectors 13:57:08
with a whole lot of different pin numbers. 13:57:10
The shape is different than I think you were 13:57:12
saying and the purpose is different. 13:57:14
How were you able to get to 13:57:15
replace those with a single cable and 13:57:17
connector type? 13:57:20
A. Yeah, it is a little tricky. So 13:57:20
since you have one connector and a consumer 13:57:24
can bring any device they could think of and 13:57:27
purchase and plug it into that one connector, 13:57:30
how would the host know what that device is? 13:57:32
In this world, if someone plugged 13:57:34
up to a keyboard connector, they would know it 13:57:36
was a keyboard. If they plug up to a video 13:57:39

connector, they would know it's a video connector. 13:57:42 13:57:44

With USB, they knew it was going to be universal; anything could be plugged in. So one of the first things a host would have to ask, and one of the key parts I was involved in creating was this idea of having a device be self-describing. It had to carry enough information to be able to answer the question from the host. 13:57:44 13:57:46 13:57:48 13:57:50 13:57:51 13:57:53 13:57:57 13:57:58

I'm sorry if I'm talking fast. 13:57:59

THE COURT REPORTER: You are. 13:57:59

MR. SAULSBURY: I think I heard that, "You are." 13:58:04 13:58:05

THE WITNESS: Sorry. It's exciting stuff. I have been doing this for a long time now. 13:58:06 13:58:07 13:58:09

BY MR. SAULSBURY: 13:58:10

Q. If you would, please, do continue, but perhaps we might be able to slow the tempo a little bit. That would help. 13:58:10 13:58:12 13:58:15

A. See if I can take a breath in there. 13:58:17

So the host would have to ask a newly attached device, what are you? What can 13:58:19 13:58:21

you do? Because it could be anything. So we defined, as you've heard, some standard requests for that. 13:58:24 13:58:28 13:58:30

So when the device is first attached to the PC, the hub's responsibility is to say hey, something got attached. And there's some nasty little electrical things to define how to do that. 13:58:31 13:58:33 13:58:35 13:58:37 13:58:40

And the hub would tell the host, like USB message, hey, something has been attached. I don't know what it is, it's your problem. And the USB host would get that message and say hmm, something has been attached to this hub. Let's go reset the port that it was attached to. 13:58:41 13:58:44 13:58:46 13:58:48 13:58:50 13:58:52 13:58:56

So the device on the other side gets back into an unknown state, and then once that's been completed, the host would say, tell the device, a standard device, device descriptor, and say hey, device, what are you? 13:58:57 13:58:59 13:59:02 13:59:04 13:59:07

And the device would respond with a standard request. And in that standard request, there would be some critical information that would identify what the 13:59:10 13:59:12 13:59:14 13:59:16

manufacturer was, what the product was, what kind of device it was. 13:59:18 13:59:21

And some of the lowest level sort of device global things like how many integrations does this device have and how big is the buffer that the device has. So we can talk to it without confusing it and the host could get that information back. 13:59:23 13:59:25 13:59:29 13:59:31 13:59:34 13:59:40

And as you sort of heard, it's oh, hmm, this device class, I think I know how to do that, let's go continue. And it would tell the device, okay, I am going to call you George. It would actually say I might call you Address No. 1, but it had to have some way to uniquely identify that device. 13:59:41 13:59:44 13:59:46 13:59:48 13:59:50 13:59:52 13:59:55

So it would give a set address and tell the device, here's your number. Any time I say, hey, I want to talk to Device No. 2, you need to respond. 13:59:57 13:59:59 14:00:01 14:00:03

Q. Did you face any other sorts of challenges in creating USB? 14:00:05 14:00:07

A. Yeah, one of the other major ones, which is kind of lurking in this, is low cost. We wanted to have -- many of these connectors 14:00:09 14:00:11 14:00:14

and cables were expensive, there were a lot of wires, the cables can be long so they can be expensive, and the connectors, themselves, could be somewhat expensive. 14:00:17 14:00:20 14:00:23 14:00:25

So one of the design goals we had for creating the spec is we wanted something that could be used for -- at a price a consumer would pay for a mouse. At the time you could buy a mouse for $5, so we had to have a USB solution for the connector that would allow, you know, something with that kind of price. The bill of material cost for a mouse is like 50 cents, so it's incredibly price conscious. 14:00:27 14:00:28 14:00:31 14:00:35 14:00:37 14:00:39 14:00:43 14:00:45 14:00:50 14:00:53

At the time, Game Boy was a typical kind of a thing and it had a really unique connector that looked kind of robust, and we kind of modeled the USB connector after that kind of thing. Very successful. 14:00:54 14:00:56 14:00:58 14:01:01 14:01:04

Q. Why were you aiming to make the connector low-cost? 14:01:06 14:01:08

A. Well, we wanted -- again, this universal concept that's baked into the name. We wanted anybody in the planet who would buy 14:01:09 14:01:12 14:01:14

a USB device, there were some other competing technologies at the time that we looked at that had licensing costs but were more expensive, so we wanted to keep the price as low as possible so people could see a USB device, they could probably afford it and buy as many as they wanted. 14:01:17 14:01:20 14:01:22 14:01:24 14:01:26 14:01:31 14:01:33

Q. What are some examples of devices that use USB? 14:01:34 14:01:37

A. Some devices, keyboards. I mean, if you have a phone in your pocket, it will probably have the USB connected for it, printers, scanners, web cams if you have a PC, it probably has a web cam that's connected via USB. Video devices, speakers, microphones. The sky is the limit. 14:01:39 14:01:42 14:01:43 14:01:46 14:01:49 14:01:52 14:01:58

Cars, you know, it's hard to think of a car as a USB device, but it's referred to, kind of. 14:01:59 14:02:01 14:02:04

Q. You talked a little bit earlier about a process called configuration. Is that defined in the USB specification? 14:02:06 14:02:08 14:02:12

A. It is. There is a big section. 14:02:14

Q. And how long can configuration take? 14:02:16

A. Well, different device vendors can build different things, but the USB definition says it can take as long as five seconds, and there are some devices that can be slower, it can take close to that. 14:02:20 14:02:23 14:02:26 14:02:28 14:02:30

Q. How do vendors know how to implement USB in their devices? 14:02:31 14:02:34

A. Well, they start by reading the spec, and unfortunately it's not always the clearest thing. We did our best, but it's very hard the way the spec can be understood by everybody in the world, so they have to study the spec and try things. 14:02:34 14:02:37 14:02:40 14:02:42 14:02:44 14:02:46

Q. Mr. Garney, I've just handed you what's marked as Exhibit 377. 14:03:04 14:03:06

(Whereupon, Trial Exhibit 377 was introduced.) 09:03:13 09:03:13

BY MR. SAULSBURY: 09:03:13

Q. Do you recognize this? 14:03:09

A. Actually I do, yes. 14:03:10

Q. And what is it? 14:03:12

A. It actually appears to be a USB 1 specification, but not only that, it actually appears to be a copy, my personal copy of the 14:03:13 14:03:17 14:03:20

USB 1 spec because it has the signature of all of the people that were involved in creating it. 14:03:22 14:03:27 14:03:29

Q. What was that moment like for you? 14:03:33

A. As you can see, it was pretty overwhelming. So I have spent a year or so creating the spec with all these people; it was an incredible experience. Even today, I'm talking to people that were involved in it who are still amazed at this experience of the success it's had. I heard like 10 years ago from somebody that told me, like, there are four billion USB devices that get created a year, and now probably even more. 14:03:35 14:03:37 14:03:39 14:03:42 14:03:45 14:03:47 14:03:49 14:03:53 14:03:55 14:03:58

I mean, you heard earlier, Microchip makes like eight billion devices I think a year is what they said, and I've got to believe a number of those go into USB products. So every cell phone on the planet. Every country in the world probably has USB. That's pretty humble. 14:04:00 14:04:01 14:04:04 14:04:06 14:04:09 14:04:11 14:04:14

MR. SAULSBURY: We move to admit Exhibit 377. 14:04:17 14:04:19

MR. SLAYDEN: Object, Your Honor, 14:04:20

for demonstrative purposes only. 14:04:21

THE COURT: Are you offering for 14:04:23

demonstrative purposes or are you offering it 14:04:25

substantively? 14:04:26

MR. SAULSBURY: We were offering 14:04:27

to admit it. It's a copy of the USB 14:04:28

specification. 14:04:32

THE COURT: All right. Let's go 14:04:32

to sidebar. 14:04:33

(Whereupon, a discussion was held 14:04:33

at sidebar as follows: 14:05:33

MR. SAULSBURY: I'm not too sure 14:05:33

what the nature of the objection is. 14:05:33

THE COURT: It's USB 1; right? 14:05:33

What does it have to do with this case? 14:05:33

MR. SAULSBURY: Because the 14:05:33

devices are compatible with USB 1 and USB 2. 14:05:33

MR. SLAYDEN: It doesn't make any 14:05:33

difference, Your Honor. 14:05:33

THE COURT: I don't think there is 14:05:33

anything -- 14:05:33

MR. SAULSBURY: That's fine. We 14:05:33

can use it as a demonstrative. 14:05:33

THE COURT: Okay. 14:05:33

(Whereupon, the discussion at sidebar concluded.)

BY MR. SAULSBURY:

Q. Is anyone who worked on the USB specification with you still involved in this?

A. Actually I was surprised, because when we went to the IPR proceedings, a gentleman named Harold Halpen, who was an expert witness for the other side, and he and I worked closely, we're still friends. Actually a few pages in the USB spec itself he wrote that describes some of the audio relevant features of USB. He is a Phillips -- at the time was a Phillips guy audio expert and all kinds of things, so he had some deep knowledge there and he is included in that material for USB.

Q. How about the -- how about the experts that we saw earlier; do you know Mr. Zatkovich from the USB circle?

A. No, I never saw his name in the technical.

Q. How about Dr. Levy?

A. Never saw him.

Q. Do they include experts of Microchip? 14:06:28

A. Sorry about that, I should wait. 14:06:31

No, I never saw him in any of the technicals. 14:06:34 14:06:36

Q. Now, are there multiple versions of the USB specification? 14:06:39 14:06:42

A. Kind of. As I mentioned, the three major versions, USB 1, 2, 3. There's actually a fourth version that I haven't been involved in. 14:06:43 14:06:44 14:06:47 14:06:49

Q. And what versions matter in this case? 14:06:49 14:06:52

A. USB 1 and USB 2 are, as I understand it. 14:06:52 14:06:52

Q. What was the purpose of USB 2 relative to USB 1? 14:06:58 14:07:01

A. USB 2 was a speed improvement. I mentioned USB 1 was -- had two speeds, one-and-a-half megabytes a second and 12 megabytes a second was called low and full speed. And oddly enough, when we did USB 2, they introduced a 40 times speed, I believe they call high speed, I almost forgot for a minute. So 480 megabytes a second, quite a 14:07:02 14:07:06 14:07:10 14:07:11 14:07:15 14:07:18 14:07:21 14:07:25

bit faster. 14:07:28

Q. And has USB received any industry recognition? 14:07:29 14:07:31

A. Yes, it has. Actually I think shortly after we published the USB 1 spec, there was a journal magazine at the time called PC Magazine, I think it was, and they awarded us an award for either best technology or technology of the year, I forget what, but it was a recognition of the impact that they thought USB had. 14:07:31 14:07:33 14:07:36 14:07:39 14:07:42 14:07:46 14:07:52 14:07:54

When we'd go visit customers, especially with this, the customers would say, are you guys done yet? We need this now, we have these problems. 14:07:55 14:07:57 14:08:00 14:08:03

My past experience, I think we dealt with technology that was we usually had to sort of help the customers to understand what the new technology was, but everybody is clamoring for us to finish this because it was part of the reason for the award. 14:08:03 14:08:06 14:08:08 14:08:10 14:08:13 14:08:16

The second award happened just recently, and I was actually contacted by a member of IEEE and asked to provide some 14:08:18 14:08:19 14:08:22

evidence, a report to them of USB 2, because IEEE was considering making an award recognizing the contributions of USB -- of the impact of USB throughout the world. 14:08:26 14:08:32 14:08:35 14:08:37

And their plans, as I understand it, is to actually mount a plaque acknowledging -- they did approve it, plan to mount a plaque right outside the door at Intel where I worked that was for innovation lab, so that was pretty cool. 14:08:40 14:08:41 14:08:43 14:08:47 14:08:50 14:08:53

Q. For those of us like me who aren't engineers, what's the IEEE? 14:08:54 14:08:56

A. I think it's called the Institute for Electrical and Electronic Engineers. It is an international organization. I think they do other standards. 14:08:57 14:09:00 14:09:02 14:09:05

Q. Shifting gears a little bit, tell us about your educational background. 14:09:06 14:09:08

A. Yes, I went to school at Purdue University in Indiana and I got my bachelor's science, in computer science, actually dual in mathematics. I had a minor in digital electronics, digital electrical engineering and some analog or analytical engineering, and 14:09:10 14:09:13 14:09:17 14:09:20 14:09:22 14:09:25

then continued on and got a master's of computer science at Purdue also. 14:09:29 14:09:32

Q. When did you start working at Intel? 14:09:35

A. Right out of college, so 1980. 14:09:37

Q. Why did you leave Intel? 14:09:40

A. After 27 years at Intel, I was a little tired of the grind and the hours that Intel expected you to make to be a senior executor or contributor. I ended up as a senior staff system architect, I think was the title, in the corporate technology group and also the headquarters in the technical sense, and I loved the work there, but hated the hours, so I took advantage of an opportunity that Intel has for people that qualify to just retire and I officially retired from Intel. 14:09:42 14:09:44 14:09:46 14:09:49 14:09:52 14:09:54 14:09:57 14:09:59 14:10:02 14:10:05 14:10:08

Unfortunately I sort of failed at retiring because I started my own company. I had heard -- I wanted to keep my hands in with the technical things, but I didn't want to work, you know, 40 or 60 hours a week anymore, and so I started my consulting company and had heard it might take a year to get connected to finally work because people are particular 14:10:12 14:10:14 14:10:17 14:10:19 14:10:21 14:10:24 14:10:29 14:10:31

about hiring people, especially as a consultant. 14:10:35 14:10:37

And within one month, I had contacts from some of my USB friends and they said, so how much beyond full time do you want to work? 14:10:37 14:10:39 14:10:43 14:10:45

I said that's not really what I'm looking for at this point, so some part-time stuff. And when I started providing electrical engineering services to a company in New York doing system architect, that kind of thing, taking big problems and breaking them down to small problems and helping them write up documents of interface, I provided these kind of technical services to that company. 14:10:45 14:10:47 14:10:50 14:10:52 14:10:53 14:10:57 14:11:00 14:11:03 14:11:06 14:11:08

There are also other companies that would have problems with USB, their devices wouldn't work according to spec and they didn't know why, and so they contacted me and asked if I could help them out. 14:11:08 14:11:10 14:11:13 14:11:16 14:11:18

So we'd look at the products, analyze them, see what they have going that was a problem. 14:11:19 14:11:21 14:11:24

And then somewhere, well, I don't know. I can pause there and take a breath. 14:11:25 14:11:28

Q. Could you please turn in your binder to Trial Exhibit 330. It should be tab -- 14:11:32 14:11:34

A. Sorry, what? 14:11:37

Q. Trial Exhibit 330. There should be a tab for it. 14:11:38 14:11:41

(Whereupon, Trial Exhibit 330 was introduced.) 09:03:13 09:03:13

THE WITNESS: There's a lot here. Ah, okay. 14:11:45 14:11:50

BY MR. SAULSBURY: 14:11:52

Q. Do you recognize this as your resume, Mr. Garney? 14:11:52 14:11:54

A. This is my resume, yes. 14:11:55

MR. SAULSBURY: We move 330. 14:11:57

MR. SLAYDEN: No objection. 14:11:59

THE COURT: All right. It's in. 14:12:00

MR. SAULSBURY: Mr. Glass, can we please see it on the screen? Thank you. 14:12:02 14:12:04

BY MR. SAULSBURY: 14:12:06

Q. Why don't we start here. Let's just jump right to experience and take a look at section 2007 to the present. 14:12:07 14:12:09 14:12:11

Mr. Garney, does this portion of your resume relate to some of the engineering consulting that you were just talking about? 14:12:15 14:12:18 14:12:22

A. Yeah, it does. This basically covers all of my work really at the time the resume was. As you can see, that's my consulting company. That actually covers some other USB things I didn't talk about. 14:12:24 14:12:27 14:12:30 14:12:33 14:12:35

I also wrote a book on USB, one of the first ones. I taught some multi-data classes on USB, internationally. I was invited to sponsor companies that teach classes to their employees on USB 2. 14:12:36 14:12:38 14:12:43 14:12:45 14:12:48

I also didn't mention that at Intel, I was a speaker at the International USB Developers Conferences for companies so they could come and hear about what USB was and then explain the technical details so that when they went home and studied the spec, they might have a better understanding. 14:12:52 14:12:55 14:12:57 14:13:01 14:13:03 14:13:06 14:13:09

But yes, this describes a number of things we've talked about. 14:13:11 14:13:12

Q. And if I could just stop you for a moment. 14:13:14 14:13:16

A. Sure. 14:13:16

Q. It looks to me like all of the 14:13:17

experiences here that are under Garney 14:13:19

Consulting, you are talking about your 14:13:21

consulting firm, relates to USB; am I 14:13:22

understanding that correct? 14:13:25

A. That's correct. I mean, at Intel, I 14:13:25

had the luxury of doing a lot of different 14:13:27

things, but from a consulting business, it 14:13:29

just seemed natural to focus on what I knew 14:13:31

best. 14:13:34

Q. Now, the last bullet here references 14:13:35

expert witness service for cases involving 14:13:37

USB, it looks like in the U.S. and the UK. 14:13:43

How did you come to be involved in 14:13:45

assisting in litigation as an expert witness? 14:13:47

A. Yeah, I don't remember exactly. I 14:13:52

mean, after a period of time, this first 14:13:54

company that I worked for, I think they went 14:13:56

through some economic harder times and they 14:13:58

didn't want to use me anymore. And I was 14:14:00

looking for some other services, some other 14:14:02

opportunities, and I forget whether it was 14:14:04

before or after that, I was probably contacted 14:14:06

by somebody through my, you know, expertise and they were looking -- they had questions about patent-related things for USB and asked if I would be willing to help them out. And so I think that's one of the ways. 14:14:08 14:14:13 14:14:15 14:14:18 14:14:21

Somewhere along the line, I also got connected with an expert witness services company that would try to connect experts with clients to help them do things like this, and I thought, that's going to be fun. I am an inventor of, like, I don't know, 68 patents or something, so at least I was familiar from the inventor side, and I thought I could at least understand, you know, what it would take to support a client that needed some help for USB in patent cases, which I am sure are a lot about USB. 14:14:23 14:14:25 14:14:27 14:14:30 14:14:33 14:14:36 14:14:39 14:14:41 14:14:45 14:14:47 14:14:51 14:14:54

Q. Do you advertise services as an expert? 14:14:54 14:14:56

A. I don't want that work. I'm trying to retire. I have been working this case for five-and-a-half years and they are my last client, and this is my only time at trial and I'm trying to be done. 14:14:56 14:14:58 14:15:00 14:15:04 14:15:07

I want to actually succeed at retiring this time. I tried once and I tease, I kind of failed. I am ready to be done. 14:15:09 14:15:10 14:15:13

Q. Did I hear you say you haven't testified at trial before? 14:15:15 14:15:17

A. This is the first time. I have been a juror twice, so I understand the pain you guys are all enduring, but this is the first time I have sat here in a trial. It's not much fun, a little different than you guys but...it's interesting. 14:15:17 14:15:19 14:15:21 14:15:24 14:15:26 14:15:28

Q. Why don't we switch gears once more and talk about the analysis you did in this case. 14:15:30 14:15:37 14:15:39

Now, let's put up Trial Exhibit 1 in evidence. Do you recognize this as the '243 Patent you analyzed? 14:15:40 14:15:44 14:15:49

A. Oh, yeah, I've seen this patent way too many times. 14:15:51 14:15:54

Q. And you testified earlier that this patent is generally about sharing a single use USB device between two or more hosts? 14:15:55 14:15:57 14:16:00

A. Yeah, that's correct. 14:16:03

Q. Now, does the USB specification have 14:16:04

any rules about how many hosts can be in a USB system? 14:16:06 14:16:10

A. Yeah. It's very explicit. It only contemplates one host -- if you say it the other way around, for any device, there is only one host. And, in fact, at the lowest level of the protocol of USB, when a host says hey, I want to do something, I want to talk to a device, there is no indicator in that transaction on what the host is. It's just assumed it is the one host. 14:16:11 14:16:13 14:16:16 14:16:18 14:16:20 14:16:23 14:16:25 14:16:27 14:16:29

And so all the host says is hey, Device No. 2, do this, you know, do an in or an out, the most basic thing, and then it provides the data and expects to get a response back from that device. And all the other devices, you know, stay out of the way until that transaction is done. 14:16:31 14:16:33 14:16:36 14:16:38 14:16:40 14:16:43 14:16:44

So the host is implicit. There is no way you could possibly have more than one host. And the USB spec is explicit, as I think you've seen over the course. 14:16:46 14:16:48 14:16:50 14:16:53

Q. And does the USB specification say anything anywhere about allowing two hosts to 14:16:54 14:16:56

share one device? 14:16:59

A. No. 14:17:00

Q. Okay. 14:17:01

Now, why don't we flip to page 5 of the patent, this is column 1, and I'd like to take a look at lines 54 to 56, please. 14:17:01 14:17:06 14:17:09

MR. SAULSBURY: And while that's coming up, I'd like to offer Mr. Garney as an expert in USB technology. 14:17:17 14:17:18 14:17:21

MR. SLAYDEN: No objection, Your Honor. 14:17:23 14:17:25

THE COURT: All right. He is received. 14:17:25 14:17:26

MR. SAULSBURY: And, Mr. Glass, if we could please highlight the text starting with, "In general, the USB specification is structured so that every device is configured and accessed by a single host controller." It's the third sentence. 14:17:27 14:17:30 14:17:32 14:17:34 14:17:37 14:17:46

THE WITNESS: Five lines down. 14:17:51

MR. SAULSBURY: If you go up a little bit, "In general." There you go. Great. 14:17:52 14:17:53 14:17:55

BY MR. SAULSBURY: 14:17:58

Q. Mr. Garney, how does this description in the patent relate to what you were just telling us about the host in the USB system? 14:17:59 14:18:02 14:18:03

A. It's basically saying the same thing, just in legal words. 14:18:05 14:18:07

Q. Now, you said that patent was about sharing multiple devices -- I'm sorry, sharing USB devices with multiple hosts. What kind of device does the patent talk about sharing? 14:18:10 14:18:12 14:18:15 14:18:18

A. There's actually a figure it talks about. 14:18:20 14:18:22

Q. Is that Figure 2? 14:18:22

A. Yeah. 14:18:24

MR. SAULSBURY: Can we please take a look at that, Mr. Glass. 14:18:26 14:18:28

BY MR. SAULSBURY: 14:18:30

Q. Is this the figure you had in mind? 14:18:31

A. Yeah, so it's figure -- I think it's been mentioned a few other times, but it shows a printer, a display, a keyboard, a mouse, I think that's probably a phone and I think later in the words, it actually talked about shared Ethernet controller. Just an example of the devices, I mean. 14:18:32 14:18:34 14:18:36 14:18:40 14:18:41 14:18:44 14:18:52

MR. SAULSBURY: And, Mr. Glass, if we could please take a look at Exhibit 370 in evidence at page 3280. And can we please blow up the section that's the second paragraph, yep. There we go. 14:18:56 14:18:58 14:19:02 14:19:12 14:19:14

BY MR. SAULSBURY: 14:19:18

Q. Mr. Garney, do you recognize this as the text from the patent office's decision that came up in the context of Mr. Zatkovich's testimony? 14:19:19 14:19:22 14:19:25 14:19:27

A. I do. 14:19:27

Q. It says here that "Neither party identifies, nor do we discern, any disclosure in the USB specification describing a capability to arbitrate among multiple host requests - indeed adding such a feature is at the heart of the purported invention of the '243 Patent, i.e. the point of novelty." 14:19:29 14:19:31 14:19:33 14:19:35 14:19:39 14:19:43 14:19:45

Do you agree with that statement? 14:19:48

A. I do. 14:19:50

Q. Can you please elaborate? 14:19:51

A. Well, again, the USB specs only contemplate one host to multiple devices, or said the other way around, each device only 14:19:52 14:19:54 14:19:57

has one host.

So, you know, first of all, we don't have multiple hosts that apply to USB, and because there's only one host, there is no need to arbitrate amongst anything. If the host wants to do something, it just does it.

This patent, as I mentioned at the beginning, if you have two hosts and one device, somebody has got to figure out that mess.

MR. SAULSBURY: And, Mr. Glass, could we please put Figure 3 of Exhibit 1. This might help illustrate that.

BY MR. SAULSBURY:

Q. Mr. Garney, with reference to Figure 3, could you explain why there is a need, in the context of the '243 Patent, to arbitrate as between two hosts?

A. I don't know if the pointer is going to work. I'll talk about it verbally.

So at the top of the figure, you can see the thing that says, and you've heard about this before, connection to the first host and connection to a second host.

Ah, hard to see green for the jurors, but there is a connection to the first host. So the first host would be up here. Connection with a second host, the second host would be up here. 14:21:09 14:21:11 14:21:12 14:21:15 14:21:17

They are connected to the port. We described this, but for each host, there is the host, a connection to a port, the port is connected to the endpoint and status buffer and then it goes down to the MHDC. 14:21:18 14:21:21 14:21:23 14:21:26 14:21:30

Same thing for the second host; there is a host, connection to the port, connection to the endpoint buffer, connection to the MHDC, and this is sort of where the problem -- the device at the bottom, again, we have one connection at the bottom. 14:21:33 14:21:35 14:21:37 14:21:39 14:21:41 14:21:44

And if you think about it, it's like a row. You've heard about there is a single lane between each host and the invention. And then within the invention, there is this, you know, mixing kind of thing and then there is a single lane for the device. 14:21:48 14:21:49 14:21:51 14:21:54 14:21:57 14:21:59 14:22:01

If you think about rows, if I have 14:22:02

two cars running down these two single lane rows and they try to merge onto a one lane road, there's going to be a collision possibly. And so there's got to be a cop or a stop sign or a stop light or something to sort out who gets to go next. 14:22:03 14:22:06 14:22:09 14:22:11 14:22:14 14:22:16

And so that's at the heart of this invention, just kind of mixing the two hosts, this coupling. And there is a bunch of legal words, and then how to get down to the single shared device. 14:22:18 14:22:20 14:22:22 14:22:24 14:22:26

Q. And does the patent explain how to accomplish arbitration? 14:22:28 14:22:32

A. It has two examples that it presents. One of them talks about interleaving. You can sort of think of that as a stop sign. If you're familiar with stop signs, if you drive properly, people arrive at a stop sign, and if there's two cars there, one car goes and then the other car gets a turn, and that sort of keeps going as long as there are cars backed up behind the stop sign. That's the interleaving concept. 14:22:33 14:22:36 14:22:38 14:22:40 14:22:42 14:22:44 14:22:46 14:22:49 14:22:51 14:22:53

The second example that they use 14:22:54

in the patent, they use this technical thing called a request grant. And you can kind of think of that as a stop light. So instead of stop signs, now I have stop lights. Not just one car can go through, multiple cars can go through. Then the stop light changes to grant other lanes -- other cars can go through, and they alternate. It is a bulkier process, more cars can go through each time. 14:22:56 14:22:59 14:23:01 14:23:03 14:23:06 14:23:09 14:23:13 14:23:16 14:23:19

Q. Is that second example sometimes called a hold-off mechanism? 14:23:21 14:23:23

A. Absolutely, yeah. 14:23:24

Q. And could you explain why you sometimes hear that name? 14:23:26 14:23:27

A. Well, to put it in personal terms, you think of a policeman sticking his hand out and saying, hold on, let this guy go first, and then hold on and let this guy go. 14:23:28 14:23:29 14:23:32 14:23:36

Q. Sorry, go ahead. 14:23:38

A. A different way of doing a stop light, for example. 14:23:39 14:23:40

Q. Does the patent provide any examples of how one can share a single device between two hosts without arbitration? 14:23:41 14:23:44 14:23:48

A. No. 14:23:49

Q. I want to talk about an example where the shared device down in block 312 is a printer, by way of example. 14:23:56 14:23:58 14:24:03

A. Sure. 14:24:04

Q. What would happen if you didn't have an arbitration mechanism? 14:24:05 14:24:06

A. Well, I could -- I mean, there is a lot of possibilities. Obviously it depends on how it's implemented because this is just words from a patent, but if I imagine an actual physical printer, it could be the print just doesn't work. I mean, it's expecting inputs and doesn't know what to do with them. 14:24:07 14:24:10 14:24:12 14:24:14 14:24:16 14:24:18 14:24:21

A second one is if the -- if you think of printing a document, a big document, multi-page document, from one side and doing the same thing from the other side, you could get the pages interweaved from each document, so you'd get a mixture of document pages in one printout. 14:24:23 14:24:26 14:24:28 14:24:31 14:24:32 14:24:36 14:24:38

Another problem could be that you get, you know, the image of a page from each individual document superimposed on each 14:24:40 14:24:42 14:24:46

other; they can print on top of each other. 14:24:49

Another possibility is you just 14:24:51

get garbage and the printer could get sort of 14:24:52

crazy and dump all kind of noise onto the 14:24:56

page. 14:25:00

Q. I'd like to now turn to claim 23. 14:25:01

MR. SAULSBURY: Mr. Glass, can we 14:25:04

please see that up on the screen. And if we 14:25:06

could put that side-by-side with Figure 3, 14:25:08

please. 14:25:09

BY MR. SAULSBURY: 14:25:13

Q. Mr. Garney, do you understand claim 14:25:14

23 to be the only independent claim that's 14:25:17

asserted here? 14:25:19

A. I do. 14:25:20

Q. And you understand that claims 24 and 14:25:21

25 are also asserted? 14:25:24

A. Yes, but they depend upon this claim. 14:25:26

Q. That's right. 14:25:29

Now, let's take a look at claim 23 14:25:29

in reference, if we could just -- for a point 14:25:32

in reference, if we could. 14:25:36

A. Okay. 14:25:37

Q. Now, do you see how up toward -- this 14:25:37

is the first requirement in claim 23. You see how it requires that shared USB device block? 14:25:41 14:25:44

A. I do. 14:25:47

Q. Okay. 14:25:48

Now, USB device block is one of the terms that the Court has construed, so let's take a look actually at the Court's construction on Tab 3. It's Tab 3 in the jurors' notebooks. 14:25:49 14:25:54 14:25:57 14:25:59 14:26:04

MR. SAULSBURY: Mr. Glass, it would be at 37. DX-37. There we go. 14:26:06 14:26:07

BY MR. SAULSBURY: 14:26:16

Q. And so this is the same document that the jurors have in Tab 3 of their notebooks. 14:26:16 14:26:18

And, Mr. Garney, if you take a look at the definition of a USB device block, you see how it says here, "A USB device block is a USB device or segment of a USB device that performs a function to provide a capability to a host over USB." 14:26:22 14:26:24 14:26:27 14:26:29 14:26:33 14:26:35

A. I see that. 14:26:37

Q. Okay. 14:26:38

Now, let's go back to claim 23. 14:26:38

First of all, did you apply this 14:26:42

construction in forming your opinions? 14:26:44

A. I did. I'm required to. 14:26:46

Q. Okay. 14:26:48

A. I don't have a choice. 14:26:48

Q. Now, what do you understand this definition to mean in the context of claim 23 shared device block? 14:26:49 14:26:51 14:26:54

A. Well, it's saying, I mean, as you see in the term, there is an "or" in there, so it says, "a USB device or segment of a USB device that performs," blah-blah-blah. 14:26:55 14:26:57 14:27:01 14:27:04

And so when the patent talks about this, there can be a standard off-the-shelf part as one of the possibilities that can be the shared device block, and then this language talks about some of the other possibilities. 14:27:06 14:27:09 14:27:13 14:27:15 14:27:17 14:27:18

So the shared USB device block here has to obey that definition. It has to be a USB device, a standard off-the-shelf USB device, or a segment of a USB device, and that second word is really key because the patent uses that same word, and words in patents really matter. You have to be really 14:27:19 14:27:22 14:27:24 14:27:28 14:27:31 14:27:33 14:27:35

attentive. You can't just invent what you think it means; you have to read what the patent says. That's what makes the patent world harder sometimes, especially for a free-wheeler engineer like me. So I studied this carefully, and so a segment of the USB device. 14:27:37 14:27:39 14:27:41 14:27:45 14:27:48 14:27:50 14:27:52

And then further, it has to perform a function to provide a capability to a host over USB. So somehow that shared device block is going to have to be connected back up to a host, what they call over USB sometimes. 14:27:53 14:27:54 14:27:56 14:27:59 14:28:01 14:28:04

Q. And how does this shared USB device block in claim 23 relate to the purpose of the invention? 14:28:04 14:28:06 14:28:09

A. Well, this is the thing that's being shared. The two hosts are trying to do something; a central idea of the patent is two hosts sharing a single device. This is the shared USB device block that they are talking about. 14:28:10 14:28:11 14:28:13 14:28:17 14:28:19 14:28:21

Q. Now, claim 23 goes on to say, "Shared USB device block operable to be simultaneously 14:28:21 14:28:25

configured by two or more hosts." 14:28:28

MR. SAULSBURY: And it might be helpful to think about this in the context of Figure 3. So, Mr. Glass, can you please have that up on the right. 14:28:36 14:28:33 14:28:35 14:28:38

BY MR. SAULSBURY: 14:28:43

Q. Mr. Garney, does the device depicted here in Figure 3 provide a way for the shared USB device block to be simultaneously configured by two or more hosts? 14:28:44 14:28:48 14:28:51 14:28:54

And let me ask you to first start off with, what's the shared USB device block here? 14:28:57 14:28:59 14:29:01

A. Well, in the figure, right, 312, this bottom block, the device or function, that's really what they mean by shared USB device block. They have used device/function, but it is still -- they do this partly I think in some patents, they aren't really precise, but they mean the USB shared device block. 14:29:02 14:29:06 14:29:09 14:29:12 14:29:15 14:29:17 14:29:21

Q. And how does the device on Figure 3 allow that device block to be simultaneously configured? 14:29:24 14:29:26 14:29:29

A. So if you -- what we said before, 14:29:30

each host has its own path down into the invention, the left-hand path here and the right-hand path there. And the endpoint buffers here, the endpoint blocks, endpoint and status. 14:29:33 14:29:38 14:29:40 14:29:47 14:29:51

One of the things that we have learned from this whole trial is the device has an address, and so for each device -- excuse me, for each host, each host in this figure is essentially its own bus and the addresses they use are determined by the host. 14:29:51 14:29:52 14:29:54 14:29:57 14:30:00 14:30:02

And the two hosts really don't know anything about each other, so they can assign any address they want. And in this case for this invention, one host could use one address and a different host could use a different address for the same device. So there would have to be someplace to keep that. 14:30:05 14:30:07 14:30:09 14:30:11 14:30:14 14:30:16 14:30:19

And the patent talks a little bit about that, and we'll get to it later, but basically the set address to others is one of the things that you could expect to be stored, you know, probably in the endpoint buffer in this path and for each host, so each host has 14:30:21 14:30:23 14:30:25 14:30:28 14:30:29 14:30:32

a way of maintaining its address. 14:30:34

And that's part of the 14:30:36

configuration activity. As we talked about, 14:30:38

one of the first things the host has to do is 14:30:40

say okay, I am going to talk to you as Address 14:30:42

2, and the device has to have a way to -- this 14:30:45

invention has to have a way to store that for 14:30:48

the host, and that's how it can do that. 14:30:49

So each host has its own path for 14:30:52

that configuration information and there is 14:30:56

no -- there's no description of any way to 14:30:59

stop each host from doing it simultaneously; 14:31:02

it would be a normal kind of thing to have 14:31:05

happen. 14:31:07

Q. And, sorry, could you help me 14:31:07

understand how the two different paths, one 14:31:09

for each host down to the endpoint buffers, 14:31:10

allows for simultaneous configuration? What 14:31:13

about that allows for simultaneous 14:31:16

configuration? 14:31:18

A. Well, they're totally independent of 14:31:19

each other, the path from the host and the 14:31:22

invention through this path down to MHDC after 14:31:23

the host starts to say, each host is going to 14:31:28

say second address, and they are going to do it independently, if they can happen simultaneously without any problems. 14:31:32 14:31:33 14:31:35

There is no reason to arbitrate for that because it only deals with setting the address and that's something that's kept specific for each host. 14:31:37 14:31:38 14:31:40 14:31:41

Q. Do you recall hearing Mr. Zatkovich testify that claims 23 through 25 require alternately accessing the USB device block? 14:31:49 14:31:51 14:31:54

A. I do. 14:31:57

Q. Do you agree with that? 14:31:58

A. Yes. 14:31:59

Q. Why? 14:32:00

A. Well, two things. The patent talks about access requests from multiple hosts, so that's part of it. And as we talked about, there has to be some arbitration solution because you can't have two single lane things going into a mix to talk to one thing. There's got to be some way to alternate. 14:32:02 14:32:06 14:32:10 14:32:13 14:32:15 14:32:18 14:32:20

And I talked about how the patent describes two different ways that that alternating could take place, arbitration 14:32:22 14:32:24 14:32:25

could take place. 14:32:28

Q. And do you see how, towards the 14:32:28

bottom of Figure 3 between the device/function 14:32:30

312 and the multi-host device controller 108, 14:32:33

there's just one -- 14:32:36

A. Right here. 14:32:37

Q. -- set of arrows? 14:32:38

A. One arrow here. That's the single 14:32:39

lane for the device, and up here, these are 14:32:41

the single lanes between the host and the 14:32:43

invention. 14:32:45

Q. Does that single lane down there 14:32:46

between the multi-host device controller and 14:32:47

the device function have anything to do with 14:32:50

why it's necessary to alternate? 14:32:53

A. Sure, because there's only one -- one 14:32:54

single connection. I mean, since it's a USB 14:32:58

device, that's one of the possibilities that 14:33:02

are talked about, it's only prepared to deal 14:33:06

with one host, as we talked about, why it 14:33:08

would be one host. 14:33:13

Q. Now, we've heard some debate over 14:33:13

whether there are two USB devices in Aptiv's 14:33:16

hub or just one USB device that's shared 14:33:20

between two hosts.

Does this matter to your non-infringement opinion?

A. Yes. I mean, it's central.

Q. And why is that relevant to whether the dual role hub of Aptiv infringes claim 23?

MR. SAULSBURY: And, Mr. Glass, can we have claim 23 back up, please. Thank you.

THE WITNESS: Well, the patent only talks about one device that's shared by multiple hosts. If it has -- if a practicing product -- if a product has two devices where each device is only used by its corresponding host, that's not what the patent teaches. The patent is explicit, and it's got to be a single shared -- a shared USB device block, right there in black and white.

So it's got to be the same thing that both hosts access. There is some other specific details, but that's the essence.

BY MR. SAULSBURY:

Q. Is the point that if you have two devices, each of which talks only to its host,

you don't have a shared USB device? 14:34:18

A. Yeah, there's no arbitration required 14:34:19
because it's -- you can sort of imagine each 14:34:23
host with this device are in a separate room 14:34:25
in some other place on the planet that have 14:34:28
nothing to do with each other. They don't 14:34:31
know anything about each other; no reason to 14:34:33
arbitrate. There's no reason to do anything 14:34:35
with regard to each other. 14:34:37

That's kind of the model of a host 14:34:38
with its own device on both sides which, 14:34:40
there's no arbitration, no sharing. 14:34:42

MR. SAULSBURY: Mr. Glass, can we 14:34:46
please see Trial Exhibit 12 in evidence. 14:34:48

BY MR. SAULSBURY: 14:34:51

Q. Mr. Garney, do you recognize Trial 14:34:52
Exhibit 12 from Mr. Voto's testimony? 14:34:55

A. I do. 14:34:58

Q. Is this something you analyzed in 14:34:58
forming your opinion? 14:35:00

A. It is. 14:35:01

MR. SAULSBURY: Can we please put 14:35:03
page 4 of this document up. 14:35:06

THE WITNESS: What a surprise. 14:35:07

BY MR. SAULSBURY: 14:35:09

Q. What do we see here, Mr. Garney? 14:35:09

A. This is a picture the jurors have seen many times. It is basically a representation and it, as the title says, a Simplified System Concept of the Dual Role Hub of Aptiv, and it shows -- do you want me to -- in the same order? 14:35:10 14:35:12 14:35:14 14:35:17 14:35:22 14:35:25

Q. Actually, that's a perfectly fine stopping point because I have a question. 14:35:26 14:35:28

Does this diagram have a single USB device that is shared by two or more hosts? 14:35:30 14:35:34 14:35:38

A. No. As referred over and over again from many experts, I mean people testifying, not just experts, clearly identified here, there is USB Device A that's connected to the head unit through a hub, not the hub of the invention. 14:35:38 14:35:40 14:35:43 14:35:45 14:35:48 14:35:52

There is an IOS device or an iPhone connected through a similar routing logic USB, and those two host and device combinations do their own things. There has to be some connection between the two devices, 14:35:52 14:35:54 14:35:57 14:36:00 14:36:02

but there's no arbitration; they just do their own thing. 14:36:04 14:36:07

MR. SAULSBURY: Can we please turn to Trial Exhibit 17 in evidence. 14:36:10 14:36:11

BY MR. SAULSBURY: 14:36:15

Q. Do you recognize this document, Mr. Garney? 14:36:16 14:36:17

A. I do. 14:36:18

MR. SAULSBURY: And let's flip to page 11, please. 14:36:21 14:36:23

BY MR. SAULSBURY: 14:36:25

Q. Is this diagram something you analyzed in forming your opinion? 14:36:26 14:36:30

A. It is. 14:36:31

Q. Okay. 14:36:32

And at a high level, what do we see here? 14:36:33 14:36:36

A. This is sort of a more detailed zoom-in on a hub part compared to the more simplified figure before, but again, it has the same elements. It shows the head unit on the left, has a host connected to a hub and Device A, its device, and then in this case, this is showing early -- an early point in 14:36:36 14:36:39 14:36:42 14:36:45 14:36:47 14:36:52 14:36:55

time was an iPhone attached through the routing logic of that arrow, this arrow here shows as a device of the head unit. And there could be some other USB devices. 14:36:59 14:37:01 14:37:06 14:37:09

This is one host and multiple USB devices, in summary. 14:37:13 14:37:16

Q. Did you say "currently"? 14:37:18

A. This is how this was configured. I know this could operate another way. 14:37:19 14:37:21

Q. In fact, do you see, under description, it says, "At power up, head unit detects a USB hub and a custom device"? 14:37:23 14:37:25 14:37:27

A. I do. 14:37:30

Q. And then it sort of goes through a sequence there? 14:37:31 14:37:33

A. Yep. 14:37:33

Q. Could you walk us through that sequence? 14:37:34 14:37:36

A. Sure. I think there might be a slide that -- 14:37:37 14:37:40

Q. I believe you did prepare some slides. 14:37:40 14:37:42

MR. SAULSBURY: I think there are some slides, too, Mr. Glass. 14:37:42 14:37:43

THE WITNESS: Your Honor, could I step down and walk through as I'm speaking? 14:37:51

THE COURT: You can, but you need to stand near a microphone. I don't know if you want to just step in front of the witness box. 14:37:56

THE WITNESS: Let's try to see if it works. I'll try. It gives me a chance to stretch my legs because I'm afraid I might be there for a while. 14:38:04

Okay. So this is the same figure we just saw and this is, let's call it before power-ups when the car is still powered off and it's got the head unit that's sitting over here with its host port that's connected to a -- well, the hub is there, but as you see, there's not much going on. There's no lines drawn, nothing is really connected because it's powered off. Nothing can happen if it's powered off. 14:38:11

Then you turn on the key in your car and because of that, the head unit -- excuse me, the head unit gets powered and now it can do things. Its brain gets unscrambled 14:38:36

and can start doing things. And the hub gets powered and the wire that physically connects these two allows the host port on the head unit to say ah, something is attached. 14:38:49 14:38:51 14:38:53 14:38:56

And one of the first things we've said all along is the first thing the host has to do is say, what are you because I don't know what you are. You could be anything. 14:38:59 14:39:00 14:39:02 14:39:04

And so it asks the hub, what are you? No button. I guess Mr. Glass can help. 14:39:06 14:39:09

MR. SAULSBURY: Mr. Glass, are you able to advance the slide? 14:39:24 14:39:26

THE WITNESS: I think you are going to have to advance them. 14:39:26 14:39:27

So actually we've blown past the hub part. So the hub has to get enumerated and configured and told okay, you're going to be Device 1 because I recognize you as the hub. I know what you can do and I am going to support you, which makes those other ports available. 14:39:28 14:39:30 14:39:33 14:39:35 14:39:38 14:39:40 14:39:42

And then, based on that, the device is powered. And now that the hub is configured, the hub can see that that Device A 14:39:42 14:39:44 14:39:47

is connected and it says, I'm here. And the host says, hmm, I have a new device that's connected to that port on the hub. I wonder -- I wonder what you are. 14:39:51 14:39:53 14:39:56 14:40:00

So it does -- again it says, what are you to Device A, and Device A returns -- and the specific thing it does is get device descriptors I was talking about and it returns this, what we're focused on here is the stream that's returned on the host-to-host bridge. And it's also represented by the product vendor ID, so details in the device descriptor. 14:40:01 14:40:03 14:40:07 14:40:10 14:40:11 14:40:14 14:40:16 14:40:20 14:40:22

And the host, you know, stares at itself and goes, gee, do I recognize this vendor and product ID? Yeah, I do, I recognize it. 14:40:23 14:40:24 14:40:27 14:40:29

And it's a little strange because it is a vendor-specific device, but I have a driver for that. And so we are going to go tell that device -- Mr. Glass, next slide. 14:40:30 14:40:31 14:40:33 14:40:35

BY MR. SAULSBURY: 14:40:39

Q. Mr. Garney, actually, I heard you say that I have a driver for that. What's that in 14:40:40 14:40:42

reference to? 14:40:45

A. I think we heard, in Mr. Petku's 14:40:45

testimony, that in order to support any USB 14:40:47

device, there has to be software in the host 14:40:50

that knows how to make that device work. And 14:40:52

each -- each type of device may need specific 14:40:55

software for that. 14:40:58

So if you can imagine I plugged in 14:40:58

a printer, I have to have the printer 14:41:01

software. If I plug in a camera, I have to 14:41:03

have the camera software. If I plugged in an 14:41:05

Ethernet cable, I have to have the Ethernet 14:41:08

software. 14:41:11

So in this case, if I plug in 14:41:12

Device A, you know, the Aptiv host-to-host 14:41:14

bridge, I have to have the host-to-host bridge 14:41:16

software; otherwise, that device won't do 14:41:18

anything. And as we've heard, that's specific 14:41:21

to Aptiv's host-to-host bridge dual hub 14:41:24

product. 14:41:28

So the host says yep, I know about 14:41:28

the device type, I have a driver for it. I 14:41:30

can make that device work. And so now I think 14:41:32

we go to the next slide. 14:41:36

BY MR. SAULSBURY: 14:41:37

Q. And while we're -- sorry, go ahead. 14:41:37

A. And it does a second -- 14:41:40

THE COURT: Mr. Garney, if you are not using that pointer, I am going to say please resume your seat. 14:41:41 14:41:43 14:41:46

THE WITNESS: Okay. Sure. Sorry. 14:41:47

THE COURT: Go ahead. 14:41:53

THE WITNESS: So one of the other requirements of standard USB is just as we said, the device has to be able to self-describe what am I. The spec is explicit to say until a device is configured, it can't do anything. I mean, it can respond to a few standard requests, but it can't provide its function. It has to be configured before it can be used is the language -- actually, I wrote that language in the specs so I'm pretty familiar with it. 14:41:53 14:41:55 14:41:57 14:42:03 14:42:06 14:42:10 14:42:13 14:42:15 14:42:18 14:42:20 14:42:23

And a specific thing is a configuration coming on. And part of this is a device -- well, it has a set configuration to tell the device okay, now you can be a total hub -- I mean, you can be Device A, 14:42:24 14:42:26 14:42:30 14:42:32 14:42:35

let's say in this case, sorry, you can be a printer or you can be an Ethernet, and that's what allows -- and if we advance in the slide -- that allows now Device A to be -- Device A to be the controller for this dual role hub functionality, so role reversal. 14:42:38 14:42:40 14:42:43 14:42:46 14:42:48 14:42:53

BY MR. SAULSBURY: 14:42:54

Q. And at this point, how many hosts do we have in the system? 14:42:54 14:42:56

A. There's only one host because, I mean, there's nothing else that's discovered. 14:42:57 14:42:58

Q. And that host is the head unit? 14:43:01

A. That host is the head unit. 14:43:03

Okay. Next slide I think. 14:43:07

So now you're sitting in your car, you plug in devices into the connectors that you see in front of you in the car dashboard. You can plug in a thumb drive that we've heard, an iPod if anybody has those anymore or your iPhone. 14:43:09 14:43:11 14:43:14 14:43:16 14:43:19 14:43:22

Once you plug in your iPhone, it starts out looking like a device so it gets connected to a hub port. The hub says hey, there's something new here. The host says 14:43:23 14:43:25 14:43:28 14:43:30

hmm, I wonder, let's reset and make sure it's in a good state and let's say who are you, which I think is the next slide. 14:43:33 14:43:36 14:43:38

One of the key things here is in the slide here again, this diagonal line, it shows that the iPhone is connected to the downstream port of the hub. Standard USB. 14:43:41 14:43:44 14:43:46 14:43:49

Q. And what does it mean for the iPhone to be connected to a downstream port as opposed to an upstream port? 14:43:52 14:43:54 14:43:56

A. It can only access one device. Again, USB only comprehend one host. If it tried to attach to a host, you would get chaos, figures would break and it wouldn't be compliant to USB. 14:43:57 14:44:01 14:44:04 14:44:07 14:44:09

Q. I think we are going to move on to role reversal, but before we get there, before the head unit initiates role reversal, how many upstream ports are there in the dual role hub? 14:44:10 14:44:11 14:44:16 14:44:20 14:44:22

A. There's only one, which is the one the head unit is connected to. The others are downstream ports. 14:44:22 14:44:24 14:44:26

Q. Does that affect the number of the 14:44:28

hosts that can connect to the dual role hub? 14:44:29

A. Yeah, the host is associated with an upstream port. I mean, there can only be a host if it's -- actually if it provides an upstream port in some sense. 14:44:31 14:44:33 14:44:35 14:44:38

Q. Thank you. 14:44:41

A. Okay. So at this point, the head unit has discovered this iPhone device, has enumerated, has given it its address and told it okay, you can be an iPhone. 14:44:42 14:44:47 14:44:51 14:44:54

And now the head unit, for whatever reason, decides gee, let's allow CarPlay to happen. And so now we have to do a sequence of steps to make CarPlay happen. 14:44:56 14:44:58 14:45:02 14:45:06

So one of the first things is we have to do something magic to make this iPhone that's a device instead operate as a host. It just doesn't happen by itself. 14:45:08 14:45:10 14:45:14 14:45:17

So the host, as you heard from Mr. Petku, and I just remember from looking at things also, the host issues a vendor-specific role reverse command to the Device A and that kind of starts the ball rolling, because then Device A is going to go change this routing in 14:45:19 14:45:21 14:45:23 14:45:26 14:45:29 14:45:32

the routing logic which is sort of the first step of allowing the iPhone to become a host. 14:45:34 14:45:37

Q. Is role reversal something discussed in the '243 Patent? 14:45:40 14:45:42

A. No. It's not something that's discussed in the USB 2 spec either. 14:45:44 14:45:47

Q. What happens next? 14:45:49

A. Okay. If we advance to the next slide, so at this point, as part of the contract, the rules of how CarPlay works that Apple defined, Apple knows that based on this interaction, the iPhone is now going to attempt to become a host, so it's going to change its -- change some of the electrical details and, you know, see if it's connected to a useful accessory that will allow it to do CarPlay. 14:45:51 14:45:53 14:45:57 14:45:59 14:46:01 14:46:04 14:46:06 14:46:08 14:46:12 14:46:15

So it is going to act as a host. And you see the routing -- picture here of how the routing changed and we are now connecting the host to USB Device B, which is the second device in the dual role hub. And the iPhone, since it is a host, now it has the responsibility of doing the discovery. 14:46:16 14:46:18 14:46:21 14:46:24 14:46:27 14:46:30 14:46:33

So again, the Device B is going to be noticed as a newly attached device to the iPhone. The iPhone is going to say gee, there's something new here. What are you? 14:46:34 14:46:38 14:46:40 14:46:43

I think that may be the next slide. There we go. 14:46:45 14:46:47

And USB Device B is going to respond with a device descriptor because, again, this process is really get device descriptor as who are you and the device descriptor is what tells the host, in this case, the iPhone. 14:46:50 14:46:52 14:46:54 14:46:58 14:47:00 14:47:02

I think the next slide shows -- yeah, as you have heard earlier in the trial, Device B responds with its device descriptor that has, in this case, the string that says iAP2 NCM accessory, and that's the key that tells the iPhone, which is the start of the key that tells the iPhone, this is possibly a CarPlay thing and maybe we're going to do CarPlay stuff. 14:47:03 14:47:05 14:47:08 14:47:11 14:47:14 14:47:18 14:47:21 14:47:23 14:47:26

And I think there may be one more step which shows -- yeah, there is the second configuration which now makes Device B present 14:47:27 14:47:29 14:47:33

and useful to be able to perform its function, and again, it has to obey the rules; it can't be a device that provides the specific function until the host tells it set configuration. 14:47:35 14:47:37 14:47:40 14:47:43 14:47:45

So again, there is like -- I think there's one more slide here. Yeah. So again, this is like two separate USB device -- USB networks or trees is really the language that USB talks about. USB buses and head unit as a host is the one on the left and the iPhone now is the host of the one on the right, and iPhone only has one device and the head unit, in fact, as represented here now has two devices, but does not include the iPhone any longer. And I think now we can advance to the next slide. 14:47:46 14:47:47 14:47:50 14:47:54 14:47:56 14:48:01 14:48:05 14:48:07 14:48:09 14:48:12 14:48:14 14:48:18

So now the iPhone and the -- and what it believes is the accessory has to go through a more involved process that Apple defines after having recognized this iAP2 and NCM piece of information and it starts to -- it goes through that authentication process to confirm that this is an Apple-approved head 14:48:19 14:48:23 14:48:26 14:48:28 14:48:32 14:48:35 14:48:39

unit because that's what the iPhone is expected to be attached to. 14:48:41 14:48:43

And now sort of like what Mr. Zatkovich's idea of playing music, if the iPhone starts playing music, it does USB transactions to send, you know, little snippets of the music to USB Device B in the dual hub, which is what those green things are; they are stored in the endpoints of USB Device B. 14:48:44 14:48:47 14:48:49 14:48:52 14:48:55 14:49:00 14:49:01 14:49:04

And now if we advance to the next slide, those data bits are copied by the bridge logic that we heard about from the endpoints of the USB Device B to the endpoints of USB Device A to get them across the bridge into the other device, just like the Ethernet cable that we've seen. 14:49:05 14:49:08 14:49:12 14:49:14 14:49:17 14:49:21 14:49:24

And then if we go to the next step, actually the data will sit in USB Device A until the head unit host asks the device, do you have any data? And the head unit is going to be asking that device all the time because it doesn't know when data may be coming. And it doesn't do anything until data actually 14:49:26 14:49:28 14:49:33 14:49:36 14:49:38 14:49:41 14:49:45

comes. So once data shows up in USB Device A, the head unit can ask it, get it up to the head unit and now play it. 14:49:47 14:49:47 14:49:49 14:49:53

Q. Now, this process you just talked about for setting up the iPhone for CarPlay, does that cause there to be a single USB device -- 14:49:56 14:49:58 14:50:00 14:50:03

A. No. 14:50:04

Q. -- within the dual role hub? 14:50:04

A. No, it doesn't change anything. I mean, it is using this as a nice transport channel end-to-end, just like an Ethernet connector between two hosts. 14:50:06 14:50:08 14:50:11 14:50:13

In effect, that's what NCM stands for. NCM is a fancy technical term of a particular USB device class for things like Ethernet controllers. It's called a Network Communication Model. It is exactly defined for host-to-host communication. That's used for all kinds of things in USB, not just a dual role hub, but you can have Ethernet cables and wireless could be used that way; any number of things could be used that way. 14:50:15 14:50:17 14:50:21 14:50:24 14:50:26 14:50:29 14:50:32 14:50:35 14:50:38 14:50:40

Q. Now, I believe you showed us that each USB device reported back different descriptors. I think we saw, for USB Device A, it reported back a vendor-specific descriptor and then for USB Device B, we saw iAP2 NCM. 14:50:42 14:50:44 14:50:48 14:50:51 14:50:55 14:51:00

Those different descriptors, was that something that you considered in concluding that there are two different devices here, two different USB devices? 14:51:02 14:51:05 14:51:06 14:51:07

A. That was part of the evidence, absolutely. 14:51:11 14:51:12

Q. Okay. 14:51:12

And what -- how did that -- how did the fact of the different descriptors factor into your description that there are two devices here, not one shared device? 14:51:13 14:51:17 14:51:20 14:51:22

A. So are you asking how did I determine that or what did I do once I had determined that? 14:51:23 14:51:25 14:51:28

Q. Let's start with the second and then we will -- I think it would be helpful to take a look at the analysis you did to determine the descriptors as well. 14:51:28 14:51:31 14:51:33 14:51:35

A. Well, if it is a shared device, I mean, the best example to start with if it's an off-the-shelf USB, it has a USB device, it only connects one host. And, in fact, one of the key pieces of information in that host is how many configurations do you have. And it returns the same information through any host it asks. I mean, no matter where I plug that USB device in, no matter what host, it is going to return the same information. 14:51:37 14:51:39 14:51:42 14:51:46 14:51:49 14:51:51 14:51:54 14:51:57 14:51:59 14:52:02

Minor detail there, but we can talk about that some other time. 14:52:04 14:52:14

So specifically with regard to the device descriptors and the names, the type of device it is, you know, for a given speed, that's the quirk. But for a given speed at a given host with the same capabilities, it will report the same information. 14:52:17 14:52:19 14:52:23 14:52:27 14:52:31 14:52:33

So given that here we have two different hosts that got different information from this product and the information is different, that was what -- one of the things that told me these were two separate devices. 14:52:35 14:52:41 14:52:45 14:52:49 14:52:50

Q. And, Mr. Garney, let's take a look at 14:52:55

the analysis you did to determine what descriptions were reported back by the USB devices, and I'd like to start with the USB Device B, the iPhone's USB device. 14:52:57 14:53:00 14:53:02 14:53:05

Could you please take a look at Trial Exhibit 212 in your binder. 14:53:10 14:53:12

(Whereupon, Trial Exhibit 212 was introduced.) 09:03:13 09:03:13

THE WITNESS: Okay. 14:53:14

BY MR. SAULSBURY: 14:53:21

Q. Do you recognize this? 14:53:21

A. I do. 14:53:22

Q. What is it? 14:53:23

A. This is a trace taken by a USB bus analyzer of the connection between the iPhone and a dual role hub, the Aptiv product. 14:53:23 14:53:26 14:53:32

MR. SAULSBURY: Move Trial Exhibit 212 into evidence. 14:53:35 14:53:36

MR. SLAYDEN: No objection. 14:53:38

THE COURT: All right. It is in. 14:53:38

MR. SAULSBURY: Mr. Glass, can we please see 212, and if we could please zoom in on the table that's labeled "Device Descriptor." 14:53:41 14:53:42 14:53:45 14:53:47

BY MR. SAULSBURY: 14:53:49

Q. So, Mr. Garney, could you remind us which device this relates to in the walk-through that you just gave? 14:53:51 14:53:55 14:54:00

A. Sure. This is Device B. This is the iPhone's device. 14:54:01 14:54:03

Q. And what device description did you find? 14:54:04 14:54:06

A. So this is all the gory details of all of the pieces of USB device descriptor, and down here you'll see this -- these are the names of the fields, the names of the parts and the sections of a USB device descriptor. And one of the fields is called a product, and a string, indirectly a string, that's what these numbers are out here for, but the string that identifies for an end user what is this device, what's its purpose for. 14:54:07 14:54:09 14:54:13 14:54:15 14:54:17 14:54:20 14:54:24 14:54:26 14:54:28 14:54:30

When we defined USB, we didn't want to have cryptic things that a poor consumer would have no idea of what it was if something went wrong, so we went the extra mile to allow devices to carry their string information that would be meaningful to a 14:54:33 14:54:35 14:54:38 14:54:40 14:54:42 14:54:46

human, as opposed to just the binder and data that might be useful for a computer. 14:54:47 14:54:50

So this product says iAP2 NCM accessory, which is the thing that says I am CarPlay capable for the device to be, which is the Apple CarPlay. 14:54:53 14:54:57 14:54:59 14:55:03

Q. And is iAP2 NCM a descriptor that's specific to CarPlay? 14:55:04 14:55:10

A. Well, the elements, there's sort of two parts to that request. Within the context of this case, yes. 14:55:10 14:55:14 14:55:16

Q. And how do you know that? 14:55:17

A. The CarPlay spec identifies that this is what's required to be recognized as CarPlay capable accessory that's wired over USB. CarPlay describes other ways to connect the devices, but for this case, it's just wired USB. 14:55:19 14:55:23 14:55:28 14:55:31 14:55:33 14:55:35

Q. Is that another way of saying that the iPhone has to recognize this description of this device in order for CarPlay to work? 14:55:35 14:55:37 14:55:39

A. Yeah. There's no -- yeah. I mean, it has to have the software necessary to support CarPlay. Again, you could plug 14:55:41 14:55:44 14:55:46

different things into an iPhone and it needs to know what it is, and this is the key that unlocks the ability to do CarPlay from iPhone's perspective. 14:55:48 14:55:50 14:55:53 14:55:56

Q. Did you also do an analysis to determine the device descriptor for USB Device A and the end unit's device? 14:55:57 14:55:59 14:56:03

A. I did. 14:56:03

Q. What did you do? 14:56:05

A. What did I do. It's been awhile. 14:56:06

Q. And I might -- sorry, go ahead. 14:56:09

A. Well, I believe I looked at the source code for the software that's responsible for the dual role hub reporting what its device descriptor is. 14:56:12 14:56:14 14:56:17 14:56:24

Q. Mr. Garney, I have just handed you Trial Exhibit 365. 14:56:41 14:56:45

(Whereupon, Trial Exhibit 364 was introduced.) 09:03:13 09:03:13

BY MR. SAULSBURY: 09:03:13

Q. Do you recognize this document? 14:56:46

A. This looks like the source code I looked at, yes. 14:56:47 14:56:50

MR. SAULSBURY: Move to admit -- 14:56:51

BY MR. SAULSBURY: 14:56:53

Q. And, Mr. Garney, could you identify 14:56:53

what source code file that is? 14:56:55

A. The source code file is called H to H 14:56:56

upstream, which again, H to H is host that we 14:57:01

heard. Upstream is for the Device A part and 14:57:04

this is Aptiv source code that's in the 14:57:07

firmware of the dual hub that makes the Device 14:57:09

A/B Device A, a part of the source code. 14:57:13

MR. SAULSBURY: And we move to 14:57:19

admit the excerpt of source code that's been 14:57:20

marked as Trial Exhibit 264. 14:57:23

MR. SLAYDEN: No objection, Your 14:57:28

Honor. 14:57:30

THE COURT: I take it, just so 14:57:30

we're clear on the record, 364? 14:57:31

MR. SAULSBURY: That's right, Your 14:57:33

Honor. Thank you. 14:57:34

Mr. Glass, can we please see 14:57:36

DX-38. Why don't we go to page 6. 14:57:46

BY MR. SAULSBURY: 14:57:51

Q. Mr. Garney, do you recognize this as 14:57:52

a portion of what you analyzed? 14:57:54

A. I do. 14:57:56

MR. SAULSBURY: Mr. Glass, could you please go down in your blowup, please go down to line 327. 14:57:57 14:57:58 14:58:00

BY MR. SAULSBURY: 14:58:05

Q. And what did the source code tell you about the device descriptor for USB A, the head unit device? 14:58:07 14:58:10 14:58:15

A. Right. So this source code is computer language called C, well-known computer language I'm familiar with. And what you have to do is sort of revert in this case. There is some strangeness of the declaring strings in C for certain uses, so this is sort of one of them. 14:58:15 14:58:17 14:58:20 14:58:23 14:58:26 14:58:30 14:58:32

But if you look vertically here, you'll see it says host space two space host space bridge. So this is the string that's exactly the string that's returned by Device A to the head unit. 14:58:33 14:58:35 14:58:40 14:58:43 14:58:47

And if you look up at the top, it's actually declaring this as a constant H to H product string descriptor. And then it has a comment down at the bottom, it also says this is B string in a more human readable 14:58:48 14:58:50 14:58:53 14:58:58 14:59:00

form. Host-to-host bridge. It is all consistent with this. 14:59:04 14:59:07

MR. SAULSBURY: And, Mr. Glass, if we could please go back to Slide 11. I think we're on 15. If we can go to 11, please. And if you go back to 10 and forward to 11, I think the PowerPoint -- there we go. Okay. 14:59:12 14:59:14 14:59:23 14:59:28 14:59:32

BY MR. SAULSBURY: 14:59:34

Q. So prior to the point of role reversal, is it -- is it possible for the iPhone to connect to the host? 14:59:35 14:59:41 14:59:43

A. No. It can only connect to the device. 14:59:45 14:59:49

Q. And so just to get clear on the sequence, prior to the car being powered on, is it possible for there to be more than one host attached to the dual role hub? 14:59:50 14:59:54 14:59:58 15:00:02

A. No. Prior to the power on, there can't even be one host, zero host. I mean, mechanically they may be connected, but functionally, there's nothing doing -- nothing happening. 15:00:04 15:00:06 15:00:17 15:00:19 15:00:22

Q. There is no device to be configured? 15:00:22

A. No. 15:00:24

Q. Now, I'd like to talk in more detail about what happens between Device A and Device B. Can we take a look at Trial Exhibit 14 in evidence and go to page 4, please. 15:00:28 15:00:31 15:00:33 15:00:35

Do you recall seeing this document in Mr. -- during Mr. Voto's testimony? 15:00:37 15:00:42

A. I do. 15:00:45

Q. What are we looking at? 15:00:45

A. This is what Unwired called their host-to-host bridge design spec. 15:00:48 15:00:50

Q. Now, do you see how there is a big blue box labeled USB Device A and another big blue box labeled USB Device B? 15:00:53 15:00:55 15:00:58

A. I do. 15:01:00

Q. Do those correspond to the USB Device A and USB Device B that we saw in your slides from earlier? 15:01:00 15:01:02 15:01:05

A. Yeah, it corresponds to the simplified figure we saw previously for the bigger blue box labeled Device A is the same as the previous figure Device A and the big blue box on the right labeled Device B corresponds to the Device B of the other figure. 15:01:06 15:01:08 15:01:10 15:01:13 15:01:17 15:01:19 15:01:22

Q. And in your slides, it looked like there was a green box labeled bridge in between the two USB devices. Is that -- yes, there it is right there. 15:01:23 15:01:28 15:01:30 15:01:33

Is that depicted in the figure that we were just looking at in Trial Exhibit 14? 15:01:35 15:01:37 15:01:42

A. It's actually little bitty boxes that are labeled, I think they are labeled external control, the connection between the two USB devices. 15:01:42 15:01:45 15:01:48 15:01:52

Q. Are there also FIFO buffers depicted here? 15:01:53 15:01:56

A. Yeah, they're not -- I mean, I don't think in this figure they are called out as FIFO, but based on the other design document they showed, each of these things are labeled bulk out or bulk in. These are the individual FIFOs of Device A, and there is a corresponding set of individual FIFOs for Device B, usually actually the endpoint buffers of the two devices. 15:01:57 15:01:59 15:02:01 15:02:04 15:02:07 15:02:11 15:02:14 15:02:17 15:02:20

Every USB device is required to have endpoint buffers as part of the spec, and 15:02:21 15:02:23

this shows clearly the endpoint buffers for Device A and endpoint buffers for Device B and they are different and distinct. 15:02:26 15:02:29 15:02:32

Q. Now, I think we heard Mr. Zatkovich refer to the FIFOs in the dual role hub as a single device block. 15:02:35 15:02:38 15:02:41

A. Yeah. 15:02:42

Q. Is it accurate to think of them as one device block? 15:02:43 15:02:45

A. No. You know, I mean, to a layperson can see here, there is a part to each device block. 15:02:46 15:02:49 15:02:52

Q. And could you help us follow that? I just want to make sure that we are seeing the same as you. 15:02:53 15:02:54 15:02:57

A. Sure. I mean, this is Device A, this big blue thing, and this is -- this is the actual sort of implementation picture. 15:02:57 15:03:00 15:03:03

Again, this is a zoomed-in picture within the Unwired design, so the detail that they actually baked into the chip. Some of the other figures we've seen, you know, I'll call them maybe almost marketing figures almost, but higher level zoomed-out figures 15:03:05 15:03:07 15:03:11 15:03:13 15:03:17 15:03:19

hiding some of that detail. 15:03:21

This is a detailed design that 15:03:22

Aptiv would need to talk to AyDeeKay to help 15:03:27

them know how to build the real chip, and 15:03:30

you'll see here FIFOs are part of the zoom. 15:03:33

My further understanding is there 15:03:36

is some other technical detail we haven't 15:03:37

talked about here that helped confirm this for 15:03:39

me that talks about the FIFOs being part of 15:03:41

the IP block for each device controller. And 15:03:44

clearly, again, you know, here is Device B as 15:03:48

a whole device and individual FIFOs for each 15:03:51

endpoint up to each device is pretty clear. 15:03:54

Q. Now, Mr. Garney, do you recall this 15:04:03

Ethernet controller example that we talked 15:04:06

about earlier with Mr. Bohm, I believe? 15:04:08

A. I do. 15:04:10

Q. Okay. 15:04:11

Now, my questions are going to 15:04:11

sound a little similar to the ones I asked Mr. 15:04:14

Bohm. 15:04:17

MR. SLAYDEN: Sidebar, Your Honor. 15:04:17

(Whereupon, a discussion was held 15:04:19

at sidebar as follows: 15:08:27

THE COURT: All right. Go ahead. 15:08:27
MR. SLAYDEN: We're outside the 15:08:27
scope of his opinion. 15:08:27
MR. SAULSBURY: We are not, Your 15:08:27
Honor. This is the demonstrative to 15:08:27
illustrate that there are two different USB 15:08:27
devices which is precisely Mr. Garney's 15:08:27
opinion, his primary infringement opinion. We 15:08:27
are not going to use prior art. 15:08:27
MR. SLAYDEN: It's outside the 15:08:27
scope and it's not in agreement with the 15:08:27
issues in his report. It is beyond his 15:08:27
report. 15:08:27
THE COURT: When you say it's 15:08:27
beyond his report, I know in his report 15:08:27
that -- I mean, I don't have it memorized 15:08:27
probably nearly as well as you two. I know in 15:08:27
his report, he opines about non-infringement 15:08:27
generally and opines about the distinction 15:08:27
between a bridge and, you know, device. 15:08:27
MR. SLAYDEN: This is not USB. It 15:08:27
is an Ethernet controller. 15:08:27
MR. SAULSBURY: It's USB. It is 15:08:27
attached to a USB. 15:08:27

THE COURT: Well, I understand what it is. I know what it is. It is a USB. I understand there are USB connections and then they are cross-wired with the Ethernet. I understand that. 15:08:27

MR. SLAYDEN: And this type of device or Ethernet in his report is way beyond. If a fact witness talked about it, that's different. We allowed that, we didn't object to it. But their expert opinion is -- it's an ambush. 15:08:27

THE COURT: Is he going to opine that this is somehow connected to the scope of the claim in 23? 15:08:28

MR. SAULSBURY: Yeah. He is going to explain that if you have two different USB devices that are talking to one another, that doesn't make it shared just because, which is within his non-infringement opinion, and this is a demonstrative to illustrate that. 15:08:28

MR. SLAYDEN: It is a demonstrative not disclosed in his opinion. 15:08:28

THE COURT: Well, but I don't think he has to disclose every element of his 15:08:28

opinion. I don't think it's beyond the scope of his opinion that he is giving, which is that you can have a bridge that is connecting the two separate USB devices. He is just going to point out this is the wire equivalent of what he thinks is, you know, computer logic -- 15:08:28

MR. SLAYDEN: Operations? 15:08:28

THE COURT: As I understand his position, tell me, Mr. Saulsbury, if I've got it wrong, you are basically saying there is a piece of software that is connected that is allowing, not by a USB, two different USB devices to talk to each other, right? And so he is going to say this is the physical, mechanical of that being connected. 15:08:28

MR. SAULSBURY: That's right. 15:08:28

THE COURT: I think that's fair within the scope of his opinion. That's fine. 15:08:28

I've pushed the jurors pretty long because we are going to stop early, but I don't know how much longer you have. 15:08:28

MR. SAULSBURY: I have a couple hours. He is our expert. 15:08:28

THE COURT: Okay. 15:08:28
MR. SAULSBURY: If Your Honor has 15:08:28
a time -- 15:08:28
THE COURT: I don't want to stop 15:08:28
too early. I also don't want to push them to 15:08:28
sit here for, you know, two hours and 15:08:28
45 minutes without a break if they need a 15:08:28
break. 15:08:28
So I'm just going to poll them 15:08:28
right now real quickly and tell them we plan 15:08:28
to stop between 3:30 and 3:45, but that we've 15:08:28
been going a long time so if they want five 15:08:28
minutes, we can. I'd rather they be fresh and 15:08:28
they have that opportunity if they want it. 15:08:28
MR. SAULSBURY: And 3:30 will 15:08:28
likely be a good stopping point for me. 15:08:28
THE COURT: He talks a lot, so see 15:08:28
how it goes. 15:08:28
(Whereupon, the discussion at 15:08:29
sidebar concluded.) 15:08:30
THE COURT: Just before we resume, 15:08:31
I just want to poll all of you. We have been 15:08:34
going for a while. We are stopping a little 15:08:37
early today, as you know, stopping somewhere 15:08:39

between 3:30 and 3:45. I know it can be tiring sitting listening, so if you want to take a five-minute break, we can. If you want to press on until we're done at 3:45, I think that's fine with everyone here, but you guys are the key element. 15:08:40 15:08:44 15:08:47 15:08:49 15:08:53 15:08:56

So if anyone wants a break, just raise your hand and let me know. 15:08:57 15:08:58

Nope? Okay. Good. 15:09:00

All right. Then proceed. Go ahead, Mr. Saulsbury. 15:09:02 15:09:05

BY MR. SAULSBURY: 15:09:07

Q. Mr. Garney, do you remember this demonstrative from Mr. Bohm's testimony? 15:09:08 15:09:11

A. I do. 15:09:12

Q. With the two Ethernet controllers and this crossover cable in between? 15:09:12 15:09:14

A. I remember that, yes. 15:09:16

Q. Okay. 15:09:17

Now, in this demonstrative, what are the devices? 15:09:17 15:09:20

A. The big black blocks on either side of the Ethernet cable are the two independent USB devices. 15:09:23 15:09:28 15:09:30

Q. Okay. 15:09:31

A. The plastic packaging for the USB devices, anyway. 15:09:31 15:09:34

Q. Right. 15:09:34

Now, there's this crossover cable connecting Device A and Device B; is that right? 15:09:35 15:09:38 15:09:42

A. I mean, I don't know for a fact it's a crossover, but I'm pretty sure it probably is. It certainly connects the two. 15:09:42 15:09:44 15:09:46

Q. And if we were to -- if we were to map this example, the Ethernet controls onto the dual role hub, what would the Ethernet cord represent? 15:09:48 15:09:51 15:09:56 15:09:57

A. The connection between the two independent USB devices. 15:09:58 15:09:59

MR. SAULSBURY: And, Mr. Glass, if we can actually take a look at Trial Exhibit 14. 15:10:03 15:10:04 15:10:07

BY MR. SAULSBURY: 15:10:07

Q. Mr. Garney, do you mind pointing out with your laser pointer what corresponds to the Ethernet cord? 15:10:08 15:10:10 15:10:12

A. Sure. That's these connections here 15:10:13

between the two USB devices, that's the Ethernet cable. 15:10:15 15:10:18

Q. Now, I am separating the Ethernet cord. How many devices here, how many USB devices? 15:10:19 15:10:22 15:10:24

A. Two. Two. 15:10:24

Q. Okay. 15:10:25

Connecting them together, how many USB devices do we have? 15:10:26 15:10:28

A. Still two. 15:10:29

Q. And why is that? 15:10:30

A. Well, you have connected them, but you haven't changed what they do and how they act. They still can only be each connected to one host and they still have to be controlled by the respective hosts. 15:10:32 15:10:34 15:10:36 15:10:40 15:10:43

Q. Now, Mr. Garney, you might have just seen me place the Ethernet controllers into a housing, so they are both in the same housing. Still two devices here? 15:10:53 15:10:57 15:10:59 15:11:04

A. Yeah, unchanged but for the packaging. 15:11:05 15:11:07

Q. So the packaging of the devices approximate to one another, does that factor 15:11:08 15:11:14

into whether you have one or two USB devices? 15:11:16

A. No, this is not a patent about 15:11:18

packaging; it is a patent about exactly how 15:11:21

the pieces work with regard to each other. 15:11:23

Q. So we don't have a shared USB device 15:11:25

block here? 15:11:28

A. No. 15:11:28

Q. I want to take a different diagram of 15:11:31

the dual role hub. I believe it is the one we 15:11:34

saw during Mr. Zatkovich's testimony. 15:11:36

MR. SAULSBURY: Can we take a look 15:11:37

at Trial Exhibit 7 in evidence, please. 15:11:39

BY MR. SAULSBURY: 15:11:48

Q. What do we see here in this diagram, 15:11:49

Mr. Garney, or actually what is this diagram? 15:11:51

A. This is an overall picture of all of 15:11:53

the parts of the dual role hub. I call it an 15:11:56

eye chart because you need magnifying glasses 15:11:59

to see what the different pieces are. It is a 15:12:02

lot of detail. But it is trying to talk about 15:12:04

all of the significant parts of the Aptiv dual 15:12:06

role hub. 15:12:09

Q. And I believe Mr. Zatkovich sort of 15:12:09

zoomed in to one part of this during his 15:12:13

testimony, so let's take a look at his -- at the slide from his testimony. I believe it is Slide 1 here. Yes. 15:12:15 15:12:17 15:12:20

So how would Device A be depicted in this diagram? 15:12:21 15:12:27

A. So if you -- if you look here, Mr. Zatkovich annotated the -- if you had a magnifying glass, you could see this says, "UDC_US," or USB device controller upstream. That's the Device A. That's the thing that's connected to the head unit. 15:12:28 15:12:32 15:12:35 15:12:37 15:12:42 15:12:45

And I think Mr. Zatkovich kindly, you know, made that text bigger so you could see it says UDC_US. That's the vendor-specific thing that connects to the head unit. There we go. 15:12:47 15:12:49 15:12:52 15:12:56 15:12:58

MR. SLAYDEN: Sidebar, Your Honor. 15:13:00

(Whereupon, a discussion was held at sidebar as follows: 15:15:21 15:15:21

MR. SLAYDEN: Okay. So the last module wasn't disclosed with this witness. And this demonstrative is not our demonstrative from Mr. Zatkovich. 15:15:21 15:15:21 15:15:21 15:15:21

THE COURT: I'm sorry, say that 15:15:21

again. I missed it. 15:15:21

MR. SLAYDEN: This demonstrative 15:15:21
is not from Mr. Zatkovich. This is not from 15:15:21
Mr. Zatkovich's report. They have annotated 15:15:21
over it, made it into a demonstrative that is 15:15:21
not identified in his report. This is not 15:15:21
from his report. You see device controller 15:15:21
block huge. 15:15:21

THE COURT: You are talking about 15:15:21
the purple blocks? 15:15:21

MR. SLAYDEN: Yes. They are 15:15:21
covering up the part that actually tells 15:15:21
you -- 15:15:21

MR. SAULSBURY: That's from Mr. 15:15:21
Zatkovich's report. However, I mean, if there 15:15:21
is a problem with letting Mr. Garney just walk 15:15:21
through the trial exhibit -- 15:15:21

MR. SLAYDEN: 7 is an unaltered 15:15:21
accurate exhibit? 15:15:21

MR. SAULSBURY: Yeah, by your 15:15:21
expert. 15:15:21

THE COURT: Wait, wait, wait. 15:15:21
First of all, I don't want cross-talk with you 15:15:21
two either. Okay? I don't have -- Mr. 15:15:21

Zatkovich's testimony. I mean, I have it, but I don't have it right in front of me. 15:15:21

And I guess the purple boxes you are saying are added, Mr. Slayden, because I know they zoomed in momentarily? 15:15:21

MR. SLAYDEN: No, the big purple boxes are added. That's not part of that -- that's Trial Exhibit 7 that's been annotated by him. The demonstrative, that is not what Mr. Zatkovich identified. 15:15:21

MR. SAULSBURY: This wasn't added by us, this is Mr. Zatkovich. But like I said, I am happy to use Trial Exhibit 7 instead. 15:15:22

THE COURT: Just use Trial Exhibit 7. Fine. 15:15:22

MR. SLAYDEN: Thank you, Your Honor. 15:15:22

(Whereupon, the discussion at sidebar concluded.) 15:15:22

MR. SAULSBURY: And, Mr. Glass, can you please zoom in on the portion that has the device controller UDC_US at the top, and it goes down to where there's -- yeah, start 15:15:27 15:15:30 15:15:34 15:15:39

there. Keep on going down. That's perfect. 15:15:42
Great. 15:15:46
BY MR. SAULSBURY: 15:15:46
Q. And, Mr. Garney, with your laser 15:15:47
pointer, would you mind -- could you please 15:15:50
help us map where UDC -- excuse me, where USB 15:15:54
Device A from the last diagram we were just 15:15:58
looking at, Trial Exhibit 14, appears in this 15:16:00
eye chart? 15:16:04
A. Right. 15:16:05
So USB, as I was starting to say, 15:16:05
USB Device A is this part right here, device 15:16:08
controller UDC_US, here is the device 15:16:10
controller upstream. 15:16:14
Q. Now -- 15:16:15
A. I think, if you follow the line, it's 15:16:18
connected through the -- to the head unit 15:16:20
which is off the screen. 15:16:23
Q. And where is USB Device B? 15:16:26
A. Device B is the downstream part 15:16:28
UDC_DS, or again, USB device controller 15:16:32
downstream, and that's the iPhone's device. 15:16:35
Q. And does that name, UDC_DS, tell you 15:16:38
anything about whether that's connected to an 15:16:41

iPhone as opposed to the head unit? 15:16:43

A. Well, if we follow the line, the name is suggestive, and it also correlates with other information in the design documents for Unwired that make that pretty explicit. 15:16:46 15:16:49 15:16:51 15:16:54

Q. And sorry, perhaps I should have asked it this way: 15:16:56 15:16:58

How have they suggested that that's the USB device for the iPhone? 15:16:59 15:17:01

A. It is the downstream port. It's away from the head unit. It also streams close to the head unit downstream, which is closer to the iPhone. 15:17:04 15:17:07 15:17:14 15:17:18

Q. We talked about the FIFO buffers earlier. Could you point us to where the FIFO buffers are for USB Device A? 15:17:18 15:17:20 15:17:23

A. Well, the -- I mean, this figure has this block in the middle, and again, from other evidence, I know that the FIFOs are actually within the USB device controller upstream for Device A. 15:17:25 15:17:27 15:17:30 15:17:33 15:17:35

Q. And why is it depicted differently in the context of this type of chart? 15:17:36 15:17:39

A. Well, I believe I had a conversation 15:17:41

with Mr. Petku that suggests that this was sort of an early version of the doc, or a thinking version of the doc, and it was really more focused on the overall picture of everything that was in the dual role hub. 15:17:42 15:17:45 15:17:48 15:17:51 15:17:53

This is just the architect that does those things. It could have been helpful to think about it this way when they did the design, for all I know. 15:17:57 15:17:59 15:18:01 15:18:03

But I know that all the material I looked at told me that the FIFOs were up here for Device A and down here for Device B. 15:18:06 15:18:08 15:18:12

Q. Now, I wonder -- I want to make sure I understand the respective functions of USB Device A and USB Device B, the head unit's device and the iPhone's device. 15:18:14 15:18:19 15:18:22 15:18:25

Would the dual role hub work if those two devices were reversed? 15:18:27 15:18:28

A. No, the iPhone -- well, take an easy case, I guess. The iPhone, if it was attached to the vendor-specific Device A, it wouldn't have the software that would know how to deal with that device. As we said, you know, there was -- each device type has its own software 15:18:31 15:18:36 15:18:38 15:18:40 15:18:42 15:18:45

that's specific to that device type, and iPhone was never designed, nor was Aptiv's dual role hub as a vendor-specific thing for doing role reversal. I mean, iPhone, that would blow its mind. It would have no idea what that is. 15:18:47 15:18:49 15:18:52 15:18:54 15:18:56 15:18:58

Q. Changing gears a little bit, do you recall, in opening statements, how Microchip's counsel said that Mr. Bohm invented a way to connect two computer hosts? 15:18:59 15:19:02 15:19:04 15:19:06

A. I do. 15:19:07

Q. Okay. 15:19:08

Do you need a USB -- strike that. 15:19:08

Do you need a multi-host device of claim 23 of the '243 Patent to connect two hosts via USB? 15:19:12 15:19:16 15:19:20

A. No. I mean, from my direct experience and other things we've heard, something like Ethernet can connect two hosts just -- that's been for a long time, and there are other ways of connecting hosts. 15:19:21 15:19:22 15:19:24 15:19:27 15:19:31

Q. And without reference to any particular timeframe, are you familiar with host-to-host bridges? 15:19:41 15:19:43 15:19:47

A. I am, just as I just mentioned with regard to Ethernet, for example, and even before that when I was traveling for Intel, this is even before USB, we used a cable from a company called Traveling Software that you could use to connect two laptops together or two computers together, actually serial connectors, nothing related to USB, and you could do file transfer over that with a host and exchange files within them. 15:19:49 15:19:52 15:19:56 15:19:59 15:20:04 15:20:06 15:20:09 15:20:13 15:20:16 15:20:20

Q. And have you encountered any USB host-to-host bridges? 15:20:22 15:20:26

A. I have. 15:20:28

Q. And I believe we saw one of those with Mr. Voto. 15:20:29 15:20:30

Do you recognize this as a USB host-to-host bridge? 15:20:33 15:20:35

A. I do. 15:20:36

Q. And let me pass it up to you, actually. 15:20:37 15:20:39

How does a USB host-to-host bridge like this work? 15:20:50 15:20:57

A. Well, the two connectors, these are two standard A connectors which are the 15:21:00 15:21:04

connector that connects to each host. So you connect this to two USB hosts, one for each connector, and then this block in the middle has some buffering unit and pretty similar to what we have been talking about so that each host sees its own USB device. 15:21:06 15:21:08 15:21:11 15:21:15 15:21:17 15:21:20

So there is two USB devices and those two USB devices are connected and they can copy information between the two and you can use that basic mechanism to do things like file transfer. 15:21:22 15:21:23 15:21:26 15:21:28 15:21:32

Q. Are there any USB devices in that host-to-host bridge? 15:21:35 15:21:38

A. I mean, I haven't cracked this one open, but I've seen these kind of things in the data sheet that we talked about. But yeah, this has two USB devices in it. 15:21:40 15:21:43 15:21:45 15:21:47

Q. So each host has its own device? 15:21:49

A. I'm sorry? 15:21:51

Q. Does that mean that each host sees its own device? 15:21:53 15:21:55

A. Yeah. 15:21:55

Q. Is there a shared USB device? 15:21:56

A. No. No. 15:21:58

Q. What does each host see when the end of the cable is plugged in? 15:22:06 15:22:09

A. You know, I don't know the specific details of this one, but I would imagine that each host is going to see a device, you know. Let me see if -- there's a logo on this, so it says it's USB compliant because USB is pretty aggressive about making sure, so that means when this connector gets plugged in -- in fact, both connectors have a logo. 15:22:10 15:22:12 15:22:14 15:22:17 15:22:20 15:22:22 15:22:25 15:22:27

When the connector is plugged in, the device is required to respond to the standard requests, so it reports some device descriptor that we talked about. It would say hey, I am USB cable something, and then the host would, if it had a driver for it, it would set configuration and enable it to be a USB link, and the other host would do the same kind of a thing. 15:22:29 15:22:30 15:22:34 15:22:37 15:22:39 15:22:43 15:22:47 15:22:49 15:22:51

A device descriptor recognized a driver for it, sets configuration, and then those three pieces of software can accomplish this file transfer. 15:22:53 15:22:57 15:22:59 15:23:02

Q. And that would all be compliant with 15:23:04

the USB spec? 15:23:06

A. Based on the logos I see here, 15:23:07

absolutely. 15:23:10

Q. How would it be compliant if you have 15:23:10

two hosts? 15:23:12

A. Well, again, if this USB only 15:23:13

comprehends a device being controlled by a 15:23:16

single host, it would have to pass the 15:23:19

standard request tests and have all of the 15:23:23

right information to be able to be controlled 15:23:26

by that host. And so there's two connectors 15:23:27

with two logos, each side has to be compliant, 15:23:31

which would have a USB device. 15:23:35

Q. Could you please turn to Trial 15:23:42

Exhibit 196 in your binder. 15:23:45

(Whereupon, Trial Exhibit 196 was 09:03:13

introduced.) 09:03:13

THE WITNESS: Okay. 15:23:52

BY MR. SAULSBURY: 15:23:53

Q. Do you recognize this as -- yeah, do 15:23:53

you recognize this as a data sheet for a 15:23:57

Prolific device? 15:24:02

A. I do. 15:24:02

MR. SAULSBURY: Move to admit 15:24:04

Trial Exhibit 196. 15:24:05

MR. SLAYDEN: Your Honor, subject to laying a foundation. 15:24:06 15:24:07

THE COURT: Okay. Go ahead and lay your foundation. 15:24:09 15:24:12

MR. SAULSBURY: Sure. 15:24:13

BY MR. SAULSBURY: 15:24:14

Q. Mr. Garney, do you recognize Trial Exhibit 196 as a data sheet for a chip, Prolific chip, for implementing a USB host-to-host bridge? 15:24:14 15:24:18 15:24:20 15:24:23

A. That's what the title of the sheet says. And looking at the figures, I see evidence that that's what it, in fact, does. And looking at the description of it, it seems consistent with providing that behavior. 15:24:24 15:24:26 15:24:29 15:24:31 15:24:35

Q. And is the Prolific device a way to share -- strike that. 15:24:37 15:24:42

Is the Prolific device a way to implement host-to-host USB communication without using the shared device of claim 23? 15:24:43 15:24:45 15:24:49

MR. SLAYDEN: Your Honor, sidebar. 15:24:54

THE COURT: Well, wait. Hold on, Mr. Slayden. Let him lay a couple more 15:24:56 15:24:57

questions in foundation and then we can approach. I think I know where it's going, but let me hear it. 15:25:01 15:25:02 15:25:04

THE WITNESS: Sorry, ask your question again. 15:25:05 15:25:06

MR. SAULSBURY: Yeah, no worries. 15:25:07

BY MR. SAULSBURY: 15:25:09

Q. Does the Prolific device depicted in the data sheet provide a way to do host-to-host USB communication without using a shared USB device as is claimed in the '243 Patent? 15:25:11 15:25:13 15:25:17 15:25:22 15:25:27

A. Well, sure. I mean, if I look -- 15:25:27

MR. SLAYDEN: Sidebar. 15:25:29

THE COURT: Okay. It's not in evidence, so let's come to sidebar. 15:25:31 15:25:33

(Whereupon, a discussion was held at sidebar as follows: 15:29:11 15:29:11

MR. SLAYDEN: What he is about to testify is purely hearsay. He has not laid a foundation. It is a fact document, and he has no personal knowledge of it. 15:29:11 15:29:11 15:29:11 15:29:11

THE COURT: I mean, I haven't heard a foundation yet, Mr. Saulsbury, but, I 15:29:11 15:29:11

mean, he tells us what this document is, but it's not -- 15:29:11

MR. SAULSBURY: The question I am trying to lay -- I should ask him, I am trying to lay a foundation for the proposition sort of like relying on -- 15:29:11

THE COURT: I'm sorry? 15:29:11

MR. SAULSBURY: Sorry. I am trying to use the document to show that this is the type of device that an expert would rely on to understand ways of implementing host-to-host communication without a shared USB device. 15:29:11

So I'm not relying on it for hearsay purposes. Instead, I am relying on it for what a person of skill in the art would understand. 15:29:11

THE COURT: But did he rely on it? 15:29:11

MR. SAULSBURY: This is a document he reviewed. 15:29:11

MR. SLAYDEN: It is also part of the collateral estoppel order, Your Honor. 15:29:11

THE COURT: So it's not -- I am trying to understand because it's not a data 15:29:11

sheet for one of the physical devices that's at issue here in invalidity; right? 15:29:11

MR. SAULSBURY: That's correct. 15:29:11

THE COURT: So why does this data sheet matter to anything? 15:29:11

MR. SAULSBURY: Because it illustrates how a person of skill in the art would understand you could implement host-to-host communication without a shared USB device, and it's responsive to the claim in opening that to do host-to-host communication, you need to use a shared USB device in the '243 Patent. 15:29:11

THE COURT: The claims in opening aren't evidence. 15:29:11

MR. SAULSBURY: Understood. 15:29:11

THE COURT: I'm not hearing -- I mean, you know, if you have data sheets that, for instance, go to physical devices, if you want to use those, that seems like it's going to be more on point. The only way it's relevant, it's not the kind of thing that an expert would receive under 703. That's not what you're saying, I think; right? 15:29:11 15:29:12 15:29:12

MR. SAULSBURY: That's what I intended to say. 15:29:12

THE COURT: So an expert can't just use 703 to relay hearsay. 15:29:12

MR. SAULSBURY: Understood. 15:29:12

THE COURT: So he's not opining about this particular device; right? 15:29:12

MR. SLAYDEN: Right. 15:29:12

MR. SAULSBURY: He is not opining about this particular device. I mean, he is opining that the Aptiv device doesn't infringe because it can use this host-to-host bridge. 15:29:12

THE COURT: The Aptiv device either does or doesn't use two -- the Aptiv hub or really the Aptiv chip either does or doesn't, right? The fact that some other device does or doesn't I don't think matters. So, you know, I am going to sustain the objection. 15:29:12

(Whereupon, the discussion at sidebar concluded.) 15:29:14

BY MR. SAULSBURY: 15:29:16

Q. Mr. Garney, could you please turn to Trial Exhibit 236 in your binder, which is in 15:29:36

evidence, actually, so if we can please see it up on the screen, Mr. Glass. 15:29:42 15:29:45

Do you recognize this as a Sandia data sheet, Mr. Garney? 15:29:48 15:29:56

A. I do. 15:29:57

Q. Okay. 15:29:58

MR. SAULSBURY: Can we please turn to page 6 and look at Section 2.1, General Description. Great. 15:30:00 15:30:01 15:30:05

BY MR. SAULSBURY: 15:30:07

Q. And, Mr. Garney, if you could please take a look at the second paragraph, do you see how it says, "The device employs unique USB functionality, whereby USB data can be mirrored between two USB hosts, multi-host, in order to perform a single USB transaction"? 15:30:10 15:30:12 15:30:14 15:30:18 15:30:21 15:30:26

A. I see that. 15:30:28

Q. Okay. 15:30:29

And do you understand this to be describing the Sandia device of Microchip? 15:30:29 15:30:30

A. I have a problem with it, but yes, I do. 15:30:35 15:30:38

Q. Okay. 15:30:38

What's the problem? 15:30:39

A. Well, it talks about two hosts perform a single USB transaction. That's nonsensical. 15:30:39 15:30:42 15:30:45

Q. Why? 15:30:46

A. Well, because a USB transaction is a very specific defined term in the USB, almost all the USB specs, and it's sort of what I talked about first. It's a way for the host to say, I want you to do a data transfer in or out to Device 2 and point 3, and then there is a data packet that's part of that either in or out and there is a handshake involving the device and that's a transaction, that's a USB transaction. 15:30:46 15:30:49 15:30:53 15:30:55 15:30:57 15:31:00 15:31:06 15:31:09 15:31:12 15:31:14

It only makes sense with regard to one host. Trying to do something that, you know, I don't even know how you describe having two hosts execute that single transaction. It just doesn't make any sense. 15:31:15 15:31:17 15:31:20 15:31:22 15:31:24

You could have -- you could have each of two hosts perform their respective USB transactions, but this is nonsensical. 15:31:27 15:31:29 15:31:32

Q. And let's take a look at Figure 3 of the patent, actually, because I think it might 15:31:39 15:31:41

help us think about this in the context of the patent.

Does the device in Figure 3 allow multiple hosts to execute a single USB transaction?

A. No. I mean, a device only comprehends its participation in a USB transaction. It's the target, it's the thing that's either accepting data or sourcing data. It can't do that simultaneously or -- I mean, it can do it alternately with different transactions, but the one transaction involves one host and one device.

Q. Now, one thing that we haven't talked much about is whether the Aptiv dual role hub can be used for purposes other than CarPlay. Can it?

A. Yes.

Q. What are some examples?

A. Well, a simple one is it has a hub as part of a standard normal USB hub with multiple downstream ports, so you can just use it as a hub. Maybe it's more expensive, I don't really know, but it could just attach to

any old host and that would allow the hub to connect to any other devices you want, any standard USB devices. 15:32:47 15:32:56 15:32:58

Q. Is Android Auto another way in which the hub can be used without using CarPlay? 15:32:59 15:33:03

A. Sure. Android Auto just allows Android to formally connect to the device. 15:33:05 15:33:11

MR. SAULSBURY: Your Honor, I think we are at a good stopping point. I was going to transition to invalidity, but it might make sense to take a pause here. 15:33:20 15:33:21 15:33:22 15:33:26

THE COURT: That's fine with me. Get everyone out of here in a timely way. 15:33:28 15:33:30

So, ladies and gentlemen, we'll wrap up for the day. We'll have a full day tomorrow. 15:33:33 15:33:34 15:33:38

So my standard end-of-the-night caution, right? If you hear some of this, do not start talking about it amongst yourselves, don't talk about it with family or friends or anything. Don't tell them anything about the case and do not start going and doing any kind of independent research. 15:33:39 15:33:43 15:33:46 15:33:49 15:33:51 15:33:53 15:33:56

And when I say don't start doing 15:33:58

any independent research, there will be no time to do independent research until this case is over. After the case is over, if you want to take do some independent research yourselves, you are more than welcome to. But from now until we're done, don't do any intense research. 15:34:00 15:34:02 15:34:04 15:34:06 15:34:07 15:34:10 15:34:13

So with that, I'll let everyone go. Have a good night and enjoy the weather. 15:34:14 15:34:16

(Whereupon, the jury was excused from the courtroom.) 15:34:19 15:34:20

THE COURT: Mr. Garney, you can step down, but may as well leave your stuff there, the binders, because you're going to need them in the morning. 15:34:40 15:34:41 15:34:43 15:34:45

THE WITNESS: Okay. 15:34:46

(Whereupon, the witness was excused for the day.) 15:34:47 15:34:48

THE COURT: All right. 15:34:49

Why don't we -- I'd like to take about 10 minutes before we pick up and, I mean, I don't have a particular preference between charge issues and the evidentiary issues, which we handle first. Anyone's 15:34:52 15:34:56 15:34:59 15:35:02 15:35:06

preference. Let me know when I come back in. 15:35:08
But for now, let's take 10 15:35:10
minutes. We'll plan to be back at quarter of. 15:35:13
Okay. Thank you. 15:35:15
(Whereupon, a 10-minute recess was 15:35:17
taken at 3:35 p.m.) 15:35:20
THE COURT CLERK: All rise. 15:44:24
THE COURT: Boy, I really cleared 15:51:04
this place out. 15:51:05
MS. DURIE: I just wanted to give 15:51:07
the Court some timing because -- 15:51:08
THE COURT: Okay. 15:51:08
MS. DURIE: -- based on 15:51:08
discussions, we are not going to call Mr. 15:51:10
Chase. 15:51:13
THE COURT: Okay. 15:51:13
MS. DURIE: What that means is 15:51:14
that tomorrow, we will wrap up with Garney. 15:51:16
They are going to call, they said they may 15:51:20
call Mr. Holstein {ph} in rebuttal. 15:51:24
THE COURT: Okay. 15:51:26
MS. DURIE: And then I think we 15:51:27
are going to be done. So the evidence should 15:51:29
close tomorrow, which means that we should be 15:51:31

able to have closings on Wednesday morning. 15:51:33

THE COURT: We were just talking 15:51:35

about that and that's fine. Just -- and I 15:51:36

think that's probably plenty of time. As I 15:51:40

said to you guys last week, I will charge the 15:51:42

jury before your closings. 15:51:45

MS. DURIE: Yep. 15:51:47

THE COURT: It sounds like -- I 15:51:50

mean, as I talked at sidebar with Mr. 15:51:52

Saulsbury, it sounds like probably another 15:51:55

hour-and-a-half or so with this witness. 15:51:57

MS. DURIE: I am going to 15:52:00

encourage it to be an hour. 15:52:01

THE COURT: You can encourage Mr. 15:52:03

Saulsbury, but Mr. Garney talks a lot. 15:52:04

MS. DURIE: That's a fair point. 15:52:08

I will definitely work my part. 15:52:10

THE COURT: Okay. 15:52:13

And then, you know, I don't know 15:52:13

if you have any sense of how long Mr. 15:52:15

Slayden's cross of Mr. Garney will be. 15:52:20

MR. GRAY: I don't. 15:52:23

THE COURT: I would assume not 15:52:25

insignificant. 15:52:26

MR. GRAY: I would guess about an hour. 15:52:26 15:52:28

THE COURT: And then how long is Mr. Levy? 15:52:29 15:52:30

MR. GRAY: I don't expect very long. I think about an hour as well. 15:52:31 15:52:34

THE COURT: So, I mean, that takes us roughly until lunchtime tomorrow, and I guess the question I have, and you can think about it, you don't have to tell me right now, and you guys can talk about it amongst yourselves, is just in the interest of efficiency, would you want me to charge the jury tomorrow afternoon? 15:52:37 15:52:38 15:52:43 15:52:45 15:52:47 15:52:49 15:52:52 15:52:54

MS. DURIE: That would be great. 15:52:56

THE COURT: The downside to that is they'll go home and they'll come back and hear your closings, but if you're all okay with that, I'd rather use the time with them. 15:52:58 15:52:59 15:53:02 15:53:04

MS. DURIE: I strongly agree and I actually think that honestly -- 15:53:06 15:53:09

THE COURT REPORTER: A little louder, please.

THE COURT: Louder.

THE COURT REPORTER: A little louder.

MS. DURIE: Oh, I'm sorry. I apologize. Nobody really wants to start their closing right after that. So I think that's great. 15:53:14 15:53:20 15:53:22

THE COURT: So assuming we're done even by the mid-afternoon break tomorrow, I'll plan to charge the jury tomorrow, and then we will bring them back and you guys can just close on Wednesday. 15:53:22 15:53:24 15:53:27 15:53:32 15:53:34

I did, just so you know, speak to Juror No. 7. She is going to arrange for some child care on Wednesday so they will not have to break deliberations early on Wednesday. I haven't yet told them that Friday is a court holiday. I am going to at some point. 15:53:35 15:53:37 15:53:42 15:53:44 15:53:46 15:53:50

I did -- and while I will also tell them that they are certainly free to come back Monday, I think the practical reality is they would be resistant to that. 15:53:53 15:53:56 15:53:58 15:54:01

So, now, we'll see how it goes. But I think that's good because that means they'll have at least a day-and-a-half of 15:54:03 15:54:06 15:54:08

deliberations.

MS. DURIE: Right.

THE COURT: Okay. Okay. All right.

Well, that's great. I'm glad we're sort of on a path to get them the case on that schedule.

All right. Do you have -- do you all have any preference as to tackling evidence before or after charges?

MS. DURIE: Honestly, I would just as soon tackle charges first, if that's okay, because I might excuse myself before the evidence portion of the proceedings.

THE COURT: That's fine. I don't care, other than as long as nobody thinks that the evidentiary rules are going to dramatically affect what you do on the charges. If they're not, that's fine.

So give me a second to just get everything called up.

MR. RUSSELL: Your Honor, one question.

THE COURT: Yes.

MR. RUSSELL: What is on the Court's list as far as evidentiary issues, because I think most of it is resolved at this point. 15:55:02 15:55:04 15:55:06 15:55:08

MS. DURIE: Mr. Wiener was just making the same point. He is on the ball. We need to talk about the collateral estoppel issues, which I think is going to take 30 seconds. Is that it? 15:55:08 15:55:10 15:55:12 15:55:15 15:55:18

MR. RUSSELL: Yeah, I think that is it. 15:55:19 15:55:20

THE COURT: Okay. Well, then, I can hang out for a minute while you guys talk about it when we wrap up. I had to go back and look at my list, but I didn't think there was a lot else. Okay. 15:55:20 15:55:21 15:55:23 15:55:26 15:55:28

I'm just looking at emails yesterday with the comments. And just so I know where we stand, before you sent these to me, did you all confer about your respective changes, or is it really you each made changes? And that's not a criticism, I am just trying to understand what it is. 15:55:34 15:55:39 15:55:46 15:55:53 15:55:57 15:56:02 15:56:04

MR. GRAY: The latter, Your Honor. 15:56:07

THE COURT: Okay. 15:56:08

So then Microchip -- and then I 15:56:09

guess my other sort of gating question is, is 15:56:19

it the case for each of you that for 15:56:22

objections to which there are not proposed 15:56:28

edits, that there's no objections -- I'm 15:56:30

sorry, for instructions for which there is no 15:56:33

proposed edits, there is not an objection? 15:56:35

MS. DURIE: I would say no. 15:56:37

THE COURT: Okay. 15:56:38

MS. DURIE: In other words, we 15:56:39

intended to preserve our requests that the 15:56:40

Court charge the jury in accordance with our 15:56:44

original instructions. 15:56:45

THE COURT: Okay. 15:56:46

MS. DURIE: Having said that, we 15:56:46

are trying to be practical here. 15:56:49

THE COURT: I appreciate that. 15:56:50

Right. 15:56:51

So what I will say then for the 15:56:52

record, you filed your original instructions. 15:56:53

They are preserved. I will not deem anything 15:56:56

waived. But if there's anything -- I assume 15:56:59

that there's stuff that you still feel 15:57:02

strongly about here, and obviously now my proposed instructions are of record. So if I have changed them, you can assume that I have considered and rejected whatever you proposed. 15:57:04 15:57:06 15:57:09 15:57:11

MS. DURIE: Right. 15:57:14

And if I may, Your Honor, there was really only one thing which I wanted to be heard on instructions. 15:57:15 15:57:16 15:57:18

THE COURT: Okay. 15:57:20

MS. DURIE: And it was the request for some statement regarding the IPR proceeding and the scope of evidence and issues that can be considered. 15:57:20 15:57:23 15:57:25 15:57:28

And to be clear, I am happy to handle it one of two ways. I am happy to just get it from the expert as a factual matter as to how it works, or I'm happy to have the Court instruct. 15:57:31 15:57:32 15:57:35 15:57:38 15:57:41

What I don't want is a situation where we get an objection that it is a legal question that is sustained, and then there is no jury instruction on it so the jury doesn't understand that predicate just about the scope of evidence. That's my only concern. 15:57:41 15:57:43 15:57:45 15:57:47 15:57:50 15:57:52

THE COURT: Okay. So just to be clear, this is -- 15:57:55 15:57:57

MS. DURIE: It is the instruction on invalidity. 15:58:01 15:58:03

THE COURT: Yes. 15:58:04

MS. DURIE: And it is invalidity generally. And we had proposed, in addition to that, that explained that the '243 Patent and subject to -- during those proceedings, they could only consider written prior art such as patents and publication and could not consider product or consistent prior art. 15:58:04 15:58:06 15:58:09 15:58:14 15:58:18 15:58:20 15:58:23

As I said, I am happy to elicit it from the expert; I can do it either way. I just want there to be one way or the other that we can make sure the jury understands that the new art that we are presenting was not considered in that proceeding. 15:58:25 15:58:28 15:58:29 15:58:31 15:58:34 15:58:36

THE COURT: Understood. 15:58:37

MS. DURIE: Thank you. 15:58:38

THE COURT: It's helpful to see the language as we talk, so let me just get this up. 15:58:39 15:58:43 15:58:46

And so is the point that -- is the 15:58:52

point that you are making, Ms. Durie, is when the last sentence says, "During the IPR proceedings, the PTAB could only consider written art and not product or" --

MS. DURIE: Correct. And I would say, I'm standing up just for Rose's benefit. That's right, Your Honor, that's the definition.

THE COURT: Okay. All right.

So, Mr. Gray, do you want to comment on that and we'll sort of loop back, but in front of me now -- well, let me tell you my thinking as I look at these instructions, and then I want to hear your thoughts, Mr. Gray.

When I took this out from the original draft to the jury, it was largely sort of an outgrowth of the conversation we had at sidebar and similar to the point you are making, which is my thinking was this is now a matter of fact, it is in the record. I don't highlight, for the most part, facts in the record because to elevate one piece of evidence over the other suggests something to

the jury. 15:59:57

MS. DURIE: Yes. 15:59:58

THE COURT: I think that the first 15:59:59

couple sentences you proposed here are sort of 16:00:05

veering in that direction in the sense that it 16:00:10

says there were -- really that I would say the 16:00:12

second and third sentence. 16:00:17

MS. DURIE: Can I short-circuit 16:00:19

it? It was an error. We intended to take 16:00:20

those out. That was an error last night. 16:00:22

THE COURT: Okay. 16:00:25

MS. DURIE: So we are actually 16:00:25

proposing the first and last sentence. 16:00:27

THE COURT: And I think I'm okay 16:00:29

with that. That does seem like a statement of 16:00:30

law, not something that we should necessarily 16:00:34

be eliciting from an expert. 16:00:36

So, Mr. Gray, I don't know if you 16:00:39

have it in front of you. 16:00:41

MR. GRAY: I do. 16:00:42

THE COURT: But essentially what 16:00:43

we would be saying, and I would probably -- I 16:00:44

might -- '243 Patent was subject to 16:00:47

proceedings before the Patent and Trademark 16:00:50

Appeal Board. I might adjust, for context, you've heard those referred to as IPR proceedings. During those proceedings, the Patent and Trademark Appeal Board could only consider written prior art such as patents and applications; it could not consider product or system prior art. 16:00:52 16:00:54 16:00:57 16:00:59 16:01:01 16:01:05 16:01:09

What's your view on that? 16:01:10

MR. GRAY: I think there may be sort of a middle ground with more English language the jury could understand here, that Dickens and US-98 and Belkin are the issues. Could we say the Patent Trial and Appeal Board considered Dickens, but did not consider the US-98/Belkin? 16:01:11 16:01:14 16:01:16 16:01:18 16:01:22 16:01:25 16:01:26

THE COURT: I am not inclined to go quite that specific. 16:01:29 16:01:30

MR. GRAY: I thought we had agreement over here. 16:01:33 16:01:34

THE COURT: If you are in agreement -- 16:01:36 16:01:37

MS. DURIE: No, I'm fine -- I'm fine with the way the Court -- 16:01:37 16:01:37

THE COURT: Well, no, I mean, I 16:01:40

know I was going to suggest something different. But if you are in agreement with that, I'll do it that way. 16:01:41 16:01:42 16:01:43

MS. DURIE: No, I -- I -- 16:01:44

THE COURT: If you were going to pop up and object, I won't. 16:01:45 16:01:46

MS. DURIE: I would like to hear the Court's proposal. 16:01:47 16:01:48

THE COURT: All right. I think what I would do then is -- I'm sorry, I just need one second to get mine open. Do you have it? You're good. Okay. That's even better. 16:01:51 16:01:54 16:02:01 16:02:07

So I think then why don't we just do something like '243 Patent was subject to proceedings before the Patent Trial and Appeal Board. You've heard these referred to as IPR proceedings. 16:02:11 16:02:14 16:02:22 16:02:26 16:02:29

During these proceedings, Patent Trial and Appeal Board could only consider prior art such as patents and publications and could not consider prior product or system prior art such as US-98 or Belkin. 16:02:30 16:02:32 16:02:34 16:02:39 16:02:44

MS. DURIE: That works for me. 16:02:51

MR. GRAY: We may have a slight 16:02:53

issue there because I think that suggests that those two things are prior art and my contributor is contesting their status as prior art. 16:02:54 16:02:57 16:03:00 16:03:02

THE COURT: Okay. Could not consider -- how about could not consider just -- 16:03:03 16:03:07 16:03:13

MS. DURIE: Product of systems. 16:03:14

THE COURT: Yeah, well, product of systems such as US-98 or Belkin. 16:03:16 16:03:17

MS. DURIE: Sure. 16:03:20

MR. GRAY: That works. 16:03:20

THE COURT: Okay. 16:03:21

Well, let me just -- so I just want to be consistent about it because it does say, "could only consider written prior art." 16:03:24 16:03:26 16:03:28

MS. DURIE: I think it's okay, Your Honor, the Patent Trial and Appeal Board could consider written prior art from the patent application and could not consider systems such as -- 16:03:35 16:03:36 16:03:40 16:03:41 16:03:43

THE COURT: Product or systems such as; are you okay with that, Mr. Gray? 16:03:44 16:03:45

MR. GRAY: Written -- okay. Yes, 16:03:51

that's fine. So we remove "prior art" and say, "such as US-98 and Belkin." 16:04:03 16:04:06

THE COURT: Yes. So "product or systems such as US-98 or Belkin." 16:04:09 16:04:10

MR. GRAY: Now I see what you were suggesting. So the word "prior art" in that sentence, "written prior art," maybe say, "written references." 16:04:14 16:04:15 16:04:17 16:04:19

MR. RUSSELL: Right. 16:04:21

MS. DURIE: That's fine. 16:04:22

THE COURT: That's fine. Okay. 16:04:22

So "written references such as patents and publications and could not consider products or systems such as US-98 or Belkin." Okay. All right. 16:04:24 16:04:25 16:04:27 16:04:31

Okay. Let me just -- moving this along, I am going to run through, I think, Microchip's redlines and then move on. I just want to run through them in order because essentially I think that is what I am going to try to do, and so I am going to try to go through redlines as I go, and then if I miss something, just let me know and we'll stop and go through it. But I just want to try to move 16:04:33 16:04:52 16:04:57 16:05:08 16:05:10 16:05:12 16:05:15 16:05:18 16:05:22

through them in order rather than hopping around, because hopping around, I might omit something. 16:05:24 16:05:28 16:05:33

So, let's see. So the first one that I have then is Microchip's proposed revision, I believe, to the opinion testimony instruction at 1F. Is that right? 16:05:33 16:05:36 16:05:44 16:05:53

MR. GRAY: Yes, on page 10. 16:06:02

THE COURT: Yes. And so if this language including any bias that may arise from evidence, the last clause of that instruction, so, Miss Durie, where are you on that? 16:06:04 16:06:06 16:06:09 16:06:11 16:06:14

Mr. Wiener, you can go. 16:06:15

MR. WIENER: Your Honor, I think we would lean towards keeping that in. It still matters and there can be a difference among the experts, but we are okay. 16:06:17 16:06:18 16:06:22 16:06:24

THE COURT: Okay. 16:06:26

I'm inclined to leave it in. I do think -- I take the point that Microchip is making, they have also paid, but they have been paid different amounts. There is no question about it. It is something that the 16:06:27 16:06:29 16:06:31 16:06:33 16:06:35

jury can consider for anyone, so I'll leave it in. 16:06:37 16:06:39

MR. WIENER: Your Honor, I just note that while we are on that instruction, we recommend removing the references to Mr. Chase in the bottom paragraph and the top paragraph. 16:06:40 16:06:41 16:06:43 16:06:47

THE COURT: Yes. Okay. They will be removed. Okay. 16:06:50 16:06:51

And then I think the next thing I have is Microchip's proposed change on infringement; right? 16:06:58 16:07:00 16:07:08

MR. GRAY: Yes. 16:07:10

THE COURT: You don't have anything for invalidity; is that right, Mr. Wiener or Ms. Durie? 16:07:10 16:07:11 16:07:13

MS. DURIE: That's right. 16:07:15

MR. RUSSELL: That's right. 16:07:15

THE COURT: All right. I don't mind jumping forward in the redlines. Okay. 16:07:18 16:07:20

So is there anything with this -- 16:07:22

MS. DURIE: I would say, Your Honor, originally we agreed to this language. 16:07:41 16:07:43

THE COURT: Okay. 16:07:45

MS. DURIE: And I think the thing 16:07:45

that we were saying that we have to work out, which is we're not contending that the patent -- the problem I have with this language is that they are adding is that depends on what you think additional features means, but they may be relevant to whether the product is infringing if they mean that you don't leave that in. So I think that that is misleading because it's not clear what is meant in by features in that first sentence. 16:07:46 16:07:50 16:07:52 16:07:56 16:07:59 16:08:01 16:08:04 16:08:07 16:08:09 16:08:13

The second sentence I think is fine, and I don't think it's necessary, but I don't think -- but I think that can stay in. 16:08:21 16:08:23 16:08:30

MR. GRAY: Just for context, Your Honor, we did discuss this language. It's now -- you know, we are proposing to strike this sentence, and I think the issue is you punctuated today with the admission of Aptiv's patents, and I actually have another sentence that Microchip would like to propose here where it's not just a matter of Aptiv doesn't contend these things, it's that as a matter of law, you know, the additional features and improvements do not mean that the product is 16:08:40 16:08:42 16:08:44 16:08:46 16:08:53 16:08:55 16:08:57 16:08:59 16:09:02 16:09:04 16:09:07

infringing, using the cookie example from openings, you know, if you have a chocolate chip cookie with nuts, it still infringes. 16:09:09 16:09:13 16:09:15

THE COURT: Yeah, I am just going to look. I thought that was -- concept was in there, but maybe I'm wrong. Okay. 16:09:18 16:09:18 16:09:21

So -- 16:09:27

MR. GRAY: That instruction is directly from the PureWick case from a few days ago, the final jury instruction. 16:09:49 16:09:50 16:09:53

THE COURT: Okay. Give me a second. 16:09:57 16:09:58

(Brief pause.) 16:10:00

THE COURT: So what I am thinking about here is to say, I mean, the first paragraph is fine, so whether Aptiv knew or believed the accused chip infringes the '243 Patent is the relevant question of infringement. Aptiv's knowledge or belief regarding infringement is only relevant to the separate question of infringement, which I will explain shortly. 16:10:37 16:10:41 16:10:54 16:11:00 16:11:05 16:11:09 16:11:25 16:11:28 16:11:30

So if I were to then take out the sentence that starts, "Additionally," and then 16:11:31 16:11:56

use the phrase "in other words," so if I started with the word "whether" --

MS. DURIE: Um-hmm.

THE COURT: -- I would go to the end of the paragraph.

MS. DURIE: Yes.

THE COURT: And then at the end of that paragraph, as long as Aptiv's accused chip includes all the elements in the asserted patent claim and that patent claim has infringed, even if the accused chip also has digital elements, features or improvements, I'm just wondering if there is a way to insert the concept here about Aptiv's patent. Additional elements, features or improvements.

MS. DURIE: Can I make a suggestion?

THE COURT: Yes.

MS. DURIE: I understand -- I understand the concern that they are raising about the sentence that they struck. I think that concern can be mitigated by simply saying whether Aptiv has patents does not have any bearing on whether it infringes the patent at

issue in this case. 16:13:18

I mean, like if the concern is 16:13:19

that it's framed in terms of our contention as 16:13:21

opposed to the law, then I think that would be 16:13:26

fine. It also says, "ownership of a patent is 16:13:30

not an infringement of the patent," but... 16:13:33

THE COURT: So you're saying, so 16:13:44

what I could do then is if I -- going back up, 16:13:46

if I struck the first sentence of that second 16:13:50

paragraph in the edit and just left the 16:13:52

remainder of the paragraph starting with the 16:13:55

word "whether," and then going down to the 16:13:58

last paragraph on page 18, at least on page 18 16:14:02

on the redline with the way I'm showing the 16:14:08

redline -- 16:14:10

MS. DURIE: Um-hmm. 16:14:10

THE COURT: -- it would -- accept 16:14:11

the edits and then for the sentence just 16:14:18

instruct -- I could just say so -- for the 16:14:23

sentence that's there, "so ownership of a 16:14:29

patent is not a defense of patent 16:14:31

infringement, nor is ownership of other 16:14:35

patents evidence of infringement," I could add 16:14:37

a sentence that says, "As a result, the fact 16:14:44

that Aptiv -- the fact that you have heard -- 16:14:46
well, as a result, the fact that Aptiv has 16:14:49
patents has no bearing on whether it has 16:14:53
infringed Microchip's patent." 16:14:57
MS. DURIE: That's fine. 16:14:59
MR. GRAY: I think that's okay. 16:15:02
Could you read that back one more time? 16:15:03
THE COURT: Make sure I get it 16:15:10
exactly as I said it. 16:15:11
So it will say -- the language 16:15:12
that's there now says, "Ownership of a patent 16:15:15
is not a defense a patent infringes nor is 16:15:17
ownership of patents," and then it will say, 16:15:23
"As a result, the fact that Aptiv has patents 16:15:27
has no bearing on whether it has infringed 16:15:29
Microchip's patent." 16:15:31
MR. GRAY: I would propose one 16:15:33
edit to say has patents related to the accused 16:15:35
product, or is that too far? That is sort of 16:15:44
suggestive to the prior art. 16:15:48
THE COURT: I thought you were the 16:15:50
ones that pushed back on that. 16:15:51
MR. GRAY: We are. 16:15:53
MR. WIENER: Sorry we took your 16:15:57

deal.

THE COURT: I can just say, "As a result, the fact that" -- yeah, I mean, I am inclined to leave it that way. The jury has heard about the patents, so I think they'll know what I'm talking about. Obviously they know that both companies, as they've heard, have lots of patents, but it's the fair inference to the ones that were actually admitted into evidence. Okay.

All right. Moving right along --

MR. GRAY: Your Honor, before we move too far, on page 19 of the redline document, we do want to raise an issue that came up today about whether the Boston chip is ultimately used in a car for CarPlay or a vehicle for CarPlay.

Our position is that's irrelevant to infringement. Our infringement case and our damages case is based on Aptiv's sales of the accused product of the dual role hub, so the use of that product is not relevant to infringement under our existing theory.

THE COURT: Just so I know, this

is the direct infringement instruction? 16:17:14

MR. GRAY: Correct. 16:17:17

THE COURT: And let me just see, 16:17:18

yeah, which language are you saying talks 16:17:21

about use? 16:17:24

MR. GRAY: Well, so, in the very 16:17:25

first paragraph, we would edit the acts of 16:17:26

infringement. So where it says, "Microchip 16:17:30

must prove by a preponderance of the evidence, 16:17:33

meaning that it is more likely than not that 16:17:36

Aptiv sold product covers." 16:17:38

MS. DURIE: No objection there. 16:17:40

THE COURT: Okay. Fine. 16:17:41

MR. GRAY: Offered for sale. I 16:17:48

don't want to short-circuit this too much. 16:17:50

THE COURT: Well, so, what are you 16:17:53

proposing, Mr. Gray? Sold, or is it sold or 16:17:58

offers to sell? 16:18:03

MR. GRAY: Give me just a second, 16:18:04

Your Honor. I'm sorry. 16:18:06

(Brief pause.) 16:18:07

MR. GRAY: So the sentence we 16:18:36

would like to add, and maybe we start there 16:18:38

and we can back out from there, is whether the 16:18:40

Boston chip is used -- is ultimately used for CarPlay is not relevant to infringement. 16:18:43 16:18:46

MS. DURIE: Well, that would be just wrong. 16:18:47 16:18:49

THE COURT: Wait, wait, wait. Your case is a sale case; is that what you're saying? 16:18:50 16:19:00 16:19:03

MR. GRAY: Primarily, yes. 16:19:03

THE COURT: Sale or offer to sell? 16:19:05

MR. GRAY: Primarily. 16:19:06

THE COURT: Those are the -- well, it either is or isn't, because if it's primarily, and then there's something else, then I need to instruct the jury on the something else. 16:19:07 16:19:09 16:19:12 16:19:14 16:19:15

MR. GRAY: Well, I would include "made" as well. 16:19:15 16:19:18

MS. DURIE: That's fine. 16:19:20

THE COURT: Okay. 16:19:21

So then the last sentence of the paragraph would be, "meaning that it is more likely than not," probably don't need a comma there, "that Aptiv made, sold or offered to sell product covered by at least one asserted 16:19:21 16:19:23 16:19:27 16:19:30 16:19:36

claim"; right?

MR. GRAY: Correct. If we are going to get a sentence on the irrelevance of use.

THE COURT: Well, why do I need to say the use is irrelevant if I haven't even introduced use as something that was relevant in the first place? In other words, by taking it out of what can be infringement, then why do I need to highlight it for the jury? Right?

I mean, I am not going to say it doesn't matter if they were imported, right, which is another thing that's under the statute that's not at issue, as I understand it now.

MR. GRAY: Right, that's correct, unimported. I'd like to understand why counsel thinks that the use is relevant to infringement?

THE COURT: I don't think they are saying its use is relevant. I think -- well, I mean, I guess I can hear from Ms. Durie, but I'm not sure I understand why I need to

highlight one prong of the statute in a sort of negative way when I'm not -- not doing it for the other prongs. 16:20:46 16:20:52 16:20:57

MR. GRAY: I can respond to that, Your Honor. 16:21:00 16:21:02

THE COURT: Okay. 16:21:02

MR. GRAY: That's -- I sensed a shift today that that is an argument that's confusing for the jury, that if the chip is not ultimately used for CarPlay, Dr. Becker should have somehow excluded that from his calculations, and that's just not the case. 16:21:03 16:21:05 16:21:07 16:21:10 16:21:13 16:21:15

We have data that shows which chips Aptiv told us were not CarPlay capable and those were all removed from Dr. Becker's calculations. 16:21:17 16:21:19 16:21:24 16:21:27

But through two witnesses today, including Mr. Garney, it sounds like counsel is suggesting that the ultimate use of the chip in a vehicle, like what the customers decide to do with the chip after it's sold by Aptiv, determines infringement. 16:21:27 16:21:31 16:21:35 16:21:38 16:21:41 16:21:43

THE COURT: In other words, meaning if a customer doesn't actually 16:21:47 16:21:48

activate CarPlay, then they never use the accused features of the chip; right? 16:21:50 16:21:54

MR. GRAY: Correct. 16:21:57

THE COURT: And that's fine, and that's kind of why -- isn't that why the sales provisions are there in the statute? 16:21:58 16:22:02 16:22:06

MR. GRAY: It is, but it's sort of a curative instruction, the way I see it, because of the suggestion that this somehow matters and casts doubt on Dr. Becker's calculations. 16:22:07 16:22:11 16:22:14 16:22:15 16:22:19

THE COURT: What do you think, Ms. Durie? 16:22:23 16:22:24

MS. DURIE: So Dr. Becker excluded Tesla sales from his calculation and he did it for a reason. This is a contested factual issue. 16:22:24 16:22:27 16:22:31 16:22:33

If the Court needs to hear from me in terms of a proffer, I can do that, but as a practical matter, we disagree about the significance of that evidence relative to infringement. I'm not going to argue that the test for direct infringement of the sale of a product is a function of later use per se. 16:22:35 16:22:38 16:22:40 16:22:43 16:22:44 16:22:48 16:22:51

Obviously it is a function of the characteristics of the product being sold. 16:22:55 16:22:58

In this case, the later use or lack thereof is irrelevant to those characteristics. 16:23:01 16:23:03 16:23:06

THE COURT: Explain that. I am not sure I followed that. 16:23:09 16:23:10

MS. DURIE: Sure. This is a direct infringement case. 16:23:11 16:23:13

THE COURT: Right. 16:23:14

MS. DURIE: They dropped their indirect infringement allegation. 16:23:14 16:23:16

THE COURT: Right. 16:23:17

MS. DURIE: The testimony has established that in order to have role reversal and to have two hosts, you need software. The software that does that is in the car. Until the software does that, there are not two hosts and not infringement. 16:23:17 16:23:19 16:23:21 16:23:26 16:23:29 16:23:31

THE COURT: Until the soft -- the software is in the car, but the software is activated in the car -- you are saying if the software is not installed in the car -- 16:23:34 16:23:37 16:23:39 16:23:42

MS. DURIE: Until the software 16:23:45

acts -- so car manufacturers put software in their head unit. 16:23:46 16:23:50

THE COURT: Right. 16:23:51

MS. DURIE: Until that software acts on the dual role hub, it does not become something, period. Once it is configured, once the configuration happens in a CarPlay enabled car, then and only then will there be two hosts, and then and only then will it be capable of meeting the claim. 16:23:52 16:23:53 16:24:00 16:24:04 16:24:08 16:24:13 16:24:16

THE COURT: Can I just be clear? 16:24:19

MS. DURIE: Sure. 16:24:19

THE COURT: When you say, "configuration," are you talking about the configuration of the head unit when the car is turned on or the configuration of the iPhone that is plugged in? 16:24:20 16:24:21 16:24:23 16:24:26 16:24:28

MS. DURIE: I am talking about the configuration of the dual role hub by virtue of the head unit interacting with it. 16:24:29 16:24:31 16:24:34

THE COURT: Right. 16:24:37

MS. DURIE: And then the phone being plugged in. So to be clear, the head unit configures the first code. The iPhone 16:24:37 16:24:38 16:24:43

connects as a device. Right now there is one host port and only one. Role reversal then happens. Software in the hub is required for that role reversal. 16:24:47 16:24:50 16:24:53 16:24:58

Then and only then does the iPhone disconnect and reconnect as a host, and then and only then are there two hosts. The claim requires two upstream ports. That is the first time that there are two upstream ports in the dual role hub. 16:25:00 16:25:02 16:25:07 16:25:11 16:25:14 16:25:16

THE COURT: So can I just be -- I mean, are you suggesting then that every car sold to a car owner who has an Android phone needs to be excluded from the damages calculation? 16:25:21 16:25:26 16:25:31 16:25:36 16:25:38

MS. DURIE: So I am suggesting that there would need to be proof -- so first of all, I think as a practical matter is the only way they could have established this is as an indirect infringement case, but if they had an indirect infringement case, the argument would be that things that happened in the car, depending on the software in the particular car, would result in an overall 16:25:39 16:25:42 16:25:46 16:25:50 16:25:52 16:25:57 16:25:59 16:26:04 16:26:06

system that would configure in an infringing fashion. 16:26:11 16:26:16

But as we heard testimony today, I mean, there is a reason that Dr. Becker excluded Tesla from his calculation. I think he actually understands this problem. 16:26:18 16:26:20 16:26:22 16:26:25

MR. GRAY: I can explain exactly why it is not that. 16:26:27 16:26:29

THE COURT: Wait, wait, wait. 16:26:30

MS. DURIE: So Teslas were excluded, and I think that was an effort to exclude cars that did not have CarPlay. I think Dr. Becker thought that all of the other cars that were listed were, in fact, CarPlay enabled. I don't think that solved the problem that I am talking about, but I think he thought that all of the other cars were CarPlay enabled. 16:26:31 16:26:32 16:26:34 16:26:37 16:26:39 16:26:42 16:26:44 16:26:46 16:26:48

What we heard testimony about today is that that's wrong and that we actually don't know which cars were CarPlay enabled. 16:26:49 16:26:50 16:26:52 16:26:55

Having said that, even if a car is enabled with CarPlay, it requires software 16:26:55 16:26:57

that we do not provide in order for that configuration to happen and in order for there to be infringement. So, I mean, you are about to hear a motion on this, but there is no direct infringement case. 16:27:00 16:27:03 16:27:05 16:27:07 16:27:11

THE COURT: Go ahead, Mr. Gray. 16:27:13

MR. GRAY: Thank you. 16:27:14

So a couple things. Claims 23 through 25 do not require two hosts. It is an apparatus claim. So it is a chip that is capable of doing these things. And if you need software later on to, you know, activate the configuration within the chip as sold, that's a different question. So we completely disagree with that statement of the law. 16:27:15 16:27:18 16:27:20 16:27:22 16:27:25 16:27:29 16:27:32 16:27:35

And as for Dr. Becker, I have personally worked with him in this case and I know exactly why he excluded the units he did, and it's because Aptiv's data, the first time they produced it, it flagged specific model numbers of parts, it had an entry, Aptiv tried its best to exclude as many units as it could and identified every model number as not CarPlay capable. 16:27:37 16:27:39 16:27:41 16:27:44 16:27:47 16:27:51 16:27:56 16:27:59 16:28:02

So for every model number that said in the original data it is not CarPlay capable, those units were removed. And in the updated data we got earlier this year, Aptiv didn't provide that same data to us. 16:28:03 16:28:05 16:28:08 16:28:12 16:28:15

So Dr. Becker issued his report and he said, I'm assuming that because this data doesn't have the same data as before, that all of these models are, in fact, CarPlay enabled. And shortly before his testimony, I conferred with counsel for Aptiv and got a clarification that no, even though that column was removed from the report, we should still assume that the same models identified previously as not CarPlay enabled are still that way in the new dataset. So that's why Dr. Becker's number dropped slightly. 16:28:18 16:28:20 16:28:22 16:28:24 16:28:27 16:28:32 16:28:34 16:28:37 16:28:39 16:28:42 16:28:45 16:28:48

There were three model numbers that had sales in the updated data that the earlier data said were not CarPlay enabled. Every other -- every other unit sold that's in Dr. Becker's calculation is, as far as we know, CarPlay enabled based on what Aptiv told us. 16:28:51 16:28:53 16:28:56 16:29:00 16:29:02 16:29:05 16:29:08

THE COURT: Okay. Hold on a second. 16:29:09 16:29:10

(Brief pause.) 16:29:22

THE COURT: All right. Go ahead, Ms. Durie. 16:29:46 16:29:49

MS. DURIE: Well, I think there are two separate issues here. 16:29:49 16:29:50

THE COURT: Go ahead. 16:29:51

MS. DURIE: On the, what I'll call the Dr. Becker issue, there is a dispute about what the documentation produced by Aptiv means. We heard testimony from the stand today about what it means and what we do and don't know about the extent to which carmakers have actually enabled CarPlay. 16:29:52 16:29:54 16:29:59 16:30:03 16:30:06 16:30:09 16:30:11

We sell modules. There is a date that is the first date that CarPlay could have been enabled. That is not the same thing as the first date that CarPlay was enabled, and we had testimony today drawing that distinction. I think that is one issue about which perhaps there is simply a disputed fact. 16:30:15 16:30:18 16:30:20 16:30:23 16:30:25 16:30:28 16:30:30

The second issue is this question of the extent to which CarPlay -- what happens 16:30:34 16:30:36

in the course of CarPlay is relevant to the infringement case. 16:30:42 16:30:45

THE COURT: Okay. 16:30:47

MS. DURIE: And it is, from our perspective, because the thing that we sell is not configured to do the things that are required by the claim, setting aside obviously all of our other non-infringement arguments, it is not configured to do the same. 16:30:48 16:30:50 16:30:54 16:30:57 16:31:01 16:31:04

That configuration requires, and this is undisputed because Dr. Zatkovich testified to this, that configuration requires software that is separate, that is in the head unit in order for that configuration to happen. 16:31:07 16:31:08 16:31:10 16:31:13 16:31:16 16:31:18

So I think it would be factually wrong -- I don't think it is a legal question that would be appropriate for jury instruction in the first place. I mean, it would be factually wrong in resulting adversely to us in a factual dispute to suggest that whether CarPlay is or is not enabled is irrelevant to the question of direct infringement. 16:31:18 16:31:20 16:31:23 16:31:26 16:31:28 16:31:31 16:31:33 16:31:37

THE COURT: I am looking at -- I 16:31:42

am sitting here looking at the language. 16:31:47

MS. DURIE: Sure. 16:31:49

THE COURT: And you know, there's 16:31:50

no doubt that the second in limine -- 16:31:54

MS. DURIE: Right. 16:31:56

THE COURT: -- is a controller 16:31:56

that is configured to establish the terms of 16:31:58

the respective dedicated USB connection. 16:32:02

MS. DURIE: Right. 16:32:04

THE COURT: Now, I think that's a 16:32:07

little, just to be clear about where -- 16:32:09

because of where we started here. 16:32:11

MS. DURIE: Right. It is actually 16:32:16

the second and third. The controller has to 16:32:17

be configured to establish a connection. 16:32:19

THE COURT: Right. And it's 16:32:21

operable. 16:32:22

MS. DURIE: And it has to be 16:32:22

operable to receive, and it is neither 16:32:23

configured nor operable to do those things as 16:32:25

it is sold. 16:32:28

THE COURT: Right. Understood. 16:32:28

So I understand the argument you 16:32:30

are making. Where we started here was just 16:32:31

the question about whether I should include something saying use is irrelevant. 16:32:36 16:32:40

MS. DURIE: Right. And it's not, because it is the use that causes the configuration that would then render it operable. So as sold, it has not been configured, it is not operable, it does not have two upstream ports. 16:32:50 16:32:52 16:32:55 16:32:57 16:33:02 16:33:04

If it is put into a car that is CarPlay enabled, if someone turns on and uses CarPlay, then configuration will happen and it would become operable to perform those functions. 16:33:07 16:33:09 16:33:12 16:33:17 16:33:19

As I said, I mean, they had an indirect infringement case. They dropped it. And I think there is a set of strategic decisions that went into why they dropped it that we don't need to get into, but that was the decision they made. 16:33:21 16:33:23 16:33:28 16:33:30 16:33:32 16:33:35

So I don't see, on the direct infringement case, how the Court could instruct the jury that uses are relevant when there is undisputed testimony, at this point, that that use is required in order for the 16:33:36 16:33:37 16:33:39 16:33:42 16:33:44

configuration to happen. 16:33:47

THE COURT: Go ahead. 16:33:53

MR. GRAY: May I respond, Your Honor? 16:33:53

THE COURT: Yes. 16:33:54

MR. GRAY: We are still not talking about use or the actual configuration. This is the -- it is a comprising claim, so the controller is configured to do these things. If software helps that controller to do those things later when it's in operation, that's one thing. But as it stands, the controller is configured to perform these operations. So number one. 16:33:55

And then number two, we are still -- the use is not at issue. This is a claim construction argument over the controller. Is the controller, as sold, configured to establish these things or is the controller, alone, without any help from anything else, configured to do these things. It's separate from the use whether the use is actually for CarPlay later after it's sold. 16:34:15

THE COURT: Well, let me -- okay. 16:34:41

MS. DURIE: That sounds like a factual question for the jury. 16:34:42 16:34:43

THE COURT: Where I am on this is that it is, in fact, I think, a factual question, right? These are terms in the patent that are not subject to construction by the Court. 16:34:46 16:34:47 16:34:52 16:34:55 16:35:01

I am going to give the jury an instruction on what they should do with those terms and how they resolve what they mean. 16:35:03 16:35:05 16:35:07

You are certainly free, Mr. Gray, to argue, to make the argument you just made to the jury, right? 16:35:16 16:35:22 16:35:24

Well, these things work, that's how they're built, and, you know, the notion that there is some line of software codes to make it actually configure, then that's what they're built for. You are free to make that argument to the jury, and Ms. Durie can make the argument to the contrary, that it doesn't work, and you heard testimony from Mr. Garney that it doesn't work. 16:35:25 16:35:26 16:35:29 16:35:32 16:35:35 16:35:37 16:35:41 16:35:44 16:35:46

So that all is not, to me, a legal basis to rule into this, which puts me kind 16:35:47 16:35:51

of, for my purposes, back where I started, which is if this is a case about made, sold and offered to sell, then those are the terms from the statute that I am going to highlight in construction, and I don't think I need to provide sort of negative instructions to the contrary about some statutory term that the jury is not actually hearing created infringement in the first place. 16:35:56 16:35:58 16:36:05 16:36:07 16:36:10 16:36:13 16:36:15 16:36:17 16:36:20

MR. GRAY: We are okay not including the sentence, but we'd like to keep the language as it stands. There is evidence on those issues, including use, and based on Ms. Durie's arguments just now, it sounds like those should be in the instructions. 16:36:21 16:36:23 16:36:25 16:36:26 16:36:30 16:36:34

THE COURT: Look, I don't have a problem putting in the full range of conduct that can violate the statute because I think it is an accurate statement of the law. So we can leave it as is and just have it say more likely than not. We'll take out the comma after "not," it doesn't belong there, that Aptiv made, used, sold, offered to sell or employed its products covered by at least one 16:36:35 16:36:36 16:36:40 16:36:42 16:36:44 16:36:48 16:36:53 16:36:56 16:36:59

claim.
All right. Let me just --
All right. Invalidity generally tackles Aptiv's proposed changes. Microchip has -- is your next change down...
MR. WIENER: Obviousness?
THE COURT: Yeah, it might be. Okay. Let me see if there are any Aptiv changes regarding that.
I think we are in the same instruction now for both. Okay. So Aptiv has instruction with some minor changes, I think, prior to the list.
And then Microchip wants me to again introduce clear and convincing evidence concept. I mean, I've already said that Aptiv has the burden, in the beginning instructions, of proving clear and convincing evidence. I don't think I need to say that again.
MR. GRAY: That's fair, Your Honor. Thank you.
THE COURT: Okay. All right. All right. Then we are good with obviousness.
So then my next change. My next

change from Aptiv -- is that it from Aptiv? 16:39:48
MR. RUSSELL: No, there's one line 16:39:51
we wanted to add on page 35, written 16:39:52
description. 16:39:55
THE COURT: Okay. 16:39:55
So written description, let me -- 16:39:56
all right. Well, hopefully we're all on 16:40:04
page 35 now, the redlines ended. All right. 16:40:07
So Microchip has proposed adding this 16:40:18
language, "nor must it describe every 16:40:23
conceivable possible embodiment." 16:40:27
I think that's an accurate 16:40:30
statement. I can't remember if -- 16:40:32
MR. GRAY: So the issue here is 16:40:38
that there is a statement that Your Honor 16:40:40
adopted in the invalidity generally section -- 16:40:41
THE COURT: Right. 16:40:44
MR. GRAY: -- along these lines, 16:40:45
but it doesn't appear in the specific 16:40:46
instruction, so our concern was that it would 16:40:47
get lost in the shuffle. 16:40:49
THE COURT: Okay. All right. 16:40:52
That's fine. They are -- I have no problem 16:40:53
with putting it back in here, too. 16:40:57

Mr. Wiener, what was your then proposed position? 16:41:00 16:41:01

MR. WIENER: Our proposed position would have gone in the location of the same line to say that; however, a mere wish or plan for obtaining the claimed invention is not adequate written description. 16:41:04 16:41:06 16:41:07 16:41:12 16:41:13

THE COURT: Is that in your redline? 16:41:22 16:41:24

MR. WIENER: It is. Top of page 35. 16:41:24 16:41:27

THE COURT: Okay. 16:41:27

I don't have a problem with that. I think we'll make it one sentence and so just after the word "embodiment," put a comma and say -- replace "however" with "but." 16:41:53 16:41:54 16:42:01 16:42:05

MR. WIENER: That's fine with us, Your Honor. 16:42:08 16:42:10

MR. GRAY: Could we separate those two? It sounds like that's -- the however language is qualifying the statement of law that we've put in here. 16:42:10 16:42:11 16:42:14 16:42:17

THE COURT: So you'd rather keep it as two separate sentences? 16:42:19 16:42:21

MR. GRAY: I would. And we would object to the inclusion of this sentence. It seems like piling on an unhelpful -- I know there's not a cite here. I'm guessing you have a cite for where it came from, Mr. Wiener? 16:42:22 16:42:24 16:42:26 16:42:29 16:42:32 16:42:34

MS. DURIE: I think from what we had originally proposed. It's from -- 16:42:38 16:42:40

MR. WIENER: I believe the Federal Circuit bar instruction, which is where our original instruction that we gave to the Court largely adopted Microchip's proposed instruction. So we said one we thought was an important context from that to put into this instruction, which is the "however" language. 16:42:44 16:42:46 16:42:49 16:42:52 16:42:54 16:42:56 16:42:59

THE COURT: Okay. 16:43:02

Well, I don't have a problem to use two sentences, so we'll do that. I do think that it's adding, so we will do that. So we'll just put the "however" language after the word "embodiment" as a second sentence. Okay. 16:43:04 16:43:06 16:43:09 16:43:16 16:43:18 16:43:22

All right. So then I have -- then I have the enablement requirement sentence 16:43:22 16:43:56

from Microchip, "the specification does not have to describe or enable the accused product." I think I've already said something like that at the beginning; right? 16:43:59 16:44:02 16:44:11 16:44:14

MR. GRAY: Correct, same issue. 16:44:17

THE COURT: Yes, the same language? 16:44:19 16:44:21

MR. GRAY: It is. It's shortened more than the written description language is, but it's just the relevant portion of enablement. 16:44:21 16:44:23 16:44:25 16:44:27

THE COURT: Okay. That's fine. We can add that in. 16:44:28 16:44:29

And then let me see what else we have. You wanted the instruction about the two-supplier market? 16:44:31 16:44:44 16:44:47

MR. GRAY: Yes, Your Honor. 16:44:48

THE COURT: Before I get there, Ms. Durie, anything else? That's it for you, right, Mr. Wiener? 16:44:50 16:44:52 16:44:55

MR. WIENER: Yes. And I do have thoughts on the two-supplier market. 16:44:56 16:44:58

THE COURT: I am not just going to adopt that one just because -- okay. All 16:45:00 16:45:01

right.

So, Mr. Wiener, I know your thoughts. I mean, I didn't want you to -- two questions here; one is the question of to what extent I should instruct the jury, the other question is whether you think this has the law wrong.

So answer that one first if you would, since it pertains to the law, and then come back to me on the question of what you think I should do in terms of the instruction.

MR. WIENER: Sure, Your Honor.

So to be clear, we would agree and we, in fact, cited cases in our opposition to their motion in limine that in the event that they establish that there is a two-supplier market, that they are entitled to an inference of no non-infringement terms.

However, in this case, it's a little bit complicated because there are not suppliers that are in the exact same market, and all of the cases in this context are discussing parties that are directly competing in the exact same market, and here we have a

market for hubs and a market for chips. 16:46:13

And so we would suggest that it is 16:46:15

not on all fours with the case law that 16:46:19

suggests that that sort of presumption down on 16:46:21

non-infringing alternative applies in this 16:46:26

context. 16:46:28

THE COURT: As a matter of sort of 16:46:29

economics, you are competing in the chip 16:46:30

market. It's just through internal sales; 16:46:38

right? There's not an arm's length 16:46:41

negotiation over the value, but, you know, I 16:46:44

think the whole point here is you would 16:46:49

presumptively have to -- I mean, maybe you use 16:46:53

some other chip, but that would always be true 16:47:00

in any market whether they would choose a 16:47:07

supplier where you could say well, you could 16:47:11

go buy a lesser product. 16:47:13

So why the different -- I mean, I 16:47:15

understand the distinction you are drawing, 16:47:16

but why does the distinction make a 16:47:18

difference? 16:47:20

MR. WIENER: Your Honor, it is not 16:47:20

a distinction we would stand on. I think what 16:47:21

we would recommend in terms of implementing it 16:47:24

in the jury instructions is that rather than have a stand-alone large two-supplier market instruction, that after the jury is instructed in lost profits on the four Panduit factors, that there is a single instruction that says, "If Microchip proves that it is a two-supplier market, they are entitled to an inference that there are no non-infringing alternatives," which is the net effect of this inference that there is a demand, that the first two Panduit factors steps are met. 16:47:26 16:47:28 16:47:30 16:47:33 16:47:36 16:47:40 16:47:43 16:47:45 16:47:48 16:47:51 16:47:54

The other thing I would say, and this is a sort of a point of compromise that I think maybe two parties are in agreement on, is that the language that they have proposed at the bottom of their lost profits two-supplier market is something that we would also adopt, and I think we would want to put into this instruction, which is point out that the Panduit factors doesn't -- if the four Panduit factors are met, it doesn't mean that the plaintiff necessarily gets that damages amount. It means that there is a presumption of damages, and the burden shifts to the 16:47:56 16:47:58 16:48:00 16:48:02 16:48:04 16:48:06 16:48:09 16:48:11 16:48:13 16:48:16 16:48:19 16:48:20 16:48:22

defendant to show that that presumption is unreasonable for some or all of the sales. 16:48:24 16:48:28

And that's the law as stated in the Rite-Hite Corp. versus Kelley case. It is reflected in the jury instruction that Microchip, itself, has proposed at the bottom of the two-supplier market. 16:48:30 16:48:34 16:48:35 16:48:37 16:48:39

So our proposal would be to go to the current instruction on lost profits with an instruction after the Panduit factors explaining the two -- you know, the two-supplier test, that if they prove that there is a two-supplier market, that they are entitled to an inference on the first and second Panduit factors, and then also an instruction explaining that if the four Panduit factors are met, then the burden shifts to Aptiv to show that that presumption of damages is unreasonable for some or all of the sales. 16:48:41 16:48:44 16:48:46 16:48:49 16:48:51 16:48:53 16:48:55 16:48:58 16:49:00 16:49:02 16:49:05 16:49:08 16:49:11

THE COURT: And just to be clear, when you say, "an instruction," that's language inserted in the instruction where I listed four Panduit factors, or are you saying 16:49:12 16:49:13 16:49:17 16:49:20

break it out as a separate instruction after I do the sort of subheading on these Panduit factors? 16:49:23 16:49:25 16:49:28

MR. WIENER: Your Honor, we would propose, just after the fourth Panduit factor, to have a paragraph that explains that Microchip contends it is a two-supplier market and if they are able to prove by a preponderance of the evidence that it is a two-supplier market, they are entitled to an inference that the first two factors of the Panduit factor test are met. 16:49:28 16:49:29 16:49:32 16:49:34 16:49:37 16:49:41 16:49:43 16:49:45 16:49:47

And then an additional paragraph that says, "If you find that the Panduit factor test is met, then Microchip is entitled to an inference of damages," after, you know, the language that's in their proposed instruction, which is that the burden shifts to us to show that that inference is unreasonable for some or all of the sales. 16:49:50 16:49:52 16:49:55 16:49:57 16:50:01 16:50:02 16:50:04 16:50:06

THE COURT: What do you think of that, Mr. Gray? 16:50:10 16:50:10

MR. GRAY: We would disagree, first with the placement. The two-supplier 16:50:12 16:50:14

market instruction typically comes directly after the sort of introduction to lost profits, before you dive into all four factors. 16:50:16 16:50:18 16:50:20 16:50:23

THE COURT: I think that's what he is proposing. I think what they are proposing is rather than have a separate heading that essentially what I do is you go up to preceding instruction on page -- which ends on page 42 of my redline volume, the lost profit sort of introductory instruction, after No. 4 Panduit factors, before I say, "I will now explain each of these factors," I would add language that says, "Microchip contends that if there were only two suppliers in the market and if Microchip proved, by a preponderance of the evidence, that there were only two suppliers in the market, then you should infer, assume, something like that, you know, "that Microchip has satisfied the first two of these elements here"; right? 16:50:23 16:50:25 16:50:27 16:50:29 16:50:32 16:50:34 16:50:39 16:50:42 16:50:44 16:50:47 16:50:54 16:50:58 16:51:02 16:51:03 16:51:07 16:51:10 16:51:13

And then I would have, I guess, a new paragraph that says, "If Microchip satisfies all four of these elements, you 16:51:15 16:51:18 16:51:25

know, then Aptiv has an opportunity to" -- 16:51:31

MR. WIENER: The language they 16:51:40

proposed actually would be fine there. If 16:51:41

they meet the four factors, then starting with 16:51:43

"you may presume that Microchip satisfies the 16:51:45

but-for test and is entitled to lost profits." 16:51:47

And then the next sentence, "However" -- 16:51:51

THE COURT: Yes, and just move 16:51:54

that up and not have a separate page. 16:51:56

MR. GRAY: Okay. I understood the 16:51:58

proposal differently. I'm sorry. 16:52:00

THE COURT: Yes. 16:52:02

MR. GRAY: I think that's okay, 16:52:03

listing or saying if Microchip satisfies the 16:52:07

four factors is a little bit confusing since 16:52:09

we're saying the first two factors sort of 16:52:11

collapse. 16:52:14

THE COURT: Well, I'm saying maybe 16:52:14

they collapse. I think maybe I can add a 16:52:16

phrase that says -- I guess I can say -- I 16:52:19

don't want it to get too wordy. 16:52:34

MR. GRAY: I have an idea. 16:52:37

THE COURT: Go ahead. 16:52:38

MR. GRAY: We could sort of repeat 16:52:39

the second sentence and say basically using the general but-for language, you know, if -- I think that the case from the -- I think it's cited in Mr. Chase's report. It says, "If Microchip shows a reasonable probability that it would have made additional sales but for the infringement, the burden shifts to the infringer to show that basically that it's that -- it's unreasonable for some or all of those sales." 16:52:41 16:52:44 16:52:49 16:52:53 16:52:55 16:52:57 16:52:59 16:53:02 16:53:07 16:53:11

Is that what you're referring to? 16:53:14

MR. WIENER: Yeah, but I thought that we already sort of figured out that last paragraph. I thought we were moving on the paragraph between the four factors and sort of the explanation of the two-supplier situation. 16:53:15 16:53:16 16:53:19 16:53:23 16:53:27

THE COURT: So, yes. And it may be that there are other ways to do this, you know. Maybe it could be different language. 16:53:30 16:53:34 16:53:36

But I think what I am inclined to do to tackle the problem is to say, after No. 4, after the fourth Panduit factor, we can say, "Microchip contends that if there were only two suppliers in the relevant market, 16:53:44 16:53:46 16:53:51 16:53:55 16:54:08

Microchip and Aptiv" -- I assume you want me to say Aptiv because you agree, Mr. Wiener? 16:54:11 16:54:21

MR. WIENER: Yes, because it is a market issue. 16:54:26 16:54:28

THE COURT: Yes. Aptiv disagrees. And then say, "If Microchip proves, by a preponderance of the evidence, that there were only two suppliers in the relevant market, then you should presume..." 16:54:28 16:54:32 16:54:38 16:54:44 16:54:49

MR. WIENER: Your Honor, I think we are going to have another presumption concept coming, so I think it would be fine with ending after, "satisfied the first two." 16:55:04 16:55:05 16:55:07 16:55:09

THE COURT: "Had satisfied the first two elements and only provide proof of elements three and four." 16:55:13 16:55:15 16:55:23

And then I can say -- and then in a new paragraph it would say, "If Microchip satisfies the four elements." 16:55:30 16:55:32 16:55:40

MR. WIENER: "Microchip satisfies the language in their proposed instruction," starting on the third line of that paragraph. 16:55:50 16:55:53 16:55:58

THE COURT: I am okay with that, Mr. Gray, if you are. It doesn't -- it leaves 16:56:01 16:56:11

a little bit of lack of clarity in the sense that I will have just introduced the concept of collapsing, but the presumption of but-for, I mean, they could get there without showing -- 16:56:17 16:56:21 16:56:26 16:56:33 16:56:38

MR. WIENER: Right. 16:56:41

THE COURT: And so there's some small risk of confusion, I think, in the possibility -- in the introduction of the instruction about two-supplier market and then immediately -- so why don't I say, "Aptiv -- if Microchip proves, by a preponderance of the evidence, these four factors, whether by proving the two-supplier market or otherwise, you may presume that Microchip satisfied the but-for test," and then just pick up the rest of the paragraph that Microchip proposes. 16:56:41 16:56:43 16:56:46 16:56:53 16:56:56 16:57:10 16:57:13 16:57:25 16:57:31 16:57:35 16:57:37

Does that work for you, Mr. Wiener? 16:57:42 16:57:43

MR. WIENER: It does with one additional edit, which is that the original lost profits instruction before introducing the four factors has language that's inconsistent with that, and I think the law, 16:57:43 16:57:44 16:57:47 16:57:48 16:57:50

because it says, "Microchip" -- it says, 16:57:53
"Microchip has proven entitlement to and the 16:57:55
amount of lost profits," and if the point is 16:57:58
that they are entitled to prove a presumption 16:58:02
and then there is a ability to rebut that, 16:58:04
then just satisfying the four factors doesn't 16:58:07
proven entitlement to an amount. 16:58:10
So we would recommend striking the 16:58:13
"in the amount of" in that first sentence, 16:58:16
figures that would cause confusion with the 16:58:20
presumption language later. 16:58:22
MR. GRAY: I'm not sure I am 16:58:25
following, because factor four is the amount 16:58:27
of profits that Microchip would have made. I 16:58:28
thought that was part of satisfying the four 16:58:32
factors. 16:58:34
MR. WIENER: Well, I think that 16:58:35
the amount of proof that they have proven a 16:58:37
presumption to a certain amount and then it 16:58:41
goes to us to figure -- you know, to rebut the 16:58:44
presumption to determine what the final amount 16:58:46
of damages will be. 16:58:48
The first sentence of this 16:58:50
paragraph says, "Microchip has proven its 16:58:51

entitlement to, and the amount of, lost profits. If you find that," dot dot dot. There's no accommodation for that presumption later on. 16:58:53 16:58:56 16:58:58 16:59:01

Now, the presumption can rebut some or all of the sales -- 16:59:02 16:59:05

MR. GRAY: Right. 16:59:07

MR. WIENER: -- so that's why the amount I think sort of would be consistent with the other approach. 16:59:07 16:59:08 16:59:11

THE COURT: Yeah, I understand the point. Are you okay, Mr. Gray, if I take out that phrase "and the amount of" in that sentence -- in the sort of introduction to the Panduit factors? 16:59:19 16:59:20 16:59:23 16:59:25 16:59:29

MR. GRAY: Not right now, but I may be misunderstanding. 16:59:43 16:59:45

THE COURT: Well, so here's -- I mean, I understand the problem. I mean, I think I am getting a little frank and I worry about that sometimes because I said this I think the other day, but I just want to make sure that I did tell you all because I think I may have said it back in voir dire, that I am 16:59:47 16:59:48 16:59:54 16:59:56 16:59:58 16:59:59 17:00:02

going to send a written copy of the instructions back to the jury, too, publish a copy, so I just want to make sure it's readable to them as well. 17:00:04 17:00:08 17:00:10 17:00:12

(Brief pause.) 17:01:00

THE COURT: I think one way to deal with a lot of this might be to let the addition a little bit. So what if -- what if I do something like this. 17:01:02 17:01:12 17:01:37 17:01:47

I can leave it as is through the end of the Panduit factors. At the end of the Panduit factors, I could say, "If Microchip proved, by a preponderance of the evidence -- if Microchip proved these four factors by a preponderance of the evidence, then Aptiv may rebut this showing -- Aptiv may rebut Microchip's showing, but proving that -- then the burden shifts to Aptiv to show that Microchip reasonably would not have made some or all of the diverted sales but for the infringement." I can introduce that there. 17:01:52 17:01:54 17:01:59 17:02:22 17:02:26 17:02:29 17:02:36 17:02:41 17:02:50 17:02:52 17:02:55 17:02:58

I can then add the language that "Microchip intends that there were only two suppliers in the relevant market, Microchip 17:03:04 17:03:08 17:03:11

and Aptiv. Aptiv disagrees. And if you find -- if Microchip has proven, by a preponderance of the evidence, that there were only two suppliers in the market, then Microchip has proven the first two factors." 17:03:14 17:03:20 17:03:22 17:03:24 17:03:28

And then what I would do is after No. 5, which is the lost profit amount of profits, the last Panduit factor, I would -- well, 35 in the redline, it is really in 4 if we added No. 2, but I would add one more instruction, I'll title it, "lost profits - rebuttal," and then I can add -- essentially I can repeat, "if Microchip has proven the four elements by a preponderance of the evidence, Aptiv may rebut this" -- I'm sorry, let me -- 17:03:31 17:03:44 17:03:48 17:03:54 17:03:58 17:04:01 17:04:18 17:04:26 17:04:31 17:04:33

"If Microchip has satisfied the four elements necessary for -- to claim its lost profits, Aptiv may rebut Microchip's showing -- may rebut Microchip's evidence" -- I'm sorry, I said earlier "the burden will shift to Aptiv to show that Microchip reasonably would not have made some or all of these sales but for infringement; for example, Aptiv may rebut the presumption by determining 17:04:48 17:04:49 17:04:54 17:04:58 17:05:02 17:05:04 17:05:06 17:05:10 17:05:12

this whole other available non-infringement substitute to the market. The burden of persuasion ultimately remains with Microchip." 17:05:15 17:05:18 17:05:20

So it breaks it up a little bit, but I think it probably makes it a little more readable and to me, Microchip's rebuttal coming right after the four Panduit factors makes a little more sense logically than introducing the presumption about the first two factors before I even get to rebuttal. 17:05:24 17:05:26 17:05:28 17:05:31 17:05:34 17:05:36 17:05:38

MR. WIENER: I think that's fine, Your Honor. The only addition I would say is that in the "for example, Aptiv may rebut the presumption by showing that it sold," it should be "ordered or sold," just to add the point. But other than that, we're fine with it. 17:05:42 17:05:43 17:05:45 17:05:48 17:05:52 17:05:55 17:05:57

MR. GRAY: We would object to that, Your Honor. There's no evidence that's been admitted in this trial about a grant processing type original alternative. And Mr. Chase isn't going to testifier and Mr. Voto testified today that Aptiv at Unwired created a solution for JLR that is not accused of 17:05:57 17:05:59 17:06:00 17:06:03 17:06:07 17:06:10 17:06:14

infringement that was accepted by one of the carmakers. To get to this point, it's certainly enough to go to the jury. 17:06:17 17:06:19 17:06:22

THE COURT: This is the solution that was sort of -- I'll call it third generation solution -- 17:06:24 17:06:26 17:06:29

MR. WIENER: Yeah. 17:06:30

THE COURT: -- that he sold to Jaguar Land Rover? 17:06:30 17:06:32

MR. WIENER: Right. There might be factual dispute about whether that's an acceptable alternative, but that is a fact of record. 17:06:34 17:06:35 17:06:37 17:06:40

MR. GRAY: Are you saying that they -- Aptiv would have used the TI chip that Mr. Voto testified to or that Aptiv would have redesigned the Boston to be a super speed chip? 17:06:41 17:06:43 17:06:46 17:06:50 17:06:52

MR. WIENER: That the solution was the TI chip. 17:06:53 17:06:54

THE COURT: The chip the jury heard about. 17:06:57 17:06:59

MR. GRAY: Right. So it's not a development. Grant processing is typically 17:06:59 17:07:01

you have the skills or know-how to develop your own alternative. You are just saying that Aptiv's contention is that it could have sold a TI chip that was on the market if it was a product that it had the ability to sell. It sold, instead, the infringing product and this is a product that it could have sold on the market more widely. 17:07:04 17:07:06 17:07:08 17:07:12 17:07:14 17:07:17 17:07:20 17:07:22

MR. GRAY: So what was the proposed language again? I misunderstood that. 17:07:24 17:07:25 17:07:28

MR. WIENER: It was just a product that it sold or could have sold to rebut the infringement, to rebut the presumption; right? 17:07:28 17:07:29 17:07:34

THE COURT: So it would be Aptiv may -- or actually the language should be, "If Microchip satisfies the four elements, the burden shifts to Aptiv to show that Microchip reasonably would not have made some or all of the diverted sales but for the infringement. For example, Aptiv may rebut the presumption by showing that it sold or could have sold another available non-infringing substitute in the relevant market." 17:07:37 17:07:38 17:07:44 17:07:49 17:07:58 17:08:01 17:08:03 17:08:06 17:08:09 17:08:12

That's what you're suggesting, Mr. Wiener? 17:08:12 17:08:14

MR. WIENER: Yes. That would be fine, either way. 17:08:14 17:08:17

THE COURT: Okay. 17:08:17

MR. GRAY: And that's okay with us, except for it would be "available and acceptable of non-infringing." 17:08:18 17:08:20 17:08:22

MR. WIENER: Your Honor, we are fine with the language. 17:08:25 17:08:26

THE COURT: "Available and acceptable to non-infringing substitute in the relevant market." And then we will say, "The ultimate burden of persuasion remains with Microchip." Okay? 17:08:27 17:08:28 17:08:30 17:08:32 17:08:36

MR. WIENER: Sorry, Your Honor, I was saying we are fine with the language in the instruction without it. 17:08:37 17:08:38 17:08:39

THE COURT: Without adding -- 17:08:41

MR. WIENER: It is getting too funky at this point, and let's just say a product that Aptiv sold. 17:08:42 17:08:44 17:08:46

THE COURT: Okay. Fine with just saying sold? 17:08:47 17:08:49

MR. WIENER: Yeah. 17:08:50

THE COURT: Okay. All right. 17:08:50

So the language that Microchip 17:08:51

proposed, "For example, Aptiv may rebut the 17:08:53

presumption by showing that it sold in other 17:08:55

available non-infringing substituted developed 17:08:58

markets." 17:09:02

MR. GRAY: That's fine. 17:09:03

Available, acceptable. Acceptable is part of 17:09:05

the main sentence; that's the key word for us. 17:09:12

MR. WIENER: I think -- we don't 17:09:17

feel strongly about it. 17:09:19

THE COURT: Okay. Acceptable is 17:09:20

fine. Let me make sure we've got it. 17:09:21

(Brief pause.) 17:09:25

THE COURT: Okay. All right. So 17:10:14

we resolved that. All right. 17:10:17

So now I am in Panduit factor 2, 17:10:29

which is the acceptable non-infringing 17:10:36

substitute. 17:10:39

MR. GRAY: What context would you 17:10:47

like something, Your Honor? 17:10:53

THE COURT: Let me read it again. 17:10:54

I know I read it this morning, but -- or maybe 17:10:55

yesterday. 17:10:58

(Brief pause.) 17:11:15

THE COURT: All right. Go ahead, 17:11:15

Mr. Gray. 17:11:16

MR. GRAY: So what caught our 17:11:17

attention here is that the first sentence of 17:11:19

the second paragraph suggested that an 17:11:21

acceptable substitute just needs one or more 17:11:23

of the advantages of the patent infringement. 17:11:26

THE COURT: No, I am fine taking 17:11:29

out one or more of. I think that's fair when 17:11:31

we are going to talk about patent 17:11:35

infringement, I think that's fair to take that 17:11:37

out. 17:11:38

MR. GRAY: Okay. And then the 17:11:38

second sentence is from the ABA model jury 17:11:40

instruction just to help better explain what 17:11:43

an acceptable non-infringing substitute means. 17:11:46

THE COURT: All right. Mr. 17:11:49

Wiener? 17:11:57

MR. WIENER: Your Honor, I think 17:11:57

this is sort of getting at the concept of the 17:11:58

two-supplier market which has already been 17:12:00

handled already, and I am not sure what -- let 17:12:02

me just read the sentence to understand what we are really getting at. 17:12:06 17:12:09

THE COURT: Well, I will have already instructed the jury at this point that if it is a two-supplier market, this factor is presumed; right? So really, what we are talking about here is the world in which there is not two suppliers, so I guess I don't know what else in the way of -- and so... so the part where I am getting a little hung up, Mr. Gray, and, you know, maybe the ABA had something in mind that I am not picking up on here and maybe I'm just tired, but the phrasing where it says, "because of the features available only from that product and a patentholder's patented product," seems strange to me. 17:12:10 17:12:11 17:12:14 17:12:17 17:12:19 17:12:24 17:12:29 17:12:51 17:12:54 17:13:01 17:13:03 17:13:06 17:13:07 17:13:11 17:13:15

I almost feel like it should be -- what we're getting at here is in the first asserted of and alleged infringed product, we are motivated by the infringing product because of the features available only from the patentholder's patent, I think it should be patented invention then some other 17:13:17 17:13:19 17:13:24 17:13:26 17:13:29 17:13:32 17:13:36

alternative product is not an acceptable substitute. 17:13:41 17:13:45

MR. GRAY: We would be okay if it says "because of the features available only from that product, but not necessarily the patented invention." Our contention is that the features are available because of the patented invention, but the product is the context in which the substitutes are considered. 17:13:45 17:13:47 17:13:49 17:13:51 17:13:54 17:13:56 17:13:59 17:14:01

THE COURT: All right. 17:14:02

That conjunctive phrase is the place where I am getting hung up, because it doesn't make a lot of sense to me, frankly. 17:14:03 17:14:05 17:14:07

So if I said the first -- if purchasers of an alleged infringer's product were motivated to buy the infringing product. 17:14:10 17:14:10 17:14:15

See, the problem is that the predicate for that is the alleged infringer's product, right? And we all know that the alleged infringer's product may have features that are beyond what's patented, right? 17:14:18 17:14:22 17:14:25 17:14:30 17:14:34

And so, I mean, I guess it might be motivated by something in the price, but 17:14:38 17:14:42

feature -- but the features of the alleged infringer's product is not the appropriate limitation here, I don't think. It sort of wipes away the concept of -- I understand this is the damages portion we are talking about, it is that issue. 17:14:44 17:14:47 17:14:50 17:14:53 17:14:57 17:14:59

So I think if they are motivated by the infringing product because of the -- I mean, what if I just said "because of features arising from the patented invention"? 17:15:01 17:15:17 17:15:31 17:15:34

MR. GRAY: Yes, we're okay with that. 17:15:39 17:15:41

THE COURT: Mr. Wiener? 17:15:41

MR. WIENER: That's fine. 17:15:42

THE COURT: Okay. 17:15:42

So if purchasers of an alleged infringer's product were motivated to buy the infringing product because of features from the patented invention. However, then some other alternative product is not an acceptable substitute." Okay. All right. 17:15:43 17:15:45 17:15:48 17:15:54 17:15:58 17:16:04

Let me see what else. All right, guys, we have Sandia -- no, why is it not Sandia chip? 17:16:05 17:16:13 17:16:24

MR. GRAY: So Dr. Becker's opinion is based on time periods, so July '17 through present day data. 17:16:25 17:16:27 17:16:32

THE COURT: Right. 17:16:33

MR. GRAY: He's claiming lost profits for those sales, those units. 17:16:33 17:16:35

THE COURT: Right. 17:16:37

MR. GRAY: And the way the evidence came in and the way the reports were disclosed here is that Mr. Chase came in and said the model years, you know, when the OEMs made their purchasing decision and awarded the programs occurs long before the actual sales do. And he said that Sandia wouldn't have been ready to prove that it worked by the deadlines for a couple of the major OEMs for model year 2016. 17:16:38 17:16:39 17:16:42 17:16:45 17:16:51 17:16:53 17:16:56 17:17:01 17:17:05 17:17:10

Basically he was saying that Sandia couldn't have been ready early enough to make the sales beginning in July 2017 for all of The Big 3. 17:17:12 17:17:13 17:17:16 17:17:19

And so what Dr. Becker said in response, and he testified about in this trial is that look, even if Sandia couldn't have 17:17:21 17:17:23 17:17:25

been -- if the schedule couldn't have been pulled in, the alternative that the OEMs would have purchased is the Athens chip and they would have purchased the Athens chip temporarily until Sandia was complete. 17:17:29 17:17:31 17:17:34 17:17:36 17:17:38

So the key is that the lost profits theory is based on a time period that yes, the time period is book-ended by the actual history of Sandia sales, but it's not tied specifically to the sale of the Sandia chip. 17:17:41 17:17:43 17:17:45 17:17:49 17:17:52 17:17:54

MR. WIENER: Your Honor, may I be heard? 17:17:55 17:17:56

THE COURT: Yes. 17:17:57

MR. WIENER: Dr. Becker said unequivocally on the stand that his lost profits calculation was based only on the sale of the Sandia chip. To the extent he had some alternative opinion in response to an expert that's coming to trial, that doesn't change that testimony. And so they absolutely should be limited to lost profits based on that theory as proffered by their expert and confirmed on cross. 17:17:58 17:17:59 17:18:02 17:18:04 17:18:09 17:18:11 17:18:13 17:18:16 17:18:18 17:18:20

MR. GRAY: Can we look at that testimony, because I think I know what you are talking about and he clearly responded with time periods in those answers. 17:18:21 17:18:23 17:18:25 17:18:26

MR. WIENER: No, he did not. I am happy to assist the Court, but he made it clear that he was not offering lost profit opinions based on lost sales that would have been made of any other chip besides Sandia, including Athens. 17:18:28 17:18:29 17:18:32 17:18:34 17:18:36 17:18:40

THE COURT: All right. 17:18:41

Why don't we -- I mean, I am not going to go scrolling through the transcript now. 17:18:45 17:18:48 17:18:49

MR. WIENER: Sure. We will provide it. 17:18:50 17:18:52

THE COURT: Yeah, give it to me in the morning because it's obviously two words. 17:18:52 17:18:54

MR. WIENER: Okay. 17:18:57

THE COURT: All right. 17:18:58

MR. GRAY: The last one is now moot, the last edit. 17:19:02 17:19:04

THE COURT: The last edit meaning the negotiation information? 17:19:05 17:19:07

MR. GRAY: Correct. 17:19:09

THE COURT: That was with regard 17:19:10

to Chase? 17:19:11

MR. GRAY: Correct. 17:19:13

THE COURT: Okay. Good. 17:19:13

Then we are done with the 17:19:15

instructions, subject to you letting me know 17:19:16

on the testimony. You guys can talk to each 17:19:20

other and see where you are, and then -- all 17:19:23

right. 17:19:25

Ms. Durie, if you want to 17:19:26

skedaddle. 17:19:29

MS. DURIE: There was actually one 17:19:29

other quick issue, which was this collateral 17:19:30

estoppel issue. 17:19:33

THE COURT: Yes. 17:19:34

MS. DURIE: Our understanding of 17:19:34

the law as we briefed in connection with the 17:19:35

motion in limine is that Microchip is 17:19:38

precluded, under collateral estoppel, from 17:19:40

attempting to relitigate any of these issues 17:19:42

that were solved. 17:19:45

I don't -- I have not heard an 17:19:48

argument that that is not a correct statement 17:19:50

of the law. I am not sure whether that is subject to dispute. 17:19:52 17:19:55

Microchip had asked us with respect to our position on estoppel. 17:19:57 17:19:59

Obviously we are stuck with the IPR estoppel results from the PTAB proceeding, which is actually broader than collateral estoppel because it includes any references that could have been submitted. 17:20:01 17:20:05 17:20:07 17:20:10 17:20:13

THE COURT: Yeah. 17:20:14

MS. DURIE: We understand that; we are not going to try to relitigate those issues. I think that should be pretty clear and straightforward. But it's not clear to us whether we have an agreement on that. 17:20:14 17:20:15 17:20:18 17:20:20 17:20:22

THE COURT: I am not clear whether you are still within still some dispute either, so... 17:20:24 17:20:25 17:20:28

MR. RUSSELL: Your Honor, I don't think there is a dispute. I think it makes sense, and if we need to clarify it any more, we can run it by Your Honor again tomorrow, but I think that we are in agreement. 17:20:32 17:20:33 17:20:35 17:20:37 17:20:39

MS. DURIE: Good. 17:20:41

THE COURT: Okay. Great. 17:20:41
MR. WIENER: Your Honor, I can 17:20:43
actually provide you the transcript cite from 17:20:43
Dr. Becker's testimony. It was on pages 364 17:20:46
and 365 of Friday's trial transcript. 17:20:49
THE COURT: Let me look at it. 17:20:53
Give me one second. 17:20:55
MR. WIENER: Sure. 17:20:57
THE COURT: So this would be on -- 17:21:01
MR. WIENER: Friday, the 8th. 17:21:02
THE COURT: Right. Okay. 17:21:04
MR. GRAY: Your Honor, we don't 17:21:12
have the transcript with us right now, but 17:21:14
would request a chance to respond. 17:21:15
MR. WIENER: Here you go. 17:21:18
THE COURT: Well, all right, look. 17:21:30
MR. WIENER: So the testimony is 17:21:32
on page 364 starting at line 17. I asked him, 17:21:33
"Your lost profits opinion is based solely on 17:21:37
how much additional profits Microchip would 17:21:39
have made on the Sandia multi-host chip; 17:21:41
correct? 17:21:44
"ANSWER: Yes. 17:21:44
"QUESTION: Okay. You don't have 17:21:45

-- your $84 million total damages number did not include -- let me strike that. 17:21:46 17:21:49

"Your lost profits calculation did not include a calculation of lost profits based on the Athens chip; correct? 17:21:52 17:21:53 17:21:55

"ANSWER: Correct." 17:21:57

So I'm not sure what the dispute is. 17:21:58 17:22:01

MR. GRAY: He testified that the lost profits would have gone up because of Athens. 17:22:02 17:22:03 17:22:06

MR. WIENER: I believe he testified about Athens in the context of a reasonable -- explaining that the profits on Athens would have motivated them to have a hypothetical negotiation to care about lost sales that might have been displaced in Athens. It was not part of his lost profits calculation. 17:22:06 17:22:08 17:22:10 17:22:12 17:22:15 17:22:17 17:22:19 17:22:21

THE COURT: I see the testimony, and it goes on and says, "And it's your opinion, in fact, that there are no lost profits damages for the sale of the Athens chip; correct?" And he says, "Well, I looked 17:22:22 17:22:23 17:22:25 17:22:27 17:22:29

at the question of whether there was evidence of lost sales in that earlier time period and the conclusion that I reached, there was quite a bit of evidence there were Athens sales that were lost because of being displaced, but the sort of -- in that world, the solution that would have been provided in lieu of the Boston chip was not an interchangeable substitute because it didn't have the same features, and so there's not a bunch of clarity about the -- meeting the exact demands that the OEMs had. 17:22:32 17:22:33 17:22:39 17:22:40 17:22:43 17:22:45 17:22:48 17:22:52 17:22:54 17:22:56 17:22:58

"And so even though there was quite a bit of evidence that there was impact on Microchip sales, I concluded, to be conservative, that I would not sort of go all the way to the step of quantifying lost profits in that time period." 17:23:00 17:23:01 17:23:03 17:23:10 17:23:14 17:23:16

MS. DURIE: Correct. 17:23:17

THE COURT: "QUESTION: Okay. So your lost profits number is not based on lost profits of Athens? 17:23:19 17:23:20 17:23:23

"ANSWER: It is not based on that, but it is not an affirmative statement that there was no impact on Microchip's business in 17:23:24 17:23:26 17:23:30

that prior time period. There clearly was. But I think it's more appropriate to compensate that earlier time period with a reasonable royalty." 17:23:32 17:23:35 17:23:37 17:23:39

So I see the testimony. You know, if that's the testimony as it is, I'll leave the word "Sandia" in, but I also recognize, Mr. Gray, you don't have it here and you want to look at it, and so take a look at it overnight. And if there's something else that you think bears on it, flag it for me in the morning and I'll look at it. 17:23:39 17:23:43 17:23:46 17:23:49 17:23:51 17:23:53 17:23:55 17:23:58

MR. GRAY: Thank you, Your Honor. 17:24:00

THE COURT: Okay. All right. 17:24:02

Are there -- so I'm not sure then, having dealt with the collateral estoppel, I'm not sure if there are other issues. Are there other evidentiary issues that we need to tackle in advance of tomorrow? 17:24:04 17:24:07 17:24:15 17:24:18 17:24:21

MR. RUSSELL: No for us, Your Honor. I know there are a couple of pending things that may come up, but we are still talking about them. 17:24:23 17:24:24 17:24:26 17:24:28

THE COURT: And from your 17:24:29

perspective, Mr. Wiener, Ms. Durie? 17:24:30

MR. WIENER: Not that I am aware 17:24:33

of. 17:24:34

THE COURT: Okay. Great. 17:24:34

Then we'll let everyone go. We'll 17:24:36

get these final revisions done, the 17:24:39

instructions, so you can all follow along as I 17:24:42

go through this tomorrow and then I will see 17:24:46

you all back here at 9. 17:24:50

MS. DURIE: Thank you. 17:24:51

THE COURT: All right. Have a 17:24:52

good night. 17:24:53

(Whereupon, the Court adjourned 17:24:56

proceedings at 5:25 p.m.) 17:24:58

C E R T I F I C A T E

I do hereby certify that I am a Notary Public in good standing, that the aforesaid testimony was taken before me, pursuant to notice, at the time and place indicated; that said witnesses were duly sworn to tell the truth, the whole truth, and nothing but the truth; that the testimony of said witnesses was correctly recorded in machine shorthand by me and thereafter transcribed under my supervision with computer-aided transcription; that the transcript is a true and correct record of the testimony given by the witnesses; and that I am neither of counsel nor kin to any party in said action, nor interested in the outcome thereof.

WITNESS by hand and official seal this 11th day of April, 2022.

_____
Notary Public

Job No. 5162170