

UNITED STATES INTERNATIONAL TRADE COMMISSION

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In the Matter of

Investigation No.

CERTAIN PORTABLE BATTERY JUMP

337-TA-1359

STARTERS AND COMPONENTS THEREOF

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OPEN SESSIONS

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1 UNITED STATES INTERNATIONAL TRADE COMMISSION

2 Washington, D.C.

3 BEFORE THE HONORABLE MONICA BHATTACHARYYA

4 Administrative Law Judge

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7 In the Matter of Investigation No.

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9 CERTAIN PORTABLE BATTERY JUMP 337-TA-1359

10 STARTERS AND COMPONENTS THEREOF

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13 International Trade Commission

14 500 E Street, SW

15 Washington, D.C.

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17 EVIDENTIARY HEARING, VOLUME IV

18 Thursday, February 29, 2024

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20 The parties met via teleconference pursuant to

21 notice of the Administrative Law Judge at 9:30 a.m.

22 Eastern.

23

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

2 JUDGE BHATTACHARYYA: Good morning. Please be
3 seated.

4 Let's start on the public record.

5 Do we have any housekeeping matters to address
6 before we begin?

7 MS. WILKES: Good morning, Your Honor.

8 JUDGE BHATTACHARYYA: Good morning.

9 MS. WILKES: We sent an e-mail to Your Honor
10 this morning, I believe, highlighting three different
11 issues for resolution. I have some good news. I think we
12 have reduced it down to one.

13 The only remaining issue deals with the first
14 issue in the e-mail, which is the Respondents' -- ADC
15 Respondents' proffered testimony and evidence through
16 Mr. Lehman.

17 I don't know if the Court wants to hear argument
18 about that now or you would prefer to wait until later
19 today on that issue.

20 JUDGE BHATTACHARYYA: I'd like to hear argument
21 on it now, please.

22 MS. WILKES: All right. Thank you, Your Honor.

23 I think at this point, we should probably go to
24 the confidential record.

25 JUDGE BHATTACHARYYA: All right. Moving to the

1 confidential record.

2 (Whereupon, the trial proceeded in confidential
3 session.)

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1 O P E N S E S S I O N

2 MR. PATARIU: Good morning, Dr. Ricketts.

3 Welcome back.

4 THE WITNESS: Good morning.

5 MR. PATARIU: Can we please go on the
6 confidential record?

7 JUDGE BHATTACHARYYA: We're moving on to the
8 confidential record.

9 (Whereupon, the trial proceeded in confidential
10 session.)

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1 O P E N S E S S I O N

2 BY MR. PATARIU:

3 Q. Can we please go to the next slide, 67.

4 What is the disclosure in Richardson related to
5 the power switch limitation in 1[d]?

6 A. Richardson contains a relay, which is a switch,
7 Item 34 in the patent.

8 Q. Can we go to -- next slide for limitation 1[e].
9 What disclosure in Richardson did you find
10 disclosed the limitation 1[e]?

11 A. So in Figure 1, highlighted in blue here, 12 is
12 a system microcontroller, 14 is a series of sensors, so
13 this forms a control system -- or circuit.

14 On the right is an actual schematic of the
15 microprocessor, and several of its connections. So we have
16 a control circuit there.

17 Q. Can we please go to slide 70.

18 Did you make a determination as to whether
19 Richardson detects correct polarity?

20 A. I did.

21 Richardson has a polarity sensor. I have
22 analyzed it on the right. The polarity sensor provides a
23 voltage above 2 volts when you have a reverse polarity, for
24 any reverse polarity, and it provides a voltage of under 2
25 volts for any proper polarity. So it can measure proper

1 polarity or reverse polarity for all voltages.

2 Q. Can we go to slide 71, please.

3 How does a flowchart on Figures 3 and 5 and the
4 corresponding description of it illustrate that the -- this
5 check for polarity occurs before switch closure?

6 A. So if we look at 214 -- it's the one just below
7 the one that's highlighted -- it is checking for reverse
8 jumper cables. So it's checking that they're connected
9 properly.

10 Q. Let's go down to slide 74.

11 So I wanted to start off for a moment about --
12 talking about Richardson's disclosure relating to its
13 charging capabilities.

14 How can Richardson be charged?

15 A. Richardson discloses a battery charger in it.
16 It does disclose in the specification that -- it doesn't
17 show it, but it's disclosed. Also the functionality of the
18 battery charger with respect to the unit.

19 Then the patent does have one claim, I think
20 it's the last claim, that adds a diode so that you could
21 use a vehicle to also recharge the battery.

22 Q. Can we please go to RX-2445 at Paragraph 28.

23 When you were mentioning about a battery charger
24 not being displayed, how does this paragraph relate to that
25 opinion?

1 A. So there's two things in this paragraph. The
2 first is it's -- the paragraph is talking about checking to
3 see if the battery needs to be charged. It says in the
4 bottom one, "A battery charger (not shown) has been
5 connected to the battery." So it's checking to see if one
6 has been connected.

7 I'll just mention here the -- this won't let you
8 operate the jump starter if your batteries are too
9 depleted. So if your batteries are just charged inside, it
10 says, hey, you've got to charge up your internal batteries
11 before I'll let you connect to the vehicle. You can't jump
12 start until the batteries have been charged.

13 This is the principle battery charger that
14 Richardson would use to charge its internal batteries.

15 Q. You're aware that Dr. Fayed has offered
16 testimony that he believes there's only one way to charge
17 Richardson; right?

18 A. Yes, I understand that.

19 Q. You disagree with that?

20 A. I do disagree with that.

21 Q. Why is that?

22 A. So once again, Paragraph 28 describes what
23 happens if your batteries are very discharged. It doesn't
24 let you close the switch and jump start a vehicle. If you
25 can't jump start a vehicle, you can't use that vehicle to

1 charge your batteries.

2 So you really -- you can't get started unless
3 you have a separate battery charger within Richardson.

4 The diode is an option. I believe the
5 specification clearly says you may use it. I think it was
6 offered in the second to the last paragraph in the
7 specification.

8 Like I said, the 39 of the 40 claims don't
9 include a diode. I think the diode is a battery charger.
10 It's just an optional embodiment.

11 Q. We can go back to the slides, please.

12 Does the '023 Patent say about the rate of
13 charging that's required -- well, what requirement does the
14 '023 or '243 Patent impose on the rate of charging
15 obtainable through the USB input port?

16 A. There's nothing describing the rate of charging
17 in the specification or the claims.

18 Q. What does the '023 or '243 Patent asserted
19 claims impose in terms of whether the USB input is the only
20 source of charging for a device?

21 A. So Claim 1 is a comprising claim. So it's my
22 understanding that means it can have other things, it could
23 have other chargers, but it should be all of the
24 limitations. So it should at least have a USB charger, but
25 could have another charger.

1 Q. What are the teachings of Zhou that are relevant
2 to your opinions about the combination of Zhou with
3 Richardson?

4 A. Well, I think -- so Zhou is a battery charger.
5 So Richardson has a battery. The battery needs to be
6 charged. Richardson doesn't disclose what the battery
7 charger specifically is, so Zhou's a battery-charging
8 patent.

9 So you look at that for I've got to charge my
10 battery. Zhou says, hey, you know, 5-volt in, USB is
11 really great. A lot of the batteries you want to charge
12 are not 5 volts. 12 volts, for instance, and so it teaches
13 a circuit that takes 5 volts, and boosts it. It increases
14 the voltage up to the charging voltage you need of 12
15 volts, for example.

16 Q. Now, you made -- Zhou doesn't include or
17 describe charging an automotive lithium-ion battery, does
18 it?

19 A. A lithium-ion battery is a lithium-ion battery.
20 I don't think I have given an opinion that there's a
21 difference.

22 Q. Why did you make the combination despite the
23 fact that Zhou does not disclose -- have an express word --
24 use of the word "automotive" or "vehicle" with reference to
25 lithium-ion batteries?

1 A. So I worked in industry where we had batteries,
2 and I built battery chargers. The only thing that's
3 relevant is the technology. Is it lithium-ion, so that
4 tells me the voltage that I need to charge to.

5 So anything that is a charger for lithium-ion
6 battery would be appropriate for a lithium-ion battery.

7 I don't see a distinction -- any substantive
8 distinction being used in an automotive case.

9 Q. Let's go to slide 75, and I think we're
10 returning to claims that you discussed earlier with respect
11 to the 2009 Richardson reference.

12 So can you please briefly explain why Claim 18
13 is -- what the disclosures of Richardson with respect to
14 Claim 18?

15 A. 18 requires a manual override mode. Richardson
16 discloses that in the text, and then also you can see Item
17 258 -- or actually 334, both describe manual buttons being
18 pressed, and that manual is referring to a manual override
19 mode.

20 Q. Can we please go to the next slide, 76.

21 Again, what are the disclosures of Richardson
22 that are relevant to Claim 19?

23 A. So Richardson requires you to push the manual
24 button twice. So you have to push it, take your finger
25 out, push it again, in order for it to enter the manual

1 mode. So you have to go through that time sequence of a
2 push, let go, push, before it will enter the manual mode.

3 Q. The other -- let's go to page 77, slide 77.

4 Is this second excerpt from Richardson also
5 relevant to the explanation you just provided?

6 A. It is.

7 So in the interrupt service routine, it's part
8 of the software flow, it's going to go and check, have you
9 pressed the button. There's then an amount of time it
10 comes back and checks again, and you have to see that
11 you've unpressed it.

12 And then a set time later on is going to come
13 back and see if you set it again. I think it's 25
14 milliseconds in the patent it checks, so it's got to check
15 a press, wait for it not to be pressed, wait to check if it
16 sensed it again. It will have a finite time for the press
17 of Richardson.

18 Q. Before we leave Richardson Claim 1, how would
19 Richardson benefit with the addition of USB charging as
20 taught in Zhou to be used as -- in place of its battery
21 charger input described in Paragraph 28?

22 A. Well, the Richardson has a battery that needs to
23 be charged. Zhou teaches a very convenient battery charger
24 that takes 5 volts and charges a lithium-ion battery. So
25 it would solve the problem that Richardson doesn't

1 disclose. But a POSITA would know, yes, to whether she has
2 to fix -- or not fix, but has to implement.

3 Q. Would there be any, in your view, a person of
4 ordinary skill in the art, looking at these two references,
5 have any difficulty in applying a USB charging input to
6 Richardson?

7 A. No. The patent, Zhou teaches how to build it,
8 and a POSITA would understand how to implement that
9 circuit.

10 Q. Let's go to page 78, please.

11 So we're on to Claim 32. Can you briefly
12 describe the teachings in Zhou that are relevant to
13 Claim 32?

14 A. So Claim 32 requires a DC-to-DC converter can be
15 turned on and off by a microprocessor. It's very common
16 these circuits have an enable pin on the right. This is
17 Zhou Figure 3. 210 is an enable pin to turn on and off the
18 boost converter.

19 Q. You understand that Dr. Fayed has criticized
20 this identification because he says the boost enable wire,
21 Reference 206, does not go to a microprocessor.

22 Do you agree with that?

23 A. Well, I think Zhou here is disclosing a
24 functional block diagram of a charge management system. An
25 obvious way to manage a system -- I believe there's even a

1 flow diagram of microprocessors that's been super common
2 since the mid '90s as a way to manage logical steps as
3 disclosed in Zhou.

4 Q. Can we go to slide 79.

5 You mentioned a flow diagram. Is this a flow
6 diagram in Zhou what you are referring to?

7 A. Yeah. So, for example, there's a bunch of
8 logical operations. A POSITA would clearly understand one
9 of the ways to implement this is with a microprocessor and
10 likely is the easiest way to do that.

11 I think the third step down says, "Set boost
12 enabled signal active." There is a logical flowchart
13 charge management system setting the pin high.

14 Q. Can we go to slide 80, please.

15 So with respect to E-Power 21, then, the first
16 reference that we looked at, we had talked a little bit
17 about the differences between Claim 1 and 39 and what
18 additional teachings you had to find.

19 Do you recall that?

20 A. I do.

21 Q. So with respect to your analysis of Claim 39,
22 why, if any, teachings of Claim 1 are you relying on to
23 support your views on Claim 39?

24 A. 39 requires -- 39[f] requires to detect the
25 presence of a battery.

1 Q. Well, my question is different.

2 If we subtract out the differences and just look
3 at what is the same -- let me give you an example.

4 Are you relying on any different disclosure of a
5 power supply to teach the limitation of Claim 39 as to
6 Claim 1?

7 A. So the teachings of the combinations that teach
8 Claim 1 teach the limitations of Claim 39 for the same --
9 the same teachings also teach limitations of 39. There's
10 just one additional difference in 39[f].

11 Q. Right.

12 How does Richardson teach a presence sensor?

13 A. I think it's the block diagram 14 lists a row of
14 sensors. There's a voltage sensor there that detects the
15 voltage of the battery and would be a presence sensor.

16 Q. Can we please go back to slide 72, please.

17 So is there a step in the flowchart here that
18 indicates a teaching of a presence sensing?

19 A. Yes. If we focus on the right, you see a C
20 going down to an E. Right before the E, there's step 252,
21 which is "vehicle within correct range."

22 In the specification of Richardson, it describes
23 252 as it checks to see if the voltage it's measuring of
24 the connected battery is within a range, and if it's not,
25 it doesn't continue and -- in the automatic mode.

1 So in this case, this would be a presence sensor
2 because it doesn't go to E unless it detects the presence
3 of a battery.

4 Q. Let's go back to slide 80, please.

5 There's another limitation here, 39[E] that is
6 talking about connecting the switch when the positive and
7 negative battery terminals are properly connected to the
8 positive and negative battery terminal connectors.

9 How is that disclosed in Richardson?

10 A. So Richardson determines in its flowchart first
11 that they're properly connected, and then after that, it
12 logically flows through the flowchart until it closes the
13 switch at a later point in the flowchart.

14 Q. Can we please go to slide 81.

15 So here, like we were doing before in the first
16 combination, we were comparing Claims 1 and 54 to see
17 what's the same, and perhaps what can be recycled and what
18 is different.

19 Do you recall doing that for the prior
20 combination?

21 A. I do, yeah.

22 Q. So which limitations of 54 are you -- do you
23 need to identify something new, and which ones are you
24 relying on, teachings from Claim 1?

25 A. So the teachings of Claim 1 -- sorry, the

1 teaching of the combinations that I used for Claim 1 also
2 teach the limitations of 54, all the limitations except I
3 don't -- except for 54[e], which has a slightly different
4 requirement.

5 Q. Under Dr. Fayed's interpretation of those
6 requirements, that a -- some type of mechanical inhibitor
7 or something that would inhibit a connection of clamps to a
8 battery, would be needed, is there any other teaching of
9 Claim -- any other additional teachings that you need to
10 find to reach Claim 54[e] above and beyond what you've
11 already identified for 1[e]?

12 A. It has to prevent an incorrect polarity
13 connection.

14 Q. Right.

15 So if Dr. Fayed's interpretation is that no
16 mechanical prevention method is required -- so under his
17 interpretation, would there be any additional teaching that
18 you need to find that you haven't already discussed with
19 respect to 1[e] with respect to meet all of the
20 requirements of 54[e]?

21 A. No. My understanding is if the switch isn't
22 closed, under that interpretation of Dr. Fayed's
23 interpretation, that is preventing an incorrect polarity
24 connection.

25 So a mechanical piece would not -- an mechanical

1 interlock, for example, would not be needed.

2 Q. Let's go to slide 82.

3 So here we're looking at a combination of
4 Richardson via Zhou and Zhang; right?

5 A. Correct, yes.

6 Q. So, before we talked about the additional
7 teachings of Zhang to reach Claim 19 with respect to the
8 E-Power 21 and E-Power 10 combination; do you recall that?

9 A. I do, yes.

10 Q. Are you relying on the same teachings of Zhang
11 to teach the additional limitations of 19 and the claim
12 which it depends, Claim 18?

13 A. Yes, I am.

14 Q. Why can Zhang be combined with Richardson and
15 Zhou?

16 A. So Zhang is a jump starter, Richardson is a jump
17 starter, so it makes perfect sense. They're analogous art,
18 same field of endeavor.

19 The technical teachings of Zhang is to require a
20 button-press. That would just be a simple code change in
21 Richardson to hold the button in for a longer period of
22 time. It would be easy to do and obvious because they're
23 both the same kind of devices.

24 Q. Let's go to slide 87, please.

25 So here we're looking at your last combination,

1 Richardson in view of LT1618 and Zhou.

2 Do you see that?

3 A. I do, yes.

4 Q. Can we pull up RX-1429.

5 So you were here for Mr. Legates' testimony
6 yesterday; right?

7 A. I was, yes.

8 Q. Can we please zoom out to the full page for a
9 moment.

10 So were you here when he was describing
11 Figure 1?

12 A. I was, yes.

13 Q. So in your combination -- well, why can you
14 combine -- can we please highlight Figure 1, please.

15 Why can you make the combination between
16 Richardson, Zhou, and Legates. Sorry. The LT1618
17 reference described in Mr. Legates?

18 A. So I think the question is the LT1618 and
19 Richardson. So Richardson has a battery, the battery needs
20 to be charged. This is a battery charger that converts 5
21 volts USB up to a 12-volt output, which would be one of the
22 embodiments of Richardson, so this would be a simple, easy
23 implementation of a battery charger.

24 Q. What USB standard does the LT1618 comply with?

25 A. I believe Mr. Legates yesterday testified, and I

1 agree, this is a USB 1.0, 2.0, or 3.0, just standard,
2 regular USB.

3 Q. I neglected to ask this when we were talking
4 about Zhou. The Z-H-O-U reference, what USB standard does
5 the disclosure of Zhou correspond to -- is in accordance
6 with?

7 A. Zhou would fall in the categories of the USB
8 1.0, 2.0, 3.0 and the battery-charging spec, which is just
9 removing -- the battery-charging spec just removes all of
10 the computer data communication interface. It's just for
11 power.

12 Q. Can we zoom out to the full page.

13 There's a paragraph on the top right side that
14 is referring to something called "constant current" or
15 "constant voltage source."

16 Do you see that?

17 A. I do.

18 Q. How does that relate to charging in general?

19 A. So the simplest battery charger is you just put
20 a power supply with a fixed voltage on your battery. It
21 will charge the battery up to that voltage.

22 In some instances, too much current would flow
23 and it might be dangerous, so having a constant current or
24 current limit would maximize -- sorry, would minimize the
25 amount of current that went in so it was in a safe range.

1 So this would offer a constant current charge,
2 so putting in a fixed amount, not too much current, and
3 then it would also have the ability to have a constant
4 voltage to have the battery be fully charged.

5 Q. We can take this down.

6 So to go back to RDX-7C at slide 89, you're
7 relying on the LT1618 to disclose the additional
8 limitations of Claims 1[f] and Limitations 1[f] and 1[g];
9 is that right?

10 A. That is correct, yes.

11 Q. Can we please go to slide 93. Sorry.

12 Can we please go to slide 96.

13 So earlier yesterday we were talking about these
14 combinations look similar, except they have the addition of
15 Thomason; do you recall that?

16 A. Yes.

17 Q. Specifically, can we go down to the next slide,
18 97.

19 So what limitation are you relying on the
20 teachings of Thomason to reach?

21 A. So the teaching of the combinations that taught
22 the limitations of Claim 1 in the '023, those same
23 teachings of the prior art teach the limitations in '243,
24 except for 1[e], which is different.

25 Q. Thomason, can you briefly recap what you said

1 yesterday about why Thomason provides that additional
2 disclosure?

3 A. 1[e] is the power switch or switch circuits
4 configured to switch power from the power supply to boost
5 or charge the depleted or discharged battery when connected
6 between the positive and negative battery connectors.

7 My understanding is there's no polarity
8 requirements, and it should connect power when you connect
9 the clamps.

10 So Thomason does that. Thomason has a circuit
11 inside. You connect the clamps, if you connected them
12 right way or wrong way, it doesn't matter, it hooks the
13 switch up so that it only applies the correct voltage to
14 however you place the cables. You can't get them confused.
15 Thomason is going to fix that for you.

16 Q. With respect to this slide, I want to kind of
17 cover the same thing we talked about with respect to
18 comparing '023 Claims 1 to 39 and '023 Claims 1 to 54.

19 In slide 97, you've got '243 Claim 1, side by
20 side with '023 Claim 1.

21 Do you see that?

22 A. Yes.

23 Q. So besides this additional limitation, 1[e] in
24 '243, where you're relying on Thomason, for the remaining
25 limitations, what teachings of the other E-Power 21-based

1 grounds and Richardson grounds are you relying on, that
2 you've already discussed in '023, what are you relying on
3 with respect to those same -- the corresponding limitations
4 shown in your chart for '243?

5 A. So for all of the limitations in Claim 1 of
6 '243, except for 1[e], which I just talked about with
7 Thomason, I'm relying on the same teaching of the same
8 combinations that I discussed earlier for the '023.

9 Q. I want to talk with you for a moment about Claim
10 2 on page 102.

11 So 102 eliminates a requirement -- well, sorry.
12 I'll ask a better question.

13 How does Claim 2 modify what is claimed in
14 Claim 1?

15 A. Claim 2 is the device, according to Claim 1, and
16 just adds that you don't make the connection unless you're
17 connected with correct polarity, so it's requiring a
18 polarity connection.

19 Q. So you've -- what teachings did you describe
20 with respect to E-Power 21 and Richardson that -- with
21 respect to Claim 1 of the '023 Patent that would correspond
22 to these teachings -- the requirements of Claim 2?

23 A. The E-Power 21 combinations and the Richardson
24 all taught making a connection after checking for correct
25 polarity. That discussed that in terms of Claim 1 of the

1 '023. Claim 2 here is just adding the same limitation, so
2 those teachings for Claim 1 of the '023 teach Claim 2.

3 MR. PATARIU: Let's go to -- need to go back on
4 the confidential record. Carku confidential record.

5 JUDGE BHATTACHARYYA: We're moving to the Carku
6 confidential record.

7 (Whereupon, the trial proceeded in confidential
8 session.)

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1 O P E N S E S S I O N

2 BY MR. PATARIU:

3 Q. So why can Thomason be combined with Richardson
4 and Zhou?

5 A. Thomason is a jump starter. It has a safety
6 feature. Safety features are what most of these jump
7 starter patents are about.

8 So it would just be implementing that
9 functionality inside of Richardson as an additional
10 feature.

11 Q. I wanted to go talk with you about the -- why
12 can Xinfang be put in this combination, too?

13 (Clarification requested by the Realtime Stenographer.)

14 MR. PATARIU: Xinfang.

15 A. Xinfang is also a jump starter.

16 Q. I'd like to talk with you about Claims 15, 16 --
17 sorry, 15, 17, and 18.

18 Perhaps we can just go to slide 131.

19 So why does this disclosure of Xinfang
20 provide -- you described -- we went through what was
21 required for USB output circuit limitations in 15, 17, and
22 18 with respect to another reference.

23 I would just like to briefly provide an overview
24 of why Xinfang -- what USB output circuit functionality
25 it's got that's relevant to 15, 17, and 18, and why, in

1 your opinion, those teachings are applicable to those
2 limitations.

3 A. In the center on the top, it shows that it has a
4 USB output module that has at least one USB interface.
5 That would be a USB connector.

6 It is connected to a control module 58. A
7 POSITA would understand a control module could be a
8 microcontroller as a way to connect that.

9 You can see it does -- turns it on or off, with
10 the various functionalities, in the block 54.

11 Q. Now, I think the citation there is actually
12 to -- can we just pull up RX-3736 for a moment.

13 This is a Xinfang reference. It's an issued
14 patent. I think -- can we also pull up RX-1410. Can we
15 please go to that figure which is Figure -- sorry. The
16 figure is 3.

17 With respect to what was excerpted and what you
18 just described from Xinfang, is the -- we have got Figure 3
19 for both references side by side.

20 Is the disclosure that you've cited in your
21 table, and you've just described, the same whether we're
22 talking about RX-3736 or RX-1410?

23 A. They're the same with respect to the USB.

24 Q. We can take this down.

25 I wanted to turn over to the cable patents. You

1 understand those are the '808 and '992 Patents; right?

2 A. Yes.

3 I did want to --

4 Q. Oh, sorry. If you wanted to say something,
5 please do.

6 A. I just wanted to provide an opinion on 54 for
7 Richardson and Zhou.

8 MR. COCHRAN: Objection, Your Honor. There's no
9 question pending.

10 MR. PATARIU: Well, let's go back to that.

11 BY MR. PATARIU:

12 Q. We compared Claims 1 and 39, and I think we did
13 that process of comparing Claim 1 and Claim 54 a couple of
14 times between -- and referenced combinations.

15 So with respect to what you're relying on to
16 meet all of the limitations of Claim 54, how are those
17 different, if at all, from what you relied on to teach the
18 limitations of Claim 1?

19 A. So for the '243, the Richardson combination
20 requires a lithium-ion battery, I believe, in 54 -- 51, and
21 then 54 requires a power management.

22 Q. Oh, sorry. I apologize. Let me -- I think I
23 have lost my place here. Just a moment.

24 If we go back to -- well, maybe I should not
25 have interrupted you, and just asked: What teachings are

1 you relying on for this combination that pertain to
2 Claim 54?

3 And I believe I found my place again. We can go
4 to slide 137.

5 A. So Xinfang teaches Claim 54 of the '243, and
6 that it has an overvoltage and over-discharge mechanism to
7 make sure that you don't over-discharge.

8 Then 51, Xinfang also has a lithium-ion battery
9 pack for 51.

10 Q. Can we go back to slide 136, please.

11 Are the teachings that are cited here in 1410
12 also relevant to what you just explained about the
13 rechargeable lithium-ion battery pack voltage potential
14 protection features of Claim 54?

15 A. So in Paragraph 45, it says, halfway through,
16 "In addition, the discharge module over-discharge
17 protection circuit may be integrated." And I think above
18 it, it has an overvoltage.

19 Q. Can we please go to slide 141, please.

20 So you have offered -- well, sorry. Slide 140.

21 I apologize. Let's go back to 141.

22 So you've offered invalidity opinions with
23 respect to RX-2434, which is a prior art reference to
24 Sodemann with respect to the cable patents; right?

25 A. Yes.

1 Q. Can you very briefly describe what Sodemann is?

2 A. Sodemann is a portable jump starter. It has an
3 internal battery inside, and cables to start motors.

4 Q. Let's go to slide 149. Sorry, 148.

5 So in your opinion, which claims of the '992
6 Patent are invalid in view of Sodemann or other prior art?

7 A. Claims 1, 3, and 14.

8 Q. In view of additional prior art, labeled Errato,
9 what claim would that render obvious?

10 A. That would render Claim 10 obvious.

11 Q. Let's go to page 149, please.

12 JUDGE BHATTACHARYYA: Mr. Patariu, before we
13 delve into the details, it's about time for our morning
14 break.

15 MR. PATARIU: Oh, sure. Let's do that. Great.

16 JUDGE BHATTACHARYYA: All right. Let's take a
17 15-minute break.

18 (RECESS, 10:47 a.m. - 11:02 a.m.)

19 JUDGE BHATTACHARYYA: You may proceed.

20 MR. PATARIU: Thank you, Your Honor.

21 Could we please pull up RX-7C at 152.

22 And we can continue on the public record.

23 BY MR. PATARIU:

24 Q. Dr. Ricketts, I want to briefly go through these
25 limitations, kind of like we talked about with respect to

1 Richardson, so we can just focus on the areas where there
2 is dispute.

3 Okay?

4 A. Okay.

5 Q. So what teachings of Richard- -- sorry, of
6 Sodemann are relevant to Claim 1[pre] of '992?

7 A. Limitation 1[pre] is a jumper cable device with
8 a handheld battery for charging or boosting -- or boosting
9 a device for charging a battery.

10 Sodemann is a handheld, portable jump starter
11 with a battery inside that can be used for charging or
12 boosting a battery.

13 Q. Why do you think it's handheld?

14 A. It has a handle on it.

15 Q. You understand that Dr. Fayed disputes that the
16 device -- that Sodemann is handheld; right?

17 A. I understand that is his opinion, yes.

18 Q. Why do you disagree with him?

19 A. I mean, this is clearly something that's meant
20 to be picked up by the handle and carried around.

21 A lot of jump starters have exactly this shape,
22 with a handle on the top, that you pick up and carry out to
23 the vehicle or whatever you need.

24 Q. In operation, can the device be -- well, sorry.

25 Can we please go back to 151.

1 How does Sodemann characterize its device?

2 A. It's a portable power source that can be
3 manually handled by an operator. It's light enough to be
4 manually handled by an operator.

5 Q. Can we go to 153.

6 We're at limitation 1[a][i]. Can you please
7 explain the teaching of Sodemann relevant to this
8 limitation?

9 A. Requires a single plug having one end configured
10 to fit into a single output port of the booster device
11 having an internal power supply. The booster device has a
12 battery inside, and it has a port on it.

13 The plug fits into that -- a single plug fits
14 into that single port.

15 Q. Let's go to the next slide, 154.

16 What does Sodemann disclose about whether it has
17 an internal power supply?

18 A. The housing 12 houses one or more
19 electrochemical power supplies, such as a battery.

20 Q. Slide 155.

21 What does Sodemann disclose about limitation --
22 relevant to limitation 1[a][ii]?

23 A. It requires both a positive-polarity electrical
24 connection and a negative-polarity electrical connection in
25 the single output port.

1 And Sodemann has both a positive and a negative
2 electrical connection in that output port.

3 Q. Let's go to the following slide, 156.

4 How does the operation of the switching circuit
5 here operate to route power and to -- as described in
6 limitation 1[a][ii]?

7 A. So the output of the cable in Sodemann, 26c,
8 there's three conductors. You only need two, the positive
9 and the negative. So this switch just connects the battery
10 to one of two possible connections.

11 So if we just imagine, it connects it to the on
12 position. So 76 is connected to 80. Then 124 is connected
13 to the positive or negative terminal of the battery. Then
14 122 is connected to the other polarity.

15 Q. Let's go to slide 157, please. We're talking
16 about limitation 1[b].

17 What does Sodemann disclose about a pair of
18 cables having cable ends integrated with the plug?

19 A. The plug shown there is 62d, for example, and
20 the cables are integrated with it. You can see they go
21 right inside of it.

22 Q. Why are the cables integrated with the plug in
23 Sodemann?

24 A. Because they enter in the plug and are held
25 mechanically inside the plug by the plug. So they're

1 integrated within the plug.

2 Q. Let's go to slide 158, please.

3 With respect to limitation 1[c], what does
4 Sodemann teach about this limitation?

5 A. So Sodemann, we can see -- I think it's 75 and
6 75a in Figure 6D, those are two clamps. So it's required
7 to have a pair of cables having opposite cable ends
8 configured to be separately connected to the terminals of
9 the battery. So you can connect 75a to one terminal and 75
10 to the other.

11 So it meets that limitation.

12 Q. I wanted to go back to the Sodemann reference
13 itself for a moment.

14 Can we pull up RX-2434.

15 Dr. Ricketts, this is the Sodemann reference;
16 right?

17 A. Yes, I believe so. Yes.

18 Q. Can we please go over to column 4.

19 I want to go down to the lines beginning on
20 column 4 on the right side, the lines beginning at 46
21 through the end of the page.

22 What does Sodemann describe as to the
23 connections that are made between what you have identified
24 as a plug, and the clamps?

25 Sorry. Maybe we can -- if we can put the slide

1 up on -- side by side with this, so we can actually have
2 the picture of 6D, so Dr. Ricketts can look at that at the
3 same time.

4 So maybe I can start back over at a different
5 part.

6 The clamps are identified in 6D with what
7 reference number?

8 A. 75 and 75a.

9 Q. So what is on one end of 75, in terms of the
10 cable?

11 A. There is an alligator clamp.

12 Q. What is on the other end of the cable that
13 connects to 75?

14 A. That connects up to the terminals, I think it
15 would be -- the terminals of 126, I think it's "e," and
16 above, but I'd have to -- but one of the terminals in 62d
17 connector.

18 I think it describes it, in the specification on
19 the left, that 75 and 75a are electrically connected to the
20 terminals 126b, d, and e.

21 Q. So just for completeness, let's just briefly
22 look at the other cable.

23 What is on one end of the cable connected to
24 clamp 75 -- what is on one end and the other end of the
25 second cable that you haven't described in Figure 6D?

1 A. Are you referring to Figure 6C?

2 Q. 6D.

3 A. 6D.

4 Q. So we talked about clamp 75.

5 A. Yeah.

6 Q. I want to talk about clamp 78. So clamp 78
7 connects to a cable.

8 Do you see that? Is that correct?

9 A. That's 75a, yes.

10 Q. What is on the other end of the cable that
11 connects to 75a?

12 A. The plug, 62d.

13 Q. So you're aware that Dr. Fayed has said that
14 this rectangular structure that is not marked with 60d, but
15 is near the reference 60d, is a midpoint connection.

16 Do you recall he has explained that your opinion
17 was incorrect because there's an electrical connector in
18 the middle?

19 MR. COCHRAN: Objection. It's leading, Your
20 Honor.

21 MR. PATARIU: Just to orient the witness about
22 his objection.

23 JUDGE BHATTACHARYYA: The objection is
24 overruled.

25 THE WITNESS: Yes, I recall that.

1 BY MR. PATARIU:

2 Q. Why do you -- do you agree with his argument?

3 A. No. I disagree, for two reasons.

4 One, the specification does say that the clamps
5 are electrically connected to the plug, but you can see
6 from the plug to the midpoint, the cables are together. So
7 it's like an extension cord, where the two cables may be
8 glued together.

9 The battery clamps have to be separate. So the
10 two wires have to be separated.

11 It's very common, if you have two wires that are
12 together and then the ends are separated, that they can
13 just pull apart the entire cable. So you often have a
14 mechanical piece to keep the glued-together cable parts
15 from separating.

16 So it would just be something mechanically there
17 to keep further separation of the wires.

18 Q. This is a -- well, sorry.

19 With respect to Figure 6C, is there a similar
20 structure in between the cable between connector 68a and
21 62c?

22 A. No, because it doesn't have the same problem.

23 If you've got the two cables glued together, and
24 they have a plug on both ends, then there's no way to
25 separate it. So you don't need it.

1 Q. This connector is also for a jump starter;
2 right?

3 A. In Figure 6C? Yes.

4 Q. As well as 6D; right?

5 A. Correct. Yes.

6 Q. Does that provide any other reason, if at all,
7 for why an additional -- an additional connector, as
8 identified by Dr. Fayed, would be not present in 6D?

9 A. There's no reason for a connector to be there.
10 That's what the plug is for.

11 Q. Okay. We can take that down and go back to the
12 slides.

13 So let's go to limitation 1[d]. So we're at
14 slide 159.

15 Dr. Ricketts, what did you identify with respect
16 to the shape of the body of the single plug, and whether or
17 not it had a uniform width?

18 A. The plug is a rectangular plug. And disclosed
19 in the drawing, it has a uniform width across it.

20 Q. Now, did you identify the same teaching with
21 respect to the '808 Patent, and its limitation of a body of
22 a plug having a uniform or substantially uniform width?

23 A. Yes. I believe Sodemann discloses a uniform
24 width, and therefore would also disclose a substantially
25 uniform width.

1 Q. I'm sorry. You said the shape of the plug was?

2 A. The plug is a rectangular plug, with straight
3 sides that have a constant width across.

4 Q. The area in red that you've identified, what
5 shape is that?

6 A. It is a rectangle.

7 Q. Let's go to the next limitation, 1[e].

8 What did you identify in Sodemann relevant to
9 1[e]?

10 A. The 1[e] is going to require that the plug be
11 inserted in a single orientation to ensure proper
12 orientation of the positive- and negative-polarity cable
13 connections.

14 Sodemann has a pin. I believe it's labeled
15 120 -- there's a pin and a hole. I think the pin is 125.
16 I think the hole is 127.

17 Just looking at this, this connector only goes
18 in one way, so that you can't flip it around and put it in
19 the wrong way.

20 Q. You understand that 62d is the -- well, what
21 does 62d refer to with respect to the components of the
22 connector?

23 A. 62d is the plug attached to the cable that
24 connects to the battery clamps.

25 Q. So if I just refer to that as -- well, sorry.

1 There's an external, rectangular enclosure,
2 housing, that you said is rectangular.

3 Do you recall that?

4 A. Yes.

5 Q. Does that feature, alone, provide any
6 restrictions on how the cable is oriented when it's
7 inserted?

8 A. If it's rectangular, it could be inserted in one
9 of two ways. So that's why there's a pin.

10 Q. Well, I mean, the face of this connector has
11 openings that are not uniformly spaced?

12 A. Correct. I'm sorry. I thought you were just
13 talking in general of a rectangle.

14 The way 62 is laid out, you have two connectors
15 close together, and one far away. So it's not symmetric.

16 Q. Let's go to slide 162, please.

17 This is -- is this additional textual
18 description that is relevant to the limitation 1[e]?

19 A. Yes. It says right here, "The keyed
20 configuration of the plugs ensure -- of 62d ensures
21 insertion is a single orientation." (As read.)

22 And that's exactly the limitation required.

23 Q. For someone who hasn't heard the word "keyed" in
24 the context of connectors, can you please explain what that
25 means?

1 A. Sure. So when you have a lock and you put a key
2 in, you are familiar, you can only stick it in one way.
3 You can't stick it in upside down.

4 So "keyed" is usually something mechanical so
5 that the plug only goes in one way. Might look like a
6 keyhole or some other little nub that only allows you to
7 put it in one way.

8 Q. Let's go to slide 163, please, and look at Claim
9 3.

10 What teachings of Sodemann illustrate the
11 requirements of Claim 3?

12 A. 3 is the jumper cable device of 1 wherein the
13 plug does not have exposed prongs.

14 We can see that 62d covers the prongs. The
15 prongs aren't sticking out of the plug. They're within the
16 plug, so nothing is exposed outside of the plug.

17 Q. Let's go to 164.

18 Is this another view of the same plug that
19 supports your conclusion?

20 A. Yes. I can see the conductors are inside of the
21 plastic housing.

22 Q. Can we go to slide 165.

23 So here, we're starting with Claim 14. But in
24 the interest of time, in terms of the teachings that you've
25 relied on for -- for Claim 1, is there -- do those

1 correspond to -- are each of these limitations -- well,
2 sorry. Let me back up.

3 We've gone through Claim 1, and we've got Claim
4 14. What is the difference between 1 and 14?

5 A. 14 has different wording, but it requires the
6 same limitations that Claim 1 does.

7 Q. Is there anything about the teachings of
8 Claim 1 -- sorry, that you've relied on, that you need to
9 find or point out additional teachings to meet all of the
10 limitations of Claim 14?

11 A. No. All of the teachings of Claim 1 that I have
12 described teach Claim 14.

13 Q. Sorry. There's one thing I did want to talk
14 about with respect to the next slide, 178.

15 So the Claim 14[c] requires the opposite cable
16 ends compared to being connected to -- sorry.

17 Claim 14[c] requires a pair of battery terminal
18 clamps connected to the opposite cable ends of the pair of
19 cables; right?

20 A. Correct.

21 Q. How does 6D disclose that?

22 A. As I mentioned before describing Claim 1, 75 and
23 75a are clamps respectively connected to the opposite ends
24 of the cables.

25 Q. Let's go to slide 179 -- sorry. That's right.

1 179.

2 How does what's shown in Figure 9 of Sodemann
3 disclose the limitation 14[c]?

4 A. It shows battery clamps connected to a battery.

5 Q. Let's go to slide 184.

6 Just be talking about Sodemann in view of
7 Errato. Okay?

8 A. Okay.

9 Q. Let's go to slide 185.

10 What is the additional requirement of Claim 10?

11 A. It's the jumper cable according to Claim 1,
12 comprising a downwardly tapering connection located between
13 the single plug and the cables.

14 In Figure 11A on the right, Errato is showing a
15 downwardly tapering connection.

16 Just to orient in Figure 11, there's a dashed
17 line on the left, which is -- my understanding, is part of
18 the plug, and then there's the entire downwardly tapering
19 section.

20 There's a larger rectangle that tapers down
21 once, tapers down a second time, and then I think tapers a
22 third time at the very end.

23 Q. So why can a reference like Errato be
24 combined -- the teachings of Errato that you are relying on
25 here in slide 185, why can that be combined with Sodemann?

1 A. So Errato is teaching a strain relief, so that
2 if you have a rigid connector, the wire is not going to be
3 strained as you pull on it. It's a common problem with
4 cables.

5 So looking at Sodemann, it would make sense to
6 put a strain relief in so the cables aren't damaged if you
7 pulled on them side to side.

8 This would be a common thing to add to a cable
9 assembly.

10 Q. Let's go back to slide 184, please.

11 Are there additional motivations to combine that
12 you have identified?

13 A. For Sodemann with Errato, they're -- like I
14 said, it's -- they're both related to cables, heavy-duty
15 cables, and strain is a known problem that it would
16 address.

17 Q. Can the tapering feature of Errato, as applied
18 to Sodemann, improve it in the same way?

19 A. Yes.

20 So Errato is teaching a strain relief from a
21 rigid connector plug to a cable. Sodemann has a plug or a
22 connector, and a cable.

23 And so it would perform the same function in
24 Sodemann that it does in Errato.

25 Q. Can we please go to slide 229.

1 So now we have turned to the '808 Patent.

2 What are your opinions with respect to Sodemann,
3 alone or in combination with other references, and what
4 asserted claims of the '808 Patent that are rendered
5 invalid?

6 A. Sodemann, and Sodemann in view of Errato
7 invalidate Claims 1, 11, and 16 of the '808.

8 Q. Could we go to slide -- sorry. 227.

9 So this is the, I guess, listing of -- can you
10 please tell us what begins on 227?

11 A. This is a listing of the Claim 1 and 11 of the
12 '808 Patent.

13 Q. If we compare the limitations of the
14 '808 Patent -- have you compared the limitations of the
15 '808 Patent with the limitations of the '992 Patent?

16 A. I did. The only substantive difference is in
17 170, it adds "substantially uniform" to "uniform."

18 Q. We talked a little bit, before, with respect to
19 Sodemann.

20 Can you please tell us with respect to -- with
21 respect to -- sorry.

22 A few moments ago, we talked about Sodemann and
23 whether the claim -- whether the rectangular connector was
24 uniform or substantially uniform.

25 Do you recall that?

1 A. I do, yes.

2 Q. Can we go down to slide 241, please.

3 What is your opinion about the teachings of
4 Sodemann with respect to limitation 1[c] of the
5 '808 Patent?

6 A. It teaches a uniform width, and that would be
7 included in substantially uniform. So if it teaches a
8 uniform width, it therefore also teaches a substantially
9 uniform width.

10 Q. Other than this difference between the
11 '808 Patent and '992, are you relying on any additional
12 teachings in Sodemann to teach something that is not a
13 limitation found in both '808 Patent Claim 1 and '992
14 Patent Claim 1?

15 A. No, not for Claim 1. Everything that applied
16 for the '992 applies for the '808.

17 Q. Can we go to slide 227, please.

18 So Claim 11 recites the jumper cable comprising
19 a downwardly tapering connection.

20 Do you see that?

21 A. Yes, I do.

22 Q. Did you compare that limitation to -- or that
23 claim to any other claim in the '992 Patent?

24 A. Yes. I think '992 Claim 10, I believe, it's the
25 same limit -- it's the same or very similar limitation.

1 And Errato teaches Claim 11 in the '808.

2 Q. For what reasons?

3 A. Because it's a downwardly tapering connection
4 located between the single plug and the pair of battery
5 cables.

6 Q. What parts of the analysis that you did with
7 respect to the '992 Patent Claim 10 applied to your
8 analysis of the '808 Patent Claim 11?

9 A. The same.

10 Q. Let's go to slide 228, please.

11 So this is Claim 16 of the '808 Patent, or at
12 least the beginning of the listing of the claims there.

13 Do you see that?

14 A. I do.

15 Q. The Claim 16 imposes an additional requirement
16 of a rectangular connector; right?

17 A. Correct. And 16[a][i] is shown on the slide.

18 Q. I think earlier, we talked about the red face of
19 the connector that is shown in Figure 6D.

20 Do you recall that?

21 A. I do, yes.

22 Q. What is the shape of the plug, what you've
23 identified as the rectangular-shaped plug in -- sorry. Let
24 me start again.

25 The Figure 6C plug that you've identified, what

1 is the shape of that plug?

2 A. I believe it's Figure 6D, and that is
3 rectangular.

4 Q. I'm sorry. Did you say 6D, as in "dog"?

5 A. Yes.

6 Q. Okay. Can we go, I guess, to slide 249, please.

7 That's showing what you've identified as the
8 rectangular-shaped plug for limitation 16[a][i]; right?

9 MR. COCHRAN: Objection. It's leading, Your
10 Honor.

11 MR. PATARIU: Start again. I think we were
12 trying to do this verbally, and I just found a picture.
13 Trying to go through slides to save time. So I'll do it
14 the other way.

15 BY MR. PATARIU:

16 Q. Please tell me, in Figure 6D, what you think is
17 the rectangular-shaped plug.

18 A. I have identified the rectangular-shaped plug
19 with the red shading. It's 62d, and 62c. Those are two
20 separate plugs, but they're both rectangular, and they both
21 have a uniform width.

22 Q. Can we go back to slide 228 for a moment.

23 So we've just -- you know, the process we have
24 been doing before, talking about differences between claim
25 limitations, to try to save time.

1 If we look at the limitations of Claim 16, what
2 conclusions did you form about if there were any other
3 differences, other than the rectangular-shaped plug
4 requirement, between Claim 16 and the comparable limitation
5 of Claim 1?

6 A. The teachings that taught the limitations of
7 Claim 1 also teach all of the remaining limitations of
8 Claim 16.

9 MR. PATARIU: Thank you. Pass the witness.

10 CROSS-EXAMINATION

11 BY MR. COCHRAN:

12 Q. Dr. Ricketts, good morning. Good to see you
13 again.

14 Yesterday you testified that you applied the
15 ALJ's construction of the USB input circuit claim element
16 in performing your invalidity analysis, particularly in
17 relation to the 112 issues; right?

18 A. Correct. Yes.

19 Q. And that construction, part of that
20 construction, required you to consider the USB standards
21 that were known to a person of skill in the art around the
22 time of the '023 Patent and the '243 Patent priority date,
23 which is July of 2014; right?

24 A. Correct.

25 Q. Let's talk about that, talk about those

1 specifications that were known at the time.

2 Dr. Ricketts, you would agree that bidirectional
3 USB power charging was first introduced in the USB Power
4 Delivery Specification Version 1, which was in July of
5 2012; right?

6 A. Correct.

7 Q. Let's bring up RX-1425.

8 Dr. Ricketts, this is a copy -- RX-1425 is a
9 copy of the USB Power Delivery Specification Version 1 from
10 July 5 of 2012; right?

11 A. That's what's on the screen, yes.

12 Q. You've reviewed this -- this is like a 300-page
13 specification, I think. I think it's actually 303 pages.

14 You've reviewed this in detail, and you have
15 provided testimony about this specification in this
16 investigation; right?

17 A. Correct.

18 Q. All right. Let's pull up JX-5, and go to page 7
19 of JX-5. If you turn to the -- sorry, 7. If you can
20 highlight the right-hand column at the very top.

21 Dr. Ricketts, you would agree that the USB Power
22 Delivery Specification 1.0 dated July of 2012 was cited to
23 the United States Patent Office during the prosecution of
24 the '023 Patent; right?

25 A. It appears on the document.

1 Q. All right. Let's go back to RX-1425, the
2 specification. Now let's turn to page 17.

3 Here in the -- under the introduction section of
4 the spec, about the fourth paragraph, do you see where it
5 says, "The USB power delivery -- the USB power delivery is
6 designed to enable maximum functionality of USB, providing
7 more flexible power delivery, along with data, over a
8 single cable."

9 Right?

10 A. That sentence is on the screen, yes.

11 Q. Then you also agree that it then says, in the
12 spec, that "The aim of this is to operate with and build on
13 the existing USB ecosystem."

14 Right?

15 A. That is on the screen, yes.

16 Q. Then it says, "With USB power delivery, the
17 power direction is no longer fixed." Right?

18 A. Would you highlight that section?

19 Q. It's actually -- it's actually -- I should have
20 pointed you to it. It's actually the first sentence in the
21 next paragraph, where it says, "With USB power delivery,
22 the power direction is no longer fixed."

23 Right?

24 A. That is shown on the page, yes.

25 Q. You would agree that's a reference to the

1 bidirectional power transfer that was part of the USB
2 specification in July of 2012; right?

3 A. Sorry. Could you just repeat the question?

4 Q. Yeah. You would agree that is a reference to
5 the bidirectional power transfer that was part of the USB
6 power delivery specification in July of 2012; right?

7 A. The specification doesn't use the word
8 "bidirectional." It does discuss changing port roles,
9 which could change it from a sink to a source. So power
10 could flow in one direction or the other direction.

11 Q. So you don't think that's a reference to
12 bidirectional power transfer; is that what you're saying?

13 A. No. What I believe I said was
14 "bidirectionality" isn't a word used in the specification.
15 It does discuss changing the roles of ports so that power
16 can flow in or out of the port.

17 Q. All right.

18 But one of the first questions I asked you, I
19 said: You would agree that bidirectional USB power
20 charging was first introduced in the USB power delivery
21 specification in 2012? And you said yes.

22 A. Yes, in the context -- I was just highlighting
23 that the USB specification doesn't use the word
24 "bidirectionality."

25 But power flow in one direction or the other

1 could be referred to as bidirectionality. It's just the
2 word is not in the specification. That's the only thing I
3 was mentioning.

4 Q. Understood.

5 If we look further down on the same page,
6 Dr. Ricketts, under 1.1 Overview. And in the first
7 paragraph it says, "In addition, it allows a source and a
8 sink to swap roles, such that a device could supply power
9 to a host."

10 Do you see that?

11 A. Yes.

12 Q. Dr. Ricketts, you would agree that the USB power
13 delivery specification refers to something called a
14 dual-role port; correct?

15 A. Yes. It's my understanding that it refers to
16 different roles for ports.

17 Q. All right. Let's turn to page 20 of RX-425.

18 And at the top of the page, under the
19 Definitions, is the definition section of the
20 specification.

21 Dr. Ricketts, you'd agree that the USB power
22 delivery specification defines the dual-role port as "A
23 consumer/provider or provider/consumer capable port that is
24 a port capable of operating as either a source or a sink."

25 Right?

1 A. That is what is on the screen, yes.

2 Q. You would agree that a dual-role port is a port
3 that can either provide power or it can consume power;
4 right?

5 A. That's my understanding, yes.

6 Q. In terms of power consumption, the dual-role
7 port can be both an input port for consuming power, or it
8 could be an output port for providing power; right?

9 A. I believe in terms of the spec, it can source
10 power or it could sink power.

11 Q. Dr. Ricketts for the dual-role ports that are
12 described in the power delivery specification that allowed
13 for bidirectional power transfer, the circuitry that is
14 used for power transfer in a device having that kind of
15 port would be the same circuit; right?

16 A. Could you repeat the question?

17 Q. Sure.

18 The dual-role ports that we're referring to here
19 in the PD spec from 2012, that allowed for bidirectional
20 power transfer in both directions, for those kinds of
21 ports, the circuitry that's used for power transfer in the
22 device having that kind of port would be the same
23 circuitry; right?

24 A. So the dual-role port would have circuitry to
25 enable it to be a dual-role port, and that would be -- the

1 same circuitry would be used on the other connection of the
2 cable.

3 So yes, the source would have that circuitry,
4 and a sink would have that circuitry. If it was a
5 circuitry for a dual-role port. You need more for a
6 dual-role port than you do for just a regular port, but...

7 Q. So the circuit that is either transmitting power
8 or receiving power would be the same general circuit;
9 right?

10 A. Just want to clarify. A dual-role port would
11 have to have the power delivery communication circuitry.
12 So if you had a dual-role port, it would have that
13 communication circuitry as well as the power supply lines,
14 yes.

15 Q. But that circuit, that same circuit, could both
16 transmit power and receive power, assuming it had that
17 other stuff that you just mentioned?

18 A. Yes. Assuming it had all of the communication
19 and everything, yes.

20 Q. Dr. Ricketts, so you would agree that it was
21 first possible to do reversible power transfer over USB
22 cables in July of 2012 with the USB Power Delivery Spec
23 Version 1.0; right?

24 A. If you have everything that is required in the
25 specification, it would allow a port to source and sink

1 current.

2 Q. So that's a "yes"; right?

3 A. I think -- I just wanted to clarify that there
4 is -- we haven't shown a picture of the circuitry. So I'm
5 just saying, if you have all of the circuitry as described
6 in the power delivery, then it can supply current, and it
7 can also receive current.

8 Q. Dr. Ricketts, I'm going to turn your attention
9 to page 17 of the specification. That's RX-1425. Turn
10 your attention to the Overview section down at the bottom.
11 I'm going to ask you, Dr. Ricketts: You'd agree
12 that the USB power delivery specification is meant to be
13 compatible with existing USB cables; correct?

14 A. Correct.

15 Q. You'd also agree that the specification is meant
16 to work seamlessly with legacy USB devices; right?

17 A. That is what is on the page, yes.

18 Q. And you'd agree with that?

19 A. I'd have to see how it defines "legacy," but
20 certainly it's meant to work with USB devices.

21 Q. All right. Let's turn to page 18, under Scope,
22 1.3.

23 Dr. Ricketts, you'd agree that the USB power
24 delivery specification, July of 2012, is intended to
25 operate as an extension to the existing USB specifications,

1 including USB 2.0, USB 3.0, and the BC1.2 battery charging
2 spec; right?

3 A. That is what is on the page.

4 Q. Dr. Ricketts, in addition to the existing USB-A-
5 and USB-B-type connectors, the USB-C-type connector was
6 formally published in August of 2014; right?

7 A. August 11, 2014.

8 Q. 2014. Right?

9 A. Correct.

10 Q. So that's about a month, give or take, about a
11 month, after the priority application was filed that led to
12 the '023 and the '243 Patents in this case; right?

13 A. Just a little over a month, correct.

14 Q. A little over a month.

15 But you'd agree that the USB-C connector type
16 was actually introduced informally well before July 2014;
17 in fact, at least as early as December of 2013. Correct?

18 A. The concept of the USB-C, I believe, was
19 disclosed prior to the release of the specification.

20 Q. All right. Let's bring up CX-736.

21 Dr. Ricketts, CX-736 is the press release from
22 the USB 3.0 Promoters Group announcing the development of
23 the Type-C connector specification; right?

24 A. Correct.

25 Q. You've reviewed this -- you've seen this

1 document. You've reviewed this document; correct?

2 A. Is it possible to zoom out, just so I can see
3 the full document?

4 Q. Sure.

5 A. Thank you.

6 Q. The question is: You've seen this document, and
7 you've reviewed this document; correct?

8 A. Yes, I believe I have seen this document before.

9 Q. All right.

10 And the contacts for the USB Promoters Group is
11 someone named Liz Nardoza from the USB Implementers Forum
12 and Brad Saunders from the USB Promoter Group.

13 And it appears that Brad Saunders works at
14 Intel; right?

15 A. That's what's shown in the upper left.

16 Q. This announcement occurred on December 3, 2013;
17 right?

18 A. That is the date on the document.

19 Q. Dr. Ricketts, you would agree that from this
20 press release, a POSA would have known that the Type-C
21 connector was going to be built, initially, on existing USB
22 3.1 and USB 2.0 technologies; right?

23 A. I think this document discloses that the Type-C
24 would -- yes, as it's shown in the highlighted text, would
25 build on the USB 3.1 and 2.0 technologies or standards.

1 Q. Right. So a POSA would have known that as of
2 December of 2013; correct?

3 A. Correct.

4 Q. And a POSA would have also known that the Type-C
5 connector was going to be a supplement to the USB 3.1
6 specification; right?

7 A. I believe the word "supplement" -- yes. That's
8 how they described it.

9 Q. So a POSA would have known that; correct?

10 A. Yes.

11 Q. A POSA would have also known, as of December of
12 2013, that the Type-C connector in the cable would support
13 scalable power charging; right?

14 A. Those words are on the press release.

15 Q. A POSA would know that; right?

16 A. I don't know that a POSA would know what
17 scalable power charging specifically is, but those are the
18 words on the press release.

19 Q. You know what scalable power charging is, don't
20 you?

21 A. I know what the words "scaleable" and "power
22 charging" mean. But I need to -- I also know the power
23 delivery specs that have been over the years. I just take
24 what's written on the page here. So I would know it has
25 power charging that's scalable.

1 Q. Let's pull up RX-425 -- I'm sorry, 1425 at page
2 279. This is back to the USB power delivery specification.
3 279, Allen. Under -- yeah. Under "Profile
4 Definitions."

5 Dr. Ricketts, this is from Appendix A to the
6 2012 USB power delivery specification. This is the part of
7 the specification that describes the various power profiles
8 that are enabled under the PD specification, ranging from
9 the profile 1, which is a device capable of supplying 5
10 volts at 2 amps. So that's 10 watts, all the way up to
11 profile 5, which are devices that are capable of supplying
12 power at up to 20 volts at 5 amps, or 100 watts; right?

13 A. The listing of the power profiles and the Power
14 Delivery 1.0 are shown on the screen, yes.

15 Q. You would agree that this is an example of what
16 is referred to, in USB parlance, as scalable power
17 charging; right?

18 A. I have not specifically highlighted those words
19 to define -- I have not seen those specific words to define
20 this set of profiles.

21 Q. You don't think this is what the USB power
22 delivery specification refers to as scalable power
23 charging; is that what you're saying?

24 A. I'm saying the press release says that USB-C
25 will have scalable power charging. I agree that the Power

1 Delivery 1.0 has different profiles.

2 I don't think the press release discloses what
3 the scalable power is going to be, other than it is going
4 to be scalable. So I think they would expect there might
5 be something similar to what's seen in Power Delivery 1.0.

6 Q. If we could go back to the press release,
7 CX-736.

8 Finally, Dr. Ricketts, if we turn to the bottom
9 of the press release, you'd agree that a POSA would have
10 understood from this press release that the Type-C spec was
11 being targeted for industry review during the first quarter
12 of 2014; right?

13 A. Referring to the industry review board of the
14 implementers -- USB Implementers Forum, yes, but this would
15 not be a general industry review, in my opinion.

16 Q. Dr. Ricketts, prior to July of 2014, a POSA
17 would have known that the Type-C was reversible; right?

18 A. I believe there's some documents that I have
19 seen that disclose that it would be reversible, yes.

20 Q. A POSA would have also known, prior to July of
21 2014, that the Type-C connector would work with the USB 3.1
22 specification and the USB power delivery specification;
23 right?

24 A. No, I don't believe that's correct.

25 Q. All right. Let's bring up CX-739.

1 Dr. Ricketts, CX-739 is an article from January
2 2014 written by Brian Klug and published on the internet on
3 the AnandTech website, titled "USB-IF Updates Us on the
4 Type-C Connector, and Demonstrates USB SuperSpeed 3.1
5 Transfers."

6 Do you see that?

7 A. I do.

8 Q. You've seen this article; correct?

9 A. I don't recall it specifically, but I reviewed
10 several popular press articles, and this doesn't seem
11 unfamiliar to me.

12 Q. This is likely one of the documents you
13 reviewed; correct?

14 A. Yeah. It's likely.

15 Q. Let's scroll down a bit in this article to the
16 second paragraph and maybe blow that up so Dr. Ricketts can
17 see it.

18 The second paragraph, and do you see where it
19 says, "The connector will be reversible..."

20 A. That's on the page, yes.

21 Q. All right.

22 So a POSA would know, as of January of 2014,
23 that the USB-C connector was going to be reversible; right?

24 A. Yes.

25 Q. Then a little bit further down, he writes,

1 "Type-C will work with USB 3.1 and the power delivery
2 specification."

3 Do you see that?

4 A. I do see the words. It's not referencing a
5 specific power delivery specification, and it may just be
6 helpful -- Type-C required Power Delivery 2.0, which was
7 released the same day as Type-C in order to make power
8 delivery compatible with the Type-C connector.

9 So I think this is just stating that the intent
10 is, in the future, there will be a power delivery spec that
11 will be compatible.

12 Q. Well, at this point in time, there was -- there
13 was the power delivery specification Version 1.0; correct?

14 A. That is correct, and this is just stating it's
15 compatible with 3.1, which was a release specification and,
16 in general, the power delivery specification.

17 Q. Right, but at the time the -- you say in
18 general, but at the time, the USB power delivery
19 specification was Version 1.0; correct?

20 A. At the time this article was written, that is
21 true, but the -- it's not stating that -- that the Type-C
22 is compatible with power delivery specification 1.0.

23 Q. But that was the only one that existed at the
24 time; correct?

25 A. I agree. Yes, I think this is saying that

1 there's going to -- it will be compliant with a power
2 delivery specification.

3 Q. So you would agree that at least as early as
4 January of 2014 that a person of skill in the art would
5 have known that the Type-C was going to be reversible, and
6 it was going to be USB power delivery compliant; right?

7 A. It would work with a power delivery
8 specification.

9 Q. Right. Again, the only one available at the
10 time was Version 1.0; correct?

11 A. Once again, power Type-C required a new power
12 delivery specification. Clearly the power delivery
13 specification, they were -- Type-C that the USB
14 Implementers Forum was thinking of was a different power
15 delivery specification.

16 MR. COCHRAN: I'm going to move to strike that
17 complete answer, Your Honor.

18 MR. PATARIU: It's not a yes-or-no question, and
19 I think he's trying to provide information in response to
20 what was asked about version available at the time versus
21 what a press release means when it says power delivery
22 specification without any reference to a number.

23 MR. COCHRAN: Well, the only one available at
24 the time -- the question was a yes-or-no question. I asked
25 him whether or not the -- only one available at the time

1 was Version 1.0, and he should have just said "yes," but
2 instead he answered something completely differently.

3 JUDGE BHATTACHARYYA: Motion to strike is
4 denied.

5 If you want him to answer "yes" or "no" or "I
6 can't answer 'yes' or 'no,'" emphasize that at the
7 beginning of your question.

8 MR. COCHRAN: All right.

9 BY MR. COCHRAN:

10 Q. Okay. Yes or no, Dr. Ricketts, at the time of
11 this press release, the only available power delivery
12 specification was Version 1.0; correct?

13 A. Yes.

14 Q. But if you scroll down to the last sentence in
15 the same paragraph, it says -- Brian says, "I'm told to
16 expect the Type-C connector to have drawings and be better
17 understood probably before the next IDF."

18 Do you see that?

19 A. I do see that sentence.

20 Q. You understand that by "IDF," he's referring to
21 the Intel Developers Forum; right?

22 A. Just looking at this zoomed in, I don't know
23 that. If it's on the page, you can just -- if you could
24 just point me towards it.

25 Q. Right. You are familiar with the Intel

1 Developers Forum, Dr. Ricketts?

2 A. I am familiar with the Intel Developers Forum,
3 but "IDF" is not an uncommon acronym.

4 Q. Let's pull up CX-745.

5 This is another article that was published on
6 the internet at the Register website, and this one is dated
7 April 4, 2014. It's an article about the Intel Developers
8 Forum meeting that took place in Shenzhen, China, in April
9 2014. It describes a presentation regarding the USB-C
10 connector.

11 Do you see that?

12 A. I see at the beginning of the third paragraph,
13 it describes a presentation at the Intel Developer Forum.

14 Q. All right. You've reviewed this exhibit as
15 well; right, Dr. Ricketts?

16 A. It is familiar to me.

17 Q. Okay.

18 You'd agree that from this article, in the
19 meeting itself in China, that a person of skill in the art
20 would have known about the USB-C-type connector, and would
21 have known about its specifications; right?

22 A. Incorrect.

23 Q. Well, let's turn to page 2, and here is a -- in
24 this article, there's what appears to be a presentation
25 slide from Foxconn --

1 You're familiar with Foxconn; right,
2 Dr. Ricketts?

3 A. I am, yes.

4 Q. -- that actually shows a rendering of the USB
5 Type-C connectors next to a rendering of the Type-A and B
6 connectors; right?

7 A. There's an artist drawing on the slide of the
8 Type-C connector, yes.

9 Q. You would agree that from this article, and from
10 the meeting, and in this presentation slide in particular,
11 that a person of skill in the art would have known, by
12 April 2014, information regarding the mechanical
13 specifications of the soon-to-be-released Type-C
14 specification, as well as the functional capabilities of
15 the Type-C connector; right?

16 A. I'm sorry. I don't see any mechanical
17 specifications.

18 Q. It's at the top of the slide.

19 A. Ah. I see.

20 So these four bullet points, they would know
21 that this is likely what's going to be in the
22 specification.

23 Q. Right. Similarly, they would have known, the
24 person of skill in the art, by April 2014, would have known
25 about the functional capabilities of the USB-C connector

1 type; correct?

2 A. For clarity, these are just a couple of bullet
3 points under each. So the word "functional capabilities"
4 is on the slide, yes.

5 Q. All right.

6 Specifically, a person of skill in the art in
7 April 2014 would have known that the Type-C was going to be
8 compatible with USB 3.1, and it would provide enhanced
9 power delivery and interface configuration, according to
10 the USB PD specification; right?

11 A. "Enhanced power delivery options" is on the
12 slide. It also says, "USB power delivery PD-based
13 interface configuration option." I have no idea what that
14 means, but those words are on the slide.

15 Q. So you don't know what that means?

16 A. "Configuration option," no.

17 Q. So you would agree that a person of skill in the
18 art would have known at this time in April of 2014 that the
19 USB-C connector would support bidirectional power delivery
20 because it was going to be compatible with the power
21 delivery specification; right?

22 A. Sorry. Both the items you've highlighted are
23 talking about new features of power delivery.

24 So I think someone looking at this slide would
25 think there's going to be something new in power delivery

1 with the USB-C.

2 Q. But the person of skill in the art would have
3 known that the new Type-C connector type was going to be
4 compatible with the USB power delivery specification;
5 right?

6 A. Once again, it's talking about new power
7 delivery options. I don't see where it's stated that it's
8 going to be compatible with Power Delivery 1.0.

9 Q. Well, you just said "new power delivery options"
10 but then earlier, you testified you didn't know what this
11 stuff meant.

12 How do you know these are new power delivery
13 options if you don't even know what they mean?

14 A. The word "enhanced," as a POSITA, would help
15 them understand that there's going to be something that's
16 better than available today. There's a new configuration.
17 There's an interface configuration option. So "option"
18 also sounds like there's going to be more features
19 available for both of these.

20 Q. Yeah, but earlier you testified you didn't know
21 what "interface configuration" even means; right?

22 A. Oh, sorry. I'll clarify.

23 I don't specifically know what specifications,
24 what "technical disclosure interface configuration option"
25 means.

1 I do understand the word "option" would mean in
2 addition to what normally is there. There's an option.
3 But I don't know the technical specifications of that from
4 this slide.

5 Q. Dr. Ricketts, you'd agree that once the USB-C
6 type connector that we see here in April of 2014, you'd
7 agree that once that connector was formally introduced, it
8 then joined with the USB standard micro-A and B cables that
9 also provided bidirectional power transfer using the USB
10 Power Delivery 1.0 specification or later; right?

11 A. The Type-C -- once again, if we're looking at a
12 slide from early 2014, you know, if we fast-forward, we
13 learned that Type-C has additional pins, additional
14 signaling. It does power delivery in a different
15 communication protocol than 1.0.

16 So I don't -- when you say "joins the" -- I'm
17 sorry, I can't answer that because I'm not sure how to
18 interpret what "joins the" would be.

19 Q. All right. Let's bring up RX-2914 at page 35.
20 RX-2914 at page 35, Paragraph 93. You have the right one.
21 Paragraph 93.

22 This is from your expert report in this case.

23 You stated -- and this one is a "yes" or "no."
24 You stated, "A USB-C connector/cable can support
25 bidirectional power delivery, as it is USB PD compliant.

1 The USB-C cable then joins the USB standard micro-A and B
2 cables that can also provide bidirectional power transfer
3 using USB PD 1.0 or later."

4 This one is a "yes" or "no." This is what you
5 said in your expert report about the USB-C connector;
6 right?

7 A. Yes.

8 Q. All right. Thank you.

9 Take that down.

10 Dr. Ricketts, let's talk about the Richardson
11 reference that you've talked about in your invalidity
12 presentation. That's RX-2445.

13 If you could bring that up, Mr. Eaton.

14 Now, with respect to Richardson, my
15 understanding of your opinions is that -- your opinions,
16 based on Richardson, are for the '023 Patent, Claims 1, 19,
17 32, 39, and 54, you combined Richardson with Zhou, and you
18 say they're obvious over Richardson, in view of Zhou;
19 right?

20 A. That's correct. I believe that was a
21 combination I opined on earlier.

22 Q. It might be helpful.

23 Why don't we bring up RDX-7, page 7, because
24 that's your summary slide. So we can make sure we're on
25 the same page here.

1 So your opinions are that Claims 1, 19, 32, 39,
2 and 54 are obvious over Richardson in view of Zhou; right?

3 A. Correct.

4 Q. Then for Claim 19, you've got a separate
5 obviousness opinion where you combine three things. You
6 have Richardson, Zhou, and Zhang; right?

7 A. Correct.

8 Q. Then you have another position on the same
9 claims, Richardson in view of the Linear Technology article
10 or data sheet, and Zhou; right?

11 A. Right.

12 Q. All right. That's another three-reference
13 combination; right?

14 A. There's three references; correct.

15 Q. For the '243, you say -- your opinion is that 1,
16 2, and 54 are obvious over Richardson and Zhou, but also
17 Thomason; right?

18 A. Correct, yes.

19 Q. So for the '243 claims, you have to have all
20 three, Richardson, Zhou, and Thomason, to render the claims
21 obvious; right?

22 A. Correct.

23 Q. That's your opinion; right?

24 Right?

25 A. That is correct.

1 Q. Okay. Then for 1, 2, 18, and 54 -- so you've
2 got an extra 18 there -- it's Richardson, Zhou, Thomason,
3 and now also Xinfang; right?

4 A. Correct.

5 Q. So now we have four references for those claims;
6 right?

7 A. There's four listed, yes.

8 Q. Finally, we have Richardson, in view of the
9 Linear Technology part, and Thomason also for 1, 2, and 54;
10 right?

11 A. Correct. However, I think I updated that slide
12 when I was asked about it. I think there's an 18.

13 Q. Right. Oh, there should be an 18 in there.

14 A. I believe so, yeah, on that chart on the bottom.

15 Q. Again, that's an obviousness opinion that you
16 are offering; right?

17 A. Yes. These are all obviousness opinions, yes.

18 Q. Let's go back to Richardson, RX-2445.

19 Richardson is a patent publication, US
20 2013/0154543; right?

21 A. Yes. Correct.

22 Q. Okay.

23 Richardson was published June 20, 2013; right?

24 A. That is the date on the publication.

25 Q. Right.

1 The title of Richardson is "Method and Apparatus
2 For Providing Supplemental Power to an Engine"; right?

3 A. That is the title.

4 Q. If you could bring up Figure 1 of Richardson.
5 Let me try to blow that up because there's a lot of stuff
6 in there.

7 This is page 2 in the Richardson reference.
8 This is essentially a functional block diagram of the
9 Richardson device; right?

10 A. I think there's a fair description.

11 Q. If you turn to Figures 2A and 2D, these are
12 circuit schematics that correspond to the Richardson device
13 shown in Figure 1; right?

14 A. No. These are -- I would characterize these as
15 schematics of an embodiment of Richardson.

16 Q. Okay. Fair enough.

17 These are circuit schematics of an example
18 embodiment of the Richardson device that's shown in block
19 diagram form in Figure 1; right?

20 A. Yes.

21 Q. Dr. Ricketts, the Richardson reference, RX-2445,
22 was considered by the United States Patent Office when the
23 '023 and the '243 Patents were allowed; right?

24 A. I'd have to -- I mean, if you can pull up the
25 file history --

1 Q. Sure. Fine.

2 JX-5. If we can go to JX-5 at page 4. On the
3 right-hand column -- there's a lot of references -- but on
4 the right-hand column about halfway down, the numbers are
5 in numerical order, so if you go about halfway down, you
6 will see the reference "2013/0154543, June 2013," to
7 Richardson; right?

8 A. Yes. That is on the patent.

9 Q. All right. So you understand that means that
10 the United States Patent Office considered Richardson when
11 the '023 Patent was issued; right?

12 A. It's listed, yes.

13 Q. In fact, multiple Richardson references were
14 considered by the Patent Office when the '023 and the '243
15 patents were issued; isn't that correct?

16 A. You've highlighted three, including the 2009
17 application I already spoke to earlier today.

18 Q. All right. So if we go over to the left-hand
19 column, towards the top, there's a reference to US
20 9,263,907; right?

21 A. I do see that, yes.

22 Q. That's another Richardson reference; right?

23 A. That's what is listed there, yes.

24 Q. Back over on the right-hand column, there's two
25 other Richardson publications, 2009/0174362 and

1 2009/0218988; right?

2 A. Yes. If I heard correctly, there's two
3 Richardson references cited there.

4 Q. You understand those are additional Richardson
5 references that were cited to the United States PTO when
6 the '023 Patent was issued?

7 A. My understanding, they're part of the same
8 patent family tree, but they're distinct, different
9 documents, yes.

10 Q. If we turn to page 3 of JX-5, at the bottom of
11 the right-hand column, there's another Richardson citation.
12 This one is US 8,493,021.

13 Do you see that one, Dr. Ricketts?

14 A. I do see that on the page. Could we just zoom
15 out briefly, so I can see the whole page?

16 Q. Sure. If we can zoom out, please.

17 A. Okay. Thank you.

18 Q. Not only were the Richardson references
19 considered by the U.S. Patent and Trademark Office when the
20 '023 Patent was issued, but one of them, the 2009/0174362
21 publication, was actually applied by the examiner, by the
22 patent examiner in rejecting the pending claims of the
23 '023; isn't that right?

24 A. I believe I opined to that earlier, correct.

25 Q. But other than RX--- other than the

1 Richardson -- the version of Richardson shown in RX-2445 --
2 if we can go back to that -- other than this version of
3 Richardson, you aren't relying on any of the other
4 Richardson references as part of your opinions today;
5 right?

6 A. No. My opinion was this reference was
7 sufficient, and it's the one I relied on for the
8 combinations.

9 Q. So that's a no, you're not relying on any of the
10 other Richardson references. You're just relying on
11 RX-2445; right?

12 A. That's a yes, I'm relying on RX-2445.

13 Q. I'll take that, too.

14 Dr. Ricketts, if we focus on RX-2445, and in
15 particular, Paragraph 34, which is at page 16 of the
16 document, and kind of towards the top there, Dr. Ricketts,
17 you'd agree that the Richardson jump starter that's
18 described in 2445, that it can be configured for operation
19 between 12 volts, all the way up to 48 volts; right?

20 A. It discloses an embodiment that could allow for
21 different configurations, and specifically it lists
22 configurations all the way up to 48 volts.

23 Q. What kind of a car would have a 48-volt battery,
24 Dr. Ricketts?

25 A. I don't believe I have provided an opinion on a

1 48-volt battery car.

2 Q. Is there any car that you know of that would
3 have a 48-volt battery system?

4 A. Sitting here now, I'm not aware of one.

5 Q. What kind of a vehicle would have a 48-volt
6 battery? Would that be like a --

7 A. Once again --

8 Q. -- a truck or a tank or something like that?

9 A. I haven't provided an opinion.

10 Q. So you don't know?

11 A. Sitting here now, I don't know of any.

12 Q. Still on the same page, but if we can highlight
13 Paragraph 28.

14 Kind of in the middle of this paragraph,
15 Dr. Ricketts, Richardson mentions a battery charger; right?

16 A. Right above the Paragraph 29 reference, there's
17 a sentence that I referred to earlier as a battery charger,
18 not shown, has been connected to the batteries; right.

19 Q. So Richardson references a battery charger, but
20 he says it's not shown; right?

21 A. That's correct.

22 Q. Dr. Ricketts, you'd agree that this is the only
23 point in the Richardson disclosure where the battery
24 charger is mentioned; right?

25 This paragraph.

1 A. I mean, that paragraph refers to some figures in
2 the functional loop. So in the text of the specification,
3 this is the only place that it describes the battery
4 charger.

5 Q. Let's bring up Figure 1 of Richardson, which was
6 on -- we looked at that earlier. That's the block diagram,
7 page 2. If you can just bring up the entirety of just
8 Figure 1 and blow it up so Dr. Ricketts can see that.

9 . There's no battery charger or
10 battery-charging circuit shown in Figure 1; right?

11 A. There's no block labeled "battery charger," no.

12 Q. If we focus down on the jump starter batteries
13 block at the bottom, that's labeled "22"; right?

14 A. Correct. 22 is labeled "jump starter
15 batteries."

16 Q. In Figure 1, Richardson shows that the jump
17 starter batteries, labeled "22," are connected on one side
18 to the sensor wiring harness, and then on the other side,
19 it's connected to a heavy gauge cable to the contact relay;
20 right?

21 A. That's correct. That's shown in the figure.

22 Q. Then the contact relay is connected through more
23 heavy gauge wires to the vehicle that's going to be jump
24 started, right, and that's labeled "28"?

25 A. It is connected through cable 37 to the vehicle

1 to be started, 28.

2 Q. You'd agree that in Figure 1, there's no other
3 connections to the jump starter batteries that are shown in
4 Figure 1, other than the sensor wiring harness and the
5 heavy gauge cable; right?

6 A. Nothing else is shown.

7 Q. If you turn to page 18 of Richardson, and
8 highlight Paragraph 55.

9 I know you're familiar with this paragraph, but
10 I think you testified about it this morning, but I'll just
11 summarize.

12 Dr. Ricketts, Richardson in Paragraph 55
13 discloses a method of recharging his jump starter batteries
14 using the vehicle-charging system of a vehicle that has
15 been connected to the Richardson jump starter; right?

16 A. I'm sorry. Could you point me to the specific
17 reference in Paragraph 55 that you'd like me to read or
18 look at.

19 Q. It's the whole paragraph.

20 A. Okay.

21 Q. It's not long. Why don't you read the whole
22 thing.

23 A. All right. I've read that. So if you could
24 re-ask the question.

25 Q. If you would agree with me, that this -- in this

1 description of Paragraph 55 of Richardson, he's describing
2 a situation where the jump starter batteries are able to be
3 recharged using the vehicle charging system, in other
4 words, the car or truck that the jump starter is connected
5 to; right?

6 A. Paragraph 55 describes an embodiment that allows
7 that functionality, yes.

8 Q. And Richardson actually claims this method of
9 recharging his system batteries; isn't that right?

10 A. I believe the last claim is the one that
11 supplies this functionality, yes, Claim 40.

12 Q. That's Claim 40.

13 Can we turn to -- that's on page 20. Go to page
14 20 and highlight Claim 40.

15 Claim 40 is -- well, why don't you tell me, what
16 is Claim 40 describing?

17 A. "The jump starter of Claim 26 further comprising
18 a diode connected across said relay to permit charging of
19 said one or more jump starter batteries and said one or
20 more capacitors by said electrical system."

21 Q. Let's turn to -- I think there's actually
22 another claim that also describes this, but you will tell
23 me if I'm right about that.

24 Let's go to page 19 and highlight Claim 25.

25 Can you read that claim, Dr. Ricketts, and tell

1 me if that's describing the same kind of recharging step as
2 in Claim 40?

3 A. "The method of Claim 1 wherein said electrically
4 disconnecting step includes recharging said system
5 batteries and said system capacitors for a predetermined
6 time before opening a relay to electrically disconnect said
7 conductive leads from said electrical system."

8 The function of the car charging the batteries
9 is disclosed in 25. The diode is not -- and that's the
10 difference here. I believe the switch is closed at this
11 point, and that's where the charging current is flowing
12 through.

13 Q. This is another example of Richardson describing
14 his method of using the actual car, or truck, in the case
15 of -- it's a 48-volt battery, you know, maybe it's a very
16 large truck -- to use the truck as a charger -- in other
17 words, the engine of the vehicle and its electrical system
18 is being used to recharge the battery in Richardson's jump
19 starter; right?

20 A. I think you said Richardson's invention at the
21 beginning. Just for clarifying purposes -- 25 is
22 disclosing an embodiment, I agree, where the car that's
23 been jump started can charge the batteries. That's one of
24 the embodiments described in the patent, and 25 describes
25 that.

1 Q. Dr. Ricketts, you'd agree that --

2 We can just go to the front page of Richardson,
3 Mr. Eaton, 2445 at page 1. Page 1. Sorry.

4 Yeah. Dr. Ricketts, you would agree that the
5 Richardson reference, 2445, does not disclose any kind of
6 USB technology at all; right?

7 A. Correct.

8 Q. Finally, on Richardson, Dr. Ricketts, you've
9 actually seen the actual Richardson jump starter, right,
10 that these patent applications relate to, the physical
11 device?

12 A. So this is a patent application. It's not a
13 product. If you're asking have I seen a device, there's an
14 Infinity Series jump starter that this I think I think was
15 made by the same author of this patent.

16 Q. Yeah. In this case, and I believe prior to this
17 case, you have not only seen the actual Richardson physical
18 device, but you've analyzed it and you've taken pictures of
19 it and you've reviewed its operation; correct?

20 A. I am familiar with the Infinity Series jump
21 starter, yes.

22 Q. How large is that device, roughly, would you
23 say?

24 A. That specific device is -- if I recall, about
25 the size of maybe a carry-on suitcase.

1 Q. It has wheels?

2 A. I don't recall if it has wheels.

3 Q. It has like a pull-handle so you can pull it
4 around; is that right?

5 A. No -- I don't -- I don't recall that. I'm just
6 talking about the rectangular box is basically the size of
7 a carry-on piece of luggage.

8 Q. What's your recollection of the Richardson
9 device? How much does it weigh? Is it 550 pounds, 100
10 pounds, ballpark?

11 A. I don't know. When I did all of my testing, it
12 was on a table. I don't recall moving it.

13 Q. Right.

14 You aren't relying on the actual Richardson
15 device, the physical device, for your analysis here today;
16 right?

17 A. I have not provided any opinion on the Infinity
18 jump starter product, no.

19 MR. COCHRAN: Your Honor, we're close to the
20 lunch break, I think, and if I keep going, I'm going to go
21 into a whole another area, so if it's possible to do the
22 lunch break now, I think that would be better for purposes
23 of cross-examination.

24 JUDGE BHATTACHARYYA: That sounds good.

25 MR. COCHRAN: Okay. Good. Thanks.

1 JUDGE BHATTACHARYYA: Start our lunch break now.

2 We'll be back in an hour.

3 (Whereupon, at 12:25 p.m., a lunch recess was
4 taken.)

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1 A F T E R N O O N S E S S I O N

2 (1:26 p.m.)

3 MR. COCHRAN: May I proceed?

4 JUDGE BHATTACHARYYA: Yes. Please go.

5 BY MR. COCHRAN:

6 Q. Good afternoon, Dr. Ricketts.

7 A. Good afternoon.

8 Q. We finished before lunch talking about
9 Richardson, and I now want to turn to another prior art
10 reference that you rely on for your invalidity opinions,
11 and that's the E-Power 10 device.

12 If we could bring up RDX-7C again.

13 MS. WILKES: Your Honor, I'm sorry to interrupt.
14 Our realtime feed I think has gone down. I apologize.

15 MS. HOEKEL: Ours has as well.

16 (RECESS, 1:38 p.m. - 1:38 p.m.)

17 JUDGE BHATTACHARYYA: Please be seated.

18 Please proceed.

19 BY MR. COCHRAN:

20 Q. Dr. Ricketts, we finished the Richardson
21 reference before lunch, and I now want to turn to another
22 prior art -- E-Power 10 prior art.

23 If we could bring up RDX-7, page 7.

24 Now, Dr. Ricketts, my understanding of your
25 positions, your invalidity positions with respect to the

1 E-Power 10 is that you're using it as a secondary reference
2 in combination with the E-Power 21 prior art for Claims 1,
3 32, 39, and 54 of '023, and also in Claim 19 of the '023,
4 it's the E-Power 21 in combination with the E-Power 10,
5 which is what we're going to talk about, and another
6 reference, Zhang; is that right?

7 A. Yes. I combine E-Power 21 and E-Power 10, and
8 E-Power 21, E-Power 10 and Zhang for two of my combinations
9 there.

10 Q. Okay.

11 Then for the '243, Claims 1, 2, 8, and 15, your
12 opinion is those are obvious over E-Power 21 in view of
13 E-Power 10, and also in view of this Thomason reference;
14 right?

15 A. I combine those three references, yes.

16 Q. Okay.

17 Then for Claim 18, you have another position,
18 that is E-Power 21 in combination with E-Power 10,
19 Thomason, and Xinfang; is that right?

20 A. I combine those four references, yes.

21 Q. Okay.

22 Previously, in the investigation, you took the
23 position that the '023 and '243 claims were invalid over
24 the combination of the E-Power 10 prior art and the Carku
25 CC-200 intelligent jumper cable; is that right?

1 A. That analysis was in my report, yes.

2 Q. But you're not relying on that combination here
3 in this hearing; right?

4 A. That is correct.

5 Q. In your analysis of the E-Power 10, you refer to
6 a catalog of devices, one of which is the E-Power 10; is
7 that right?

8 A. I referred to, I think, product catalog or
9 brochure that the E-Power 10 is included in, yes.

10 Q. All right.

11 Let's bring up RX-2222.

12 RX-2222 is the catalog showing the various Carku
13 devices. If we need Mr. Eaton to scroll through a couple
14 of the pages, I think there's 11 pages in the document.

15 This is the same catalog that you refer to in
16 your analysis; right?

17 A. Correct.

18 Q. Okay.

19 If you turn to page 5 of RX-2222, we see a
20 rendering of the E-Power 10 jump starter; right?

21 A. The E-Power 10 is on this screen, yes, on this
22 page.

23 Q. Dr. Ricketts, this same catalog of E-Power
24 devices was considered by the Patent Office when the
25 '023 Patent issued; right?

1 A. I'd have to review the prosecution history.

2 Q. Well, let's bring up JX-5 at page 6. This is
3 the '023 Patent. If you go to the right-hand column, about
4 halfway down, there's an entry that says, D22 advertisement
5 brochure of the opponent transmitted on April 23, 2014.

6 Do you see that?

7 A. I do see that on the screen.

8 Q. That's a reference to the same E-Power catalog
9 that is marked as RX-2222; right?

10 A. I don't know that to be true. I'd have to
11 review it.

12 Q. All right.

13 Let's bring up JX-11, that's the file history of
14 the '023 Patent, and we're going to go to page 1013.

15 Do you see where it says D22 at the top of the
16 page?

17 A. I do, yes.

18 Q. Do you see that the attachments, it says,
19 CarkuCatalog.PPT.

20 Do you see that?

21 A. I do.

22 Q. If we could turn to page 1019 of the file
23 history, and if you could put that up on the screen side by
24 side with page 5 of RX-2222.

25 You'd agree, Dr. Ricketts, this is the same

1 catalog page in the file history as we see in RX-2222 on
2 page 5; right?

3 A. They look identical to me.

4 Q. Okay.

5 If we can turn back just to page 5 of RX-2222.

6 Do you see under the technical specification,
7 the E-Power 10's listed as having a battery capacity of
8 6000 milliamp-hours; right?

9 A. Correct. That's on the screen.

10 Q. Then if you can blow back out again under the
11 accessories, it says, jumper cable *1.

12 Do you see that?

13 A. I do see that.

14 Q. If we can blow up the -- on the right-hand side,
15 there's a picture of the jumper cable assembly.

16 Do you see that?

17 A. I do see that.

18 Q. Right.

19 You'd agree, Dr. Ricketts, that that is a --
20 that is not the Carku intelligent jumper cable; right?

21 A. It is not.

22 Q. Okay.

23 Now, the other evidence that you primarily rely
24 on for the E-Power 10 opinions are a -- well, two
25 schematics; one that's dated September of 2013, and then

1 there's a second schematic dated November of 2013; is that
2 right?

3 A. Could you bring them up on the screen.

4 Q. Yeah. Let's bring up the first one, and that
5 will refresh your memory.

6 Let's bring up RX-2481.

7 Can you identify RX-2481, Dr. Ricketts.

8 A. Yes.

9 This is the 10F, as in Frank, schematic of the
10 E-Power 21.

11 MS. COMFORT: Your Honor, should we be on the
12 Carku confidential record for the schematics?

13 MR. COCHRAN: Absolutely, yes.

14 JUDGE BHATTACHARYYA: Move to the Carku
15 confidential record.

16 MR. COCHRAN: Thank you.

17 (Whereupon, the trial proceeded in confidential
18 session.)

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1 O P E N S E S S I O N

2 BY MR. COCHRAN:

3 Q. You're not providing an opinion that the claims
4 of the '808 or the '992 Patent are anticipated by the
5 Sodemann reference; correct?

6 A. I think what I presented earlier today was that
7 the Sodemann would teach a POSITA the limitations of those
8 claims.

9 Q. Right.

10 But you did an obviousness analysis, right,
11 Dr. Ricketts? You didn't do an anticipation analysis;
12 correct?

13 A. That is correct.

14 MR. COCHRAN: All right. Thank you,
15 Dr. Ricketts.

16 EXAMINATION BY COUNSEL FOR ITC STAFF

17 BY MS. COMFORT:

18 Q. Dr. Ricketts, before July 2014, were jump
19 starters with reverse polarity protection known in the art?

20 A. They were.

21 Q. Am I correct in understanding that bidirectional
22 USB power delivery through a single-device port was not
23 realized until the advent of USB-C?

24 A. Bidirectional power was part of USB-C, yes. The
25 USB Power Delivery 1.0 specification allowed for a port to

1 switch roles from sourcing and sinking power.

2 Q. So if I ask you what changed with the
3 introduction of the USB Type-C Specification 1.0, what
4 would your answer be?

5 A. Type-C introduced new pins. The challenge is,
6 before, we had mechanically different connectors. The
7 USB-C is the same for the input and the output, so it
8 required additional signaling pins and wires to determine
9 whether it's a source or a sink.

10 So there's additional pins, additional wires in
11 the Type-C. That's one of the big differences between USB
12 Type-C and the other Type-A and B connectors and
13 technologies.

14 Q. Were any of the USB connectors and cables that
15 were publicly available on July 3, 2014, capable of being
16 used for dynamic bidirectional power delivery through a
17 single USB port?

18 A. My understanding is that Power Delivery 1.0
19 would allow that if you had the appropriate circuit
20 hardware through a micro-USB port.

21 Q. Do the asserted patents describe any dual-use,
22 combined input/output USB ports?

23 A. They do not, no.

24 Q. Do the asserted patents describe bidirectional
25 USB power delivery?

1 A. They do not.

2 Q. Would an ordinary artisan understand the patent
3 specification to the asserted patents to convey that the
4 patent applicants were in possession of a jump starter with
5 a dual-use USB input/output port and associated
6 bidirectional USB power delivery circuitry?

7 A. No, it would not.

8 Q. Could we please pull up RX-2486.

9 I am going to represent for the record that
10 RX-2486 is believed to be the same document as RX-2222,
11 which was just discussed with counsel on cross earlier;
12 however, I am going to use RX-2486 because it was used
13 earlier in the hearing.

14 A. Understood.

15 Q. How familiar are you with this document?

16 A. I'm fairly familiar with it.

17 Q. Is this the Carku product brochure that's
18 believed to have been provided to Mr. Nook in early 2014?

19 A. My understanding, it was a version of this.

20 Q. If we look at the first page of this product
21 brochure, it discloses a jump starter; right?

22 A. Yes, it does.

23 Q. The jump starter disclosed on page 1 of the
24 brochure does not have a USB input port; right?

25 A. That is correct.

1 Q. It has a barrel charger; right?

2 A. Correct.

3 Q. Could we go to page 2, please.

4 On page 2 of this Carku product brochure, it
5 discloses a different model of jump starter; right?

6 A. That's correct.

7 Q. This model of jump starter also does not include
8 a USB input port; right?

9 A. Correct.

10 Q. It uses a barrel charger; right?

11 A. Correct.

12 Q. Could we go to page 3, please.

13 This is a different model of Carku jump starter;
14 right?

15 A. It is.

16 Q. This model also does not include a USB input
17 port; right?

18 A. That's correct.

19 Q. Could we go to page 4, please.

20 Here is yet another different model of Carku
21 jump starter; right?

22 A. Yes.

23 Q. This model also does not include a USB input
24 port; right?

25 A. That is correct.

1 Q. We have now looked at four different models of
2 Carku jump starters, and none of them use a USB input port;
3 right?

4 A. The four we have looked at do not, no.

5 Q. Could we go to the next page, please.

6 This is the E-Power 10 product that were
7 discussing with counsel earlier; right?

8 A. Yes.

9 Q. This product has a micro-USB input; right?

10 A. Correct.

11 Q. Is this product brochure the only public
12 documentation that you reviewed for the E-Power 10 product?

13 A. I reviewed the brochure -- I think you're asking
14 public -- well, I've held the devices, so I have actually
15 had the actual products in my hand. But from a public
16 publication, this is the only one I can recall at this
17 moment.

18 Q. Can we go to the next page, please.

19 This is a another different model of Carku jump
20 starter; right?

21 A. That is correct.

22 Q. It also does not include a USB input port;
23 right?

24 A. It does not.

25 Q. Could we go to the next page, please.

1 This is also another different model of Carku
2 jump starter product; right?

3 A. Correct.

4 Q. This product in the brochure also does not
5 include a USB input port; right?

6 A. That's correct.

7 Q. This product looks a little like the Sodemann
8 jump starter device, doesn't it?

9 A. It does, yes.

10 Q. Could we go to the next page, please.

11 Here on page 8 of the same product brochure is
12 yet another, different model of a Carku jump starter;
13 right?

14 A. That's correct.

15 Q. This model also does not include a USB input
16 port; right?

17 A. That's correct.

18 Q. Could we go to the next page, please.

19 Here on page 9 of the same product brochure is
20 yet another different model of Carku jump starter; right?

21 A. Correct.

22 Q. This model also does not include a USB input
23 port; right?

24 A. That's correct.

25 Q. Could we go to the next page, please.

1 Here on this page is yet another different model
2 of Carku jump starter product; right?

3 A. That's correct.

4 Q. This is the E-Power 21 model that you discussed
5 with counsel earlier; right?

6 A. Correct.

7 Q. This product also does not include a USB input
8 port; right?

9 A. That's correct.

10 Q. The battery capacity for the E-Power 21 product
11 is 1800 milliamp-hours; right?

12 A. That's what's listed on the brochure.

13 Q. Carku was aware of USB charging technology;
14 right?

15 A. Yes, they were.

16 Q. Carku itself chose to not include a USB input
17 for the E-Power 21; right?

18 A. It's not included. That's correct.

19 Q. Carku itself chose to not include a USB input
20 for each of the jump starters disclosed in its product
21 brochure, other than the E-Power 10 product; right?

22 A. The E-Power 10 is the only one that has a USB
23 input. That's correct.

24 Q. Could we pull up RX-1410, please.

25 This is the Xinfang patent reference, which you

1 testified about yesterday; right?

2 A. I believe so, yeah. That's correct.

3 Q. The Xinfang patent application was filed on
4 October 31, 2013; right?

5 A. That's correct.

6 Q. That filing date was roughly eight months before
7 the asserted patents; right?

8 A. Roughly, yes.

9 Q. You testified to opinions yesterday that Xinfang
10 discloses a portable jump starter; right?

11 A. Correct.

12 Q. You testified to opinions yesterday that the
13 Xinfang jump starter would be about the size of a shoe. Do
14 I have that right?

15 A. That's, I think, the analogy that I used, yes.

16 Q. The Xinfang jump starter has two USB output
17 ports for charging external electronic devices; right?

18 A. Yes, it does.

19 Q. The Xinfang jump starter does not have any USB
20 input port; right?

21 A. That is correct.

22 Q. Mr. Xinfang, the inventor of the Xinfang jump
23 starter must have been aware of the USB charging
24 technology; right?

25 A. I don't know for certain, but I would imagine

1 so.

2 Q. Mr. Xinfang, approximately eight months before
3 the asserted patents, chose to only include a USB output
4 port and not a USB input port on his jump starter; right?

5 A. I believe 34 has a barrel input for the charger.
6 That's how I would understand that.

7 Q. The Xinfang jump starter does not include a USB
8 input port; right?

9 A. That's right.

10 Q. All right.

11 MS. COMFORT: Thank you.

12 No further questions.

13 REDIRECT EXAMINATION

14 BY MR. PATARIU:

15 Q. Can we please pull up RX-2914 at page 35?

16 Dr. Ricketts, you were asked about -- only a
17 yes-or-no question about Paragraph 93 and the second
18 sentence.

19 Do you recall that?

20 A. I do.

21 Q. Would you please read the second sentence, and
22 let me know when you're finished.

23 A. Okay.

24 Q. What did you mean when you wrote the US --
25 sorry. I'll start again.

1 What did you mean when you wrote that sentence?

2 A. So the USB-C cable then joins the USB-A and B,
3 and the A and B can provide bidirectional power transfer
4 using Power Delivery 1.0.

5 Q. We can take that down.

6 Do you recall being asked a number of questions
7 by Mr. Cochran about the progress of USB-C and before the
8 standard was released and what the public was being told
9 about it?

10 A. Yes, I do.

11 Q. Do you know what the USB-IF is?

12 A. It's the USB Implementers Forum.

13 Q. Mr. Cochran, in fact, showed you a document
14 authored by the USB-IF; right?

15 A. That's correct, yes.

16 Q. Can we please pull up CX-746, please.

17 This is another update from the USB Implementers
18 Forum; is that right?

19 A. That's correct, yes.

20 Q. Can we scroll down to the bottom. All the way
21 to the bottom, please.

22 USB Power Delivery Specification 2.0. Let's get
23 that on the screen.

24 What did the USB Implementers Forum inform the
25 public -- sorry. Let's go to the top for just a moment,

1 please.

2 What's the date on this document?

3 A. It's "June 9, 2014."

4 Q. Now, let's go back to the bottom.

5 What did the USB Implementers Forum inform the
6 public about the -- what changes would be required to the
7 USB power delivery specification?

8 A. So they let everyone know that the USB power
9 delivery specification was being updated to enable USB
10 power delivery to support the Type-C cable that's coming,
11 and then they gave a few details that focus areas are
12 definition of a new digital-based physical layer for USB
13 power delivery communications.

14 I'll just reference, that's important because
15 you can't do power delivery unless you can negotiate. You
16 can't negotiate unless you can communicate.

17 And a few other things that are on here.

18 Q. Were those changes complete as of the date of
19 this publication?

20 A. They weren't complete, and other than this
21 document, I haven't seen any reference to what they would
22 be.

23 Q. How do these changes relate, if at all, to
24 bidirectional power transfer or the negotiation required
25 for that?

1 A. To do bidirectional power transfer with Type-C,
2 you had to use new pins, and it was an entirely different
3 communication system. So USB was updated to 2.0, and that
4 was released the same day as the USB-C specs.

5 So they were released, if you will, as a pair,
6 because you couldn't do bidirectionality unless you had the
7 new communication protocol.

8 Q. So Mr. Cochran asked you a few questions about
9 USB connectors and different things that were discussed or
10 perhaps shown at the Intel Developers Forum and described
11 in bullet points on other websites.

12 Do you recall that?

13 A. I do.

14 Q. So could someone build a connector using the
15 information that Mr. Cochran talked with you about --
16 sorry.

17 Would someone looking at the other information
18 understand how to build a connector or the requirements for
19 the signals that would -- for the USB circuit that would
20 pass signals through that connector using those articles?

21 A. No. As I mentioned, it was just an artist's
22 rendition. You can't even see how many pins the connector
23 would have. So you wouldn't be able to build it.

24 MR. PATARIU: Great. Thank you. Nothing
25 further.

1 MR. COCHRAN: No recross, Your Honor.

2 MS. COMFORT: Nothing further from the Staff,
3 Your Honor.

4 JUDGE BHATTACHARYYA: Thank you, Dr. Ricketts.

5 I believe there were a couple of objections
6 outstanding relating to the schematic for the E-Power 21.

7 If Complainant could identify the portions that
8 they believe are subject to a motion to strike, just
9 identify the transcript pages, I will take it under
10 advisement.

11 MS. WILKES: Thank you, Your Honor.

12 MR. PATARIU: Your Honor, with that, our
13 case-in-chief is completed, for Respondents.

14 (Carku Respondents rest case-in-chief.)

15 JUDGE BHATTACHARYYA: Thank you.

16 MR. PATARIU: Your Honor, just for housekeeping
17 purposes. With respect to that motion to strike
18 submission, I wasn't sure, because some of it happened when
19 I wasn't in the courtroom yesterday, if there's any
20 submissions that Respondents would need to provide with
21 that, or is that -- with NOCO's submission, that's
22 complete.

23 JUDGE BHATTACHARYYA: Well, this issue was
24 argued yesterday morning, I believe, and someone from your
25 side had an opportunity to present the portions of the

1 expert report where they believed the disclosures were with
2 respect to the circuitry of the E-Power 21.

3 So I'm not expecting there to be additional
4 argument on either side.

5 MR. PATARIU: Yeah. Sure. Thanks. I
6 understand that.

7 I think I provided yesterday, now that I recall,
8 another citation for your consideration about that. Sorry.
9 Now I recall that. Thank you.

10 JUDGE BHATTACHARYYA: But that does remind me
11 that I believe your representative from -- for the Carku
12 Respondents referred to two appendices to the expert report
13 that are essentially the contention responses.

14 And I wasn't able to easily find them in Box.
15 So if those could be uploaded to Box, that would be
16 helpful.

17 MR. PATARIU: Thank you, Your Honor. We'll take
18 care of that right away.

19 JUDGE BHATTACHARYYA: Thank you.

20 Are we ready to proceed with the Complainant's
21 rebuttal?

22 MS. WILKES: Yes, we are, Your Honor. We call
23 Dr. Ayman Fayed.

24 JUDGE BHATTACHARYYA: Welcome back, Dr. Fayed.
25 Do you understand that you are still under oath?

1 THE WITNESS: Yes, I do.

2 Whereupon--

3 AYMAN FAYED, PhD,
4 having been previously duly sworn, was examined and
5 testified as follows:

6 MR. COCHRAN: May I proceed?

7 JUDGE BHATTACHARYYA: Yes.

8 DIRECT EXAMINATION

9 BY MR. COCHRAN:

10 Q. Dr. Fayed, welcome back.

11 Did you hear Dr. Ricketts' testimony about the
12 validity of the asserted NOCO patents?

13 A. Yes, I have.

14 Q. Do you have responses to Dr. Ricketts' validity
15 opinions?

16 A. Yes, I do.

17 Q. Have you prepared demonstratives to aid in your
18 testimony today?

19 A. I have, yes.

20 Q. All right.

21 If you could turn to Tab CDX-12C in your binder.

22 A. Can you repeat the number?

23 Q. It should be CDX-12C.

24 Somebody's coming to the rescue, it appears.

25 THE WITNESS: Oh, okay. Because I wasn't able

1 to see it. Thank you.

2 BY MR. COCHRAN:

3 Q. CDX-12C. Can you identify CDX-12C, Doctor?

4 A. Yes. This is a copy of my slides, demonstrative
5 slides, yes.

6 Q. Let's start with CDX -- you don't have to look.
7 I'm going to bring something for you to look at.

8 Let's start with CDX-12, page 2.

9 Sorry. If you could bring up CDX-12.2.

10 MR. COCHRAN: Your Honor, I think it's going to
11 help the testimony if we can actually show the slides. Our
12 technician is telling me it's going to take just a minute
13 to blow them up.

14 JUDGE BHATTACHARYYA: Sure.

15 MR. COCHRAN: Would it be okay if we took a
16 couple-of-minute break, and then we'll get the slides ready
17 and then we can come back and continue? My apologies.

18 JUDGE BHATTACHARYYA: No problem. That's fine.
19 Take a break for a couple of minutes.

20 (RECESS, 2:36 p.m. - 2:43 p.m.)

21 JUDGE BHATTACHARYYA: Go ahead.

22 MR. COCHRAN: May we proceed. Apologies for the
23 logistical issue on our side, Your Honor.

24 BY MR. COCHRAN:

25 Q. If we could bring up CDX-12 at page 2.

1 Let's start with the validity of the '023 and
2 the '243 Patents.

3 Dr. Fayed, are your validity opinions for the
4 '023 and the '243 Patents the same?

5 A. Yes, they are. Both patents have overlapping
6 claims, and Dr. Ricketts also used overlapping references.
7 So, my opinions are the same for both.

8 Q. Let's turn to CDX-12C.3.

9 Dr. Fayed, can you summarize Dr. Ricketts'
10 invalidity opinions for the '023 and the '243 Patents?

11 A. So my understanding of the opinions is that he
12 believes that the patent claims are invalid. There were
13 two primary references that he identified for that purpose:
14 One is the E-Power 21, and the other one is Richardson.
15 And that, in combination with other secondary references,
16 the E-Power 10, Zhou, Zhang, Thomason, LT1618, that
17 combination he believes would render the patent claims
18 obvious.

19 That's one reason.

20 Another reason is I believe he also says that
21 the claims are invalid for lack of what is called written
22 description.

23 Q. At a high level, what is your response to those
24 opinions?

25 A. I don't agree with either of these opinions.

1 MR. COCHRAN: I think we can go on the Carku
2 confidential record because we're going to talk about some
3 of the Carku prior art.

4 JUDGE BHATTACHARYYA: Moving to the Carku
5 confidential record.

6 (Whereupon, the trial proceeded in confidential
7 session.)

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1 O P E N S E S S I O N

2 BY MR. COCHRAN:

3 Q. Do you believe that a person of skill in the art
4 would have had any reason to modify Richardson's recharging
5 system?

6 A. Modify Richardson for what?

7 Q. His recharging system.

8 A. Modify the recharging system of Richardson?

9 Q. Yeah.

10 A. I think the way that Richardson proposed how to
11 charge such a device is quite interesting and quite
12 practical.

13 Would somebody be motivated to change the
14 charging system? I mean, if you examine the patent
15 specification, would we say that this -- I believe that
16 they say that this can be charged through the clamps from
17 the vehicle within, like, one to five minutes, something
18 around that.

19 That's fantastic. I mean, that's like, you
20 can't do it better than that, at least as far as I know.
21 So why would anybody be motivated to modify that? I
22 honestly cannot think of any reason why -- because you have
23 to -- to modify, you have to -- it has to be an improvement
24 of some sort, right. So your improvement is going to be,
25 what, either the convenience of charging, or the speed of

1 charging. These are the two factors that we typically look
2 at.

3 What's more convenient than charging from the
4 same vehicle that you are jump-starting? I can't think of
5 anything. And within one to five minutes, you can charge
6 this massive device, I also can't think of a charging
7 scheme that will achieve both the convenience and the speed
8 of what Richardson is proposing.

9 So I don't believe somebody would be motivated
10 to change it, no.

11 Q. Let's turn to CDX-12.21.

12 Dr. Fayed, what about the combination of
13 Richardson and Zhou or LT1618; what's your opinion on those
14 combinations?

15 A. Right. So that combination is interesting in
16 the sense that it takes two things that belong to
17 completely different worlds, and combines them in ways that
18 I do not believe will offer any improvement, and if
19 anything, will make things worse.

20 The reason I say that is if you look at Zhou, if
21 you look at LT1618, these are all basically battery
22 chargers that are single-cell battery chargers, we
23 typically call them.

24 The application there is targeting low-power
25 types of applications. A cell phone, you know, some tiny

1 portable devices, a PDA, which don't exist anymore, became
2 obsolete. At that time, a PDA, a portable music player,
3 you are talking about really tiny devices that have a
4 single lithium-ion cell that you can, you know, charge it
5 from a very limited kind of energy source, like USB, for
6 example.

7 So arguing that I can take these types of
8 chargers and put it on a device like Richardson with its
9 massive battery and size, I don't know it -- like, I cannot
10 tell you by the numbers how long it will take to charge a
11 device like Richardson from any of these DC-to-DC
12 converters, but I imagine it's not going to be any time
13 that anybody would consider practical.

14 Q. All right.

15 Let's turn to CDX-12.22.

16 What about the combination of Richardson with
17 either of those two references, what would it look like?
18 What would be the issues there?

19 A. Yeah. As I just discussed, you know, the amount
20 of time that it will take to charge such a very large
21 battery with some sort of a USB port that is designed for
22 low-power, single-cell, lithium-ion kind of application,
23 it's not practical, in my opinion. It's not going to
24 provide any improvement; not in charging time, not in
25 convenience, for sure.

1 As you can see here, the specifications of
2 Richardson talks about one to five minutes to charge this
3 system from the vehicle, as opposed to a USB port, it's
4 going to take much longer.

5 Q. Let's turn to CDX-12 at 23.

6 Dr. Fayed, are your opinions regarding
7 Richardson and Zhou and the LT reference the same for
8 Claims 39 and 54 as they are for -- that we have been
9 discussing for Claim 1?

10 A. Yes.

11 Very overlapping prior art that was used by
12 Dr. Ricketts there, and the claim language is also
13 overlapping, so my opinions are essentially the same.

14 Q. All right.

15 Let's turn to CDX-12.24.

16 Turning to Claim 18 -- Claims 18 and 19 of the
17 '023 Patent, what is your opinion about those claims with
18 respect to Richardson?

19 A. Yeah. So I don't believe that Richardson
20 discloses this claim in any way. There is a fundamental
21 difference in the behavior.

22 What Richardson does is that if you connect, and
23 it determines the polarity is correct, right, and it
24 determines that the battery is, you know, extremely low or
25 completely dead, as Richardson describes, what happens is

1 that the Richardson device will actually not jump-start the
2 vehicle. It will just recharge the battery, right. So it
3 doesn't -- and that's very different than the claim -- than
4 Claim 18, and if you look at the specification, the
5 description of what is happening is that you -- okay, the
6 battery is too low or dead, then you allow power to come
7 through so that you jump-start the vehicle, not to charge
8 the vehicle.

9 Richardson just very different approach there,
10 and it doesn't actually do -- it doesn't allow
11 jump-starting. It will just recharge the battery. So it
12 will act as if it's a recharging station, not a jump
13 starter anymore. So that's a very different approach than
14 Claim 18.

15 Q. CDX-12.25.

16 What about the additional -- the addition of
17 limitations in Claim 19; what's your view on Claim 19 with
18 respect to the Richardson and Zhang combination?

19 A. Right. So that's -- again, this is basically
20 how you activate that manual mode, and if you look at
21 Richardson, it has actually a little bit more complex kind
22 of approach to this issue. It basically looks at how many
23 jump-starting attempts that you have done.

24 It doesn't really -- you don't have to, like,
25 press a button for, like, some predetermined period of

1 time, and then release that. It basically looks for you to
2 press it at least twice.

3 So it does have, like, an end gate in terms of
4 the conditions between the number of jump-starting attempts
5 that you've done, and also the pressing of the button.

6 So it's a different approach.

7 Q. Okay.

8 CDX-12.26.

9 In your opinion, would a person of skill in the
10 art have considered it obvious to combine this Richardson
11 with the Zhang reference on Claim 19?

12 A. I don't believe so. As I just explained, you
13 know, Richardson does not apply jump start power
14 immediately. It could actually take quite a bit of time to
15 recharge the dead battery. Zhang doesn't do that. Zhang
16 just applies the jump starter power right away.

17 So they're just not the same thing. They're not
18 compatible with each other.

19 Q. Let's turn to CDX-12.27.

20 Regarding Claim 32 of the '023 Patent, what's
21 your response to Dr. Ricketts' opinions with respect to
22 Claim 32 in Richardson?

23 A. So a couple of items there.

24 First of all, as we have established, Richardson
25 will charge its battery through the clamps, from the

1 vehicle that is providing power. So there is really no
2 DC-to-DC conversion circuitry at all in that path. It's
3 just straight from the vehicle into the Richardson device.
4 So that's very different. There is no DC-to-DC conversion
5 involved here.

6 Also, to my knowledge, and my review of all of
7 the material, I don't believe that Dr. Ricketts identified
8 in Zhou anything about turning on and off a DC-to-DC
9 controller using a microcontroller, or anything else for
10 that matter.

11 Q. CDX-12.28.

12 Dr. Fayed, can you summarize your responses to
13 Dr. Ricketts' theories about Richardson.

14 A. So, again, my opinion, as far as the '023 Patent
15 claims, I do not believe that they are obvious when you
16 look at Richardson, in view of any of the secondary arts
17 that were provided, Zhou or LT1618 or any other prior art
18 that I have seen.

19 The '243 claims is the same way, just because
20 the language is basically the same.

21 Q. Let's turn to CDX-12 and page 29.

22 Let's shift over and talk about the written
23 description theories that Dr. Ricketts has put forth.

24 You considered Dr. Ricketts' written description
25 theories; correct?

1 A. Yes, I have.

2 Q. Let's go to CDX-12.30. Can you summarize your
3 understanding of Dr. Ricketts' theories regarding the
4 written description issue?

5 A. So my understanding of that opinion is there are
6 claims in '023 that only recite polarity detection. The
7 argument there is that in the patent specification, the
8 description also includes the presence detection. So that
9 means that the claims that do not mention presence detector
10 somehow become invalid because they're not really described
11 in the patent. That's my understanding of the legal
12 meaning of this.

13 Q. What about the second point?

14 A. I'm sorry?

15 Q. What about the second point?

16 A. The second one, and that's a big one,
17 bidirectional USB input connectors and USB input circuits,
18 were not known in July 2014. I think that's the opinion
19 that was stated.

20 Q. Let's turn to CDX-12.31.

21 Starting with Dr. Ricketts' opinions about the
22 polarity and presence sensors, what's your understanding of
23 what the '023 Patent specification discloses about these
24 two sensors?

25 A. If you examine the -- all of the schematics in

1 the patent and also the specification, you can clearly
2 identify both sensors. They are both there, the polarity
3 sensor and the presence sensor.

4 They're essentially identical circuits, by the
5 way. The only difference is that you will have them
6 connected to different pins; right. So you just swap the
7 pins, and the direction of the diode will also have to be
8 flipped. Otherwise, these two circuits are essentially
9 identical.

10 Both are described in the patent. Most of the
11 circuit claims are actually mentioned in only the polarity
12 detection, rather than the presence sensor. But both of
13 them are described in the context of the patent.

14 Q. Let's bring up CDX-12.32.

15 What does the '023 Patent specification tell you
16 about the sensors?

17 A. Yeah. That's what I was just explaining there.

18 Basically, if you examine the difference between
19 the figure to the left and the figure to the right, you
20 will notice that it's just -- it's the same circuitry.
21 It's just flipping which two lines you are connected to and
22 also flipping the right direction to ensure the proper
23 operation there.

24 So they behave exactly the same way. They're
25 very similar. It's an additional feature to the jump start

1 -- that's the presence detector, that is.

2 You know, the jump starters and most electronics
3 devices, they evolve over time; right? So you could have
4 -- I mean, now you have all of these devices that have
5 spark protection, for example. You have other additional
6 safety features that didn't exist in earlier versions.

7 So over time, these things evolve, and more
8 features will be added. That's perfectly expected.

9 The polarity -- the detection circuit, the fact
10 that it is there and it's described in the preferred
11 embodiment is an established thing, so...

12 Q. Let's turn to CDX-12.33, and going back to
13 Dr. Ricketts's opinions about bidirectional USB power
14 transfer, what's your response to that?

15 A. I completely disagree with it. Bidirectional,
16 you know, input circuits and ports were known definitely
17 before July 2014. USB power delivery specifications were
18 available, I believe sometime in 2012. USB ports that had
19 dual-role purposes, that they can transmit power, receive
20 power, these were all established in the USB power delivery
21 specifications prior to 2014.

22 So that all existed, at least bidirectional
23 input circuits. Some ports were known.

24 Now, as I had mentioned in my previous
25 testimony, the thing that happened when USB-C was released

1 is related to that connector; right.

2 Before USB-C, you had a cable, Type-A on one
3 side, Type-B on one -- you could not arbitrarily connect
4 one to the other, even if these ports were defined to be
5 bidirectional so -- which is definitely a possibility.

6 Remember, even you look at them and it will have
7 a blue thing so that you can distinguish, but you can
8 connect your laptop to, you know, your screen and it will
9 charge it, but you cannot just flip the tape, right.

10 USB-C came along, and now you don't even have to
11 worry about that. It's the same, exact mechanical thing.
12 You flip the cable any way you want, it fits, you don't
13 have to think about it. That's really the big value that
14 USB-C brought in.

15 The official release date, my understanding, was
16 that it's August 2014. That's the USB-C.

17 But, again, as it has become, I think, clear
18 throughout the investigation that these connectors and all
19 were known to people prior to that, but I'll let -- I'll
20 let you guys debate that outside of me, so...

21 Q. Let's turn to CDX-12.35, and switching gears
22 here. 35. Thank you. CDX-6.35, and let's talk for -- a
23 bit about '992 and the '808 cable plug patents.

24 Did you consider evidence -- did you consider
25 the evidence relating to the '992 and '808 Patents? The

1 validity evidence?

2 A. I have, yes.

3 Q. If we could turn to CDX-12.36.

4 Dr. Fayed, can you summarize Dr. Ricketts'
5 positions regarding the '992 -- your understanding of
6 Dr. Ricketts' positions regarding the '992 and the '808
7 Patents?

8 A. So my understanding that Dr. Ricketts used two
9 primary references, the Sodemann and then the JP3182855
10 reference.

11 He argues that it would have been obvious to
12 combine these references with some other secondary
13 references, like Errato, for example, or JP3185027, in
14 order to -- that -- in a way that will make these patent
15 claims invalid, the '992 Patent.

16 Q. Let's turn to CDX-12 at 37. Starting with the
17 Sodemann reference, you considered the Sodemann reference
18 in your analysis?

19 A. Yes, I have.

20 Q. In your view, did the Sodemann reference
21 disclose or render obvious the claims of the '992 and '808
22 Patents?

23 A. No.

24 Q. Let's turn to CDX-12 at 38.

25 Dr. Fayed, can you explain what is shown here on

1 CDX-12.38 with respect to the cable assemblies that here
2 described in Sodemann.

3 A. So these figures, they show you basically the
4 clamp structure and the plug and how they are connected to
5 each other.

6 The only thing I will point out, and we will
7 discuss that maybe in detail in time, that blue piece that
8 you can see in Figure 6D, I think you're not giving that
9 piece justice, so I will say a few things about that little
10 piece.

11 As you can see here in the figure, the clamps
12 are connected to that blue piece, and that blue piece has a
13 couple of cables that go into the plug. There's a
14 significant difference that must be highlighted in this
15 discussion.

16 Q. Let's turn to CDX-12.40. Focusing just on claim
17 element 1[b], the pair of cables claim element.

18 What's your opinion about whether claim element
19 1[b] is met by the Sodemann reference?

20 A. So my opinion, it's related to whether they're
21 integrated with the plug or not; right.

22 Of course, as you can see here in Figure 6D,
23 it's obviously not integrated in the plug. But I want to
24 explain why this is very significant.

25 So let's talk a little bit about the blue piece

1 that is in that figure; right. I believe I heard
2 Dr. Ricketts testify earlier that, you know, you would need
3 something mechanical to hold it in place so that you reduce
4 the stress to the plug, which is absolutely true. That's
5 really how it happens.

6 I would even like to give an example that maybe
7 will make it easier for people to see, you know, why this
8 is very important.

9 You know, how many times, you know, your child
10 will come and complain that the cable to charge their phone
11 started to come off the plug? All the time; right?
12 Because they yank the cable, and it just keeps cutting that
13 wire. You know, the first thing as an engineer I do, I
14 either could go and look for a much more durable, stronger
15 cable, that's one thing I could do, the other thing, I get
16 a piece of Velcro, and I stick that cable at an earlier
17 point from its connection to the charger, so that when they
18 yank it, they never yank the actual plug; right. That's
19 just something to kind of -- so that's what that blue thing
20 does.

21 Now, why is this significant? Because unlike
22 what we have seen in the NOCO products or the accused
23 products, when you don't have that, it just -- it's a huge
24 impact on the specs that you need to comply with for that
25 building of that plug.

1 The fact that you don't have that piece, right,
2 relaxes that design of the plug where you don't have to
3 worry too much about these cables being, you know, very
4 tight and integrated with the body of the plug because they
5 don't have to handle the same kind of mechanical stress.

6 So just remove that, and your spec for the plug
7 will completely change. So that's a significant difference
8 that must be noted here, as far as integrated to the plugs
9 has a big -- big meaning, big meaning, yeah.

10 Q. All right. Thank you, Dr. Fayed.

11 I'll pass the witness, with that.

12 JUDGE BHATTACHARYYA: Let's take a 15-minute
13 break before we begin the cross-examination.

14 (RECESS, 3:36 p.m. - 3:51 p.m.)

15 MR. PATARIU: May I proceed, Your Honor?

16 JUDGE BHATTACHARYYA: Yes. Please go ahead.

17 CROSS-EXAMINATION

18 BY MR. PATARIU:

19 Q. Can we please pull up CDX-12C at page 20.

20 So in your testimony a few moments ago, you
21 said, "I was informed that the Richardson Infinity Series
22 jump starter that's pictured here was some sort of
23 commercial realization disclosed in the Richardson patent."

24 Do you recall that?

25 A. Yes.

1 Q. Who told you that?

2 A. The attorneys.

3 Q. Okay.

4 You can take this down.

5 Did you form your understanding of the
6 disclosure of the Richardson patent based on the pictures
7 and other information that you received about the
8 Richardson jump starter?

9 A. Did I -- repeat the question again. I'm sorry.

10 Q. Did you inform some of your impressions or
11 opinions about the scope of the disclosure of the
12 Richardson patent reference by what is disclosed in the
13 pictures or other information that you received about the
14 Richardson jump starter product?

15 A. I have formed my opinions about Richardson by
16 studying that patent disclosure itself. These pictures and
17 what I was told was a commercial embodiment of this patent
18 was a confirmation of my understanding of what I read in
19 the patent itself.

20 Q. So, sir, this is a yes-or-no question.

21 The Richardson patent reference does not
22 disclose anything about the dimensions of the device; yes
23 or no?

24 A. It does not disclose -- no. It does not
25 disclose dimensions of the device.

1 Q. The Richardson patent reference doesn't disclose
2 anything about the weight of the device; yes or no?

3 A. Not to my recollection.

4 Q. The Richardson device does not disclose anything
5 about -- sorry.

6 The Richardson patent does not disclose anything
7 about the battery capacity in amp-hours or milliamp-hours;
8 yes or no?

9 A. Not to my recollection. It describes that it's
10 used for trucks, and it's 48-volt. And that is the
11 heavy-duty aspect of things, but I do not recall a specific
12 capacity number, no.

13 MR. PATARIU: I'm going to move to strike
14 everything after his statement, "Not that I recall."

15 JUDGE BHATTACHARYYA: Motion is granted. Oh,
16 any response from NOCO?

17 MR. COCHRAN: He answered the question, Your
18 Honor.

19 JUDGE BHATTACHARYYA: All right.

20 I'll grant the motion to strike the answer after
21 "Not to my recollection."

22 Just to be clear, Dr. Fayed, if you're asked a
23 yes-or-no question, you should answer yes or no. Or if you
24 can't answer yes or no, say, "I can't answer yes or no."

25 THE WITNESS: Okay.

1 JUDGE BHATTACHARYYA: And that should be the end
2 of your answer.

3 THE WITNESS: Thank you.

4 BY MR. PATARIU:

5 Q. In the course of your work in this
6 investigation, you offered -- sorry, this is another
7 yes-or-no question.

8 In the course of your investigation -- in the
9 course of the work that you did -- sorry, I'll start again.

10 This is a yes-or-no question.

11 In the course of the work you did over the
12 course of this investigation, did you offer the following
13 opinion: "A person of skill in the art, therefore, would
14 likely conclude that adding a USB charging facility is only
15 useful maybe as an optional/secondary method of charging
16 (perhaps overnight) when the device is not being used, and
17 that the device must have a primary method that can charge
18 the device at a reasonable rate"?

19 A. Yes. I --

20 (Whereupon, the trial proceeded in confidential
21 session per later discussion.)

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25

1 O P E N S E S S I O N

2 BY MR. PATARIU:

3 Q. You can take that down.

4 Dr. Fayed, you had said some of the concern that
5 you had concerning E-Power 10 and the schematics you looked
6 at was that there was no switch in the schematics that you
7 looked at for the E-Power 10; right?

8 Maybe I'll ask a better question.

9 A. Yeah.

10 Q. You had a concern that the power from the
11 lithium-ion battery pack was not connected through the
12 circuit board to a port for the jumper -- for the jump
13 start power output in the E-Power 10; right?

14 A. I don't remember anything about that.

15 Q. Maybe I can ask a better question.

16 Mr. Cochran asked you that there is -- the
17 schematic for the E-Power 10 did not have a port for -- to
18 connect to the jumper cables.

19 Do you recall that?

20 A. I recall that, yes.

21 Q. That was one of your concerns about why this
22 might not be the schematic that Dr. Ricketts, or anyone
23 else who testified here, said it was; right?

24 A. That is correct.

25 What I meant by the "ports" there is basically

1 where do you connect to the car battery.

2 Q. Yes.

3 A. Yes.

4 Q. So you had an opportunity to look at physical
5 samples of the E-Power 10; right?

6 Do you understand they were made available for
7 inspection, sir?

8 A. As I have mentioned, and testified before, I
9 have not done functional testing of any of these devices.

10 Q. So I have an E-Power 10 right here, RPX-7. You
11 never looked at it; right?

12 A. I have not looked at that physical sample, no.

13 Q. You haven't looked inside of this device to
14 understand if your concern about this was misplaced; right?

15 A. I have not looked at that device physically, no.

16 Q. I have RPX-7. You see that I have opened it up
17 to show you the inside of RPX-7, right, sir?

18 A. Correct.

19 Q. The blue output, that's -- the blue connector
20 here, that's the EC-5 connector to provide jump start
21 power; right?

22 A. It appears to be a connector that provides power
23 to something.

24 Q. Okay.

25 The blue and red wires go to the battery; right?

1 A. Correct.

2 Q. Sorry. The black and red wires go from this
3 blue connector to the battery; right?

4 A. Without taking -- let me re-correct my answer
5 here.

6 Without taking this out, I can't really see
7 where those wires are connected, so I cannot tell.

8 Q. How about now, sir?

9 A. They appear to be connected to... I'm not 100
10 percent sure. I mean, they appear to be connected to the
11 battery. At least from that pinch point, they appear to be
12 connected, but I don't know for sure.

13 Q. Can we please take an image of this and mark it
14 as RDX-205.

15 I just have two more questions.

16 Dr. Fayed, do you agree that a safety feature of
17 the jump starters described in the '023 and '243 Patents is
18 a battery presence sensor which detects the presence of a
19 vehicle battery connected between the jump starter clamps?

20 A. The '023 Patent, in one of the claims and also
21 in the specification, does describe a presence sensor that
22 is used as part of the device.

23 Q. So you agree with that statement; yes or no?

24 A. Repeat the statement.

25 Q. Sure.

1 Do you agree with this statement, yes or no: A
2 safety feature of the jump starters described in the '023
3 and '243 Patents is a battery presence sensor which detects
4 the presence of a vehicle battery connected between the
5 jump starter clamps?

6 A. Yes.

7 Q. One last question.

8 Yes or no: Do you agree that another safety
9 feature of the jump starters described in the '023 and '243
10 Patents is a polarity sensor which detects the polarity of
11 the jump starter clamp's connection to the vehicle battery?

12 A. Yes.

13 MR. PATARIU: Thank you.

14 Nothing further.

15 EXAMINATION BY COUNSEL FOR ITC STAFF

16 BY MS. COMFORT:

17 Q. Dr. Fayed, did you formulate any opinions with
18 respect to secondary considerations of nonobviousness for
19 the asserted claims of the '023 and '243 Patents?

20 A. Yes, we considered -- I considered Errato, that
21 GP devices. These were all secondary references. So I
22 considered that, yes.

23 Q. What were your opinions with respect to
24 secondary considerations of nonobviousness, specifically
25 for the asserted claims of the '023 and '243 Patents?

1 A. My opinions is that none of them disclose these
2 claims.

3 Q. I'm sorry. I'll re-ask my question.

4 Did you formulate any opinions with respect to
5 objective indicia of nonobviousness for the asserted claims
6 of the '023 and '243 Patents?

7 A. With respect to what?

8 Q. Objective indicia of nonobvious, such as
9 commercial success, long-felt need.

10 A. I do not recall that I have looked into
11 commercial success or needs, no.

12 Q. Has USB charging technology changed from a
13 speed, power, or capacity standpoint from July 2014 until
14 now?

15 A. Have charging capacity, you mentioned?

16 Q. Has USB charging technology changed from a speed
17 standpoint from July 2014 until now?

18 A. I don't know what you mean by "speed." Do you
19 mean power capability?

20 Q. Sure.

21 Has USB charging technology changed from a power
22 capability standpoint from July 2014 until now?

23 A. Well, in July 2014, USB power delivery was
24 already disclosed. USB-C came out. That defined all the
25 power profiles that already included 20-volt.

1 So as far as power capacity goes from that time
2 until now, I do not believe that the power capacity or
3 capability has changed since that disclosure of USB-C and
4 USB power delivery.

5 I'm saying that just because I know that 20-volt
6 was disclosed at that time already. Since that time, I
7 have not been aware of any -- anything other than that
8 20-volt or higher than that.

9 Q. Is USB charging technology existing today faster
10 than USB charging technology that existed at the time of
11 the patent filing?

12 A. Again, I don't know what "faster" in that
13 context means.

14 When you are talking about USB charging speed,
15 that's a function of, you know, the size of the battery
16 that you will be charging. So with the same output power
17 from a USB port, how long it will take you to charge, say,
18 your cell phone versus another bigger device, will change
19 based on the size of that device. So that's why speed --
20 I'm not sure what you mean by that.

21 But if you are talking about power capacity,
22 like output power, how much output power the USB port can
23 give, there are a variety of power profiles, you know, at
24 different voltage levels and current levels all the way to
25 20-volt.

1 I am not aware since that time of any other
2 voltage levels that were introduced in the spec to increase
3 the power capacity.

4 Q. If you take a given battery size, can you charge
5 that battery more quickly with USB technology today than
6 you could with the USB technology that existed at the time
7 of the patent filing?

8 A. Okay.

9 So the specifications at the time did
10 accommodate power profiles that go all the way to 20-volt,
11 and can provide higher capacity. But it did take the
12 industry a while to be able to implement all of the chips
13 that will be needed to be able to provide that power
14 capacity.

15 So in that sense, yes, it did improve, but it
16 didn't improve because it was not defined at the time that
17 you were supposed to be able to give that capacity. It's
18 just the time it takes to propagate in the market and in
19 the industry until you produce the chargers and the
20 capability to do it.

21 So there is a gap in time between when it is
22 actually available to you as a consumer versus when it was
23 defined in the spec.

24 Q. If we take a given battery size, is it possible
25 to charge that battery with USB-C technology existing today

1 more quickly than with the 5-volt micro-USB technology
2 described in the patent?

3 A. Right.

4 So the answer to that would be a yes, because it
5 was -- you're asking specifically about micro-USB at the
6 time, and USB-C.

7 So the answer to your question is yes.

8 Q. If we assume the E-Power 10 is a prior art jump
9 starter with a micro-USB input, are there reasons an
10 ordinary artisan in July 2014 would not have sought to put
11 the same micro-USB port on every other portable jump
12 starter?

13 A. So at that time -- you're asking if there would
14 be reasons why somebody would not put micro-USB in every
15 jump starter.

16 I mean, if I was aware that USB-C was coming
17 out, then, obviously, I would have gone into the USB-C
18 direction. It's more convenient. It's -- you know, you
19 can reverse it.

20 I guess I'm not entirely sure what your question
21 is. So I'm sorry, if you can repeat one more time. I want
22 to make sure that I answer your question.

23 Q. If we assume the E-Power 10 is a prior art jump
24 starter with a micro-USB input, are there reasons an
25 ordinary artisan in July 2014 would not have sought to put

1 the same micro-USB port on every other portable jump
2 starter?

3 A. So my answer to that will definitely be a
4 function of the size of the battery starter that you are
5 talking about.

6 You know, if it's a very large capacity battery
7 starter, than a person would have considered that the
8 amount of power available at that time from USB technology
9 might not be very practical to charge it within a practical
10 amount of time.

11 If it was -- if it's a small device, then maybe
12 a person of ordinary skill of the art would have considered
13 it.

14 So again, it's contextual, and it depends on
15 what type of -- and that's assuming, of course, that that
16 was already a battery jump starter that has the micro-USB
17 port.

18 Does that answer your question? No?

19 Q. Before July 2014 were jump starters with reverse
20 polarity protection known in the prior art?

21 A. I believe so, yes.

22 MS. COMFORT: Thank you.

23 No further questions.

24 MR. COCHRAN: No redirect, Your Honor.

25 JUDGE BHATTACHARYYA: All right.

1 MR. PATARIU: I guess the witness is dismissed,
2 then, right?

3 Nothing further for the Respondents.

4 JUDGE BHATTACHARYYA: All right. Thank you.

5 Dr. Fayed, you can step down now. Thank you so
6 much for your time.

7 (Witness excused.)

8 MR. PATARIU: Just one, I guess, housekeeping
9 item. I guess I had inadvertently noticed that I did not
10 go on the confidential record for a discussion of one
11 schematic.

12 It was during the time period of 15:56:14
13 through 15:59:38 when I was discussing RX-2492C. I'm
14 wondering if I could send a note to the court reporter to
15 re-mark the transcript.

16 JUDGE BHATTACHARYYA: Yes. Yes.

17 MR. PATARIU: Thank you, Your Honor. Sorry for
18 the inconvenience.

19 MS. WILKES: Complainant rests their rebuttal
20 case, Your Honor.

21 (Complainant rests rebuttal case.)

22 JUDGE BHATTACHARYYA: All right.

23 MS. HOEKEL: Your Honor, Respondents will call
24 their first witness, and Mr. Jackson is coming up to do
25 that.

1 JUDGE BHATTACHARYYA: Okay.

2 Is our next witness Mr. Lehman?

3 MS. HOEKEL: Yes, ma'am.

4 JUDGE BHATTACHARYYA: With respect to
5 Mr. Lehman's testimony, the objection made earlier is
6 overruled.

7 The issues raised by NOCO were addressed in
8 Order Number 35, and any issues regarding the disclosure --
9 previous deposition disclosures of the 30(b)(6) witness or
10 Mr. Lehman can be discussed in post-hearing briefs with
11 respect to the sufficiency of discovery factor of the
12 oligosaccharides test.

13 MS. WILKES: Thank you, Your Honor.

14 JUDGE BHATTACHARYYA: Good afternoon,
15 Mr. Lehman.

16 THE WITNESS: Good afternoon.
17 Whereupon--

18 STEVE LEHMAN,
19 having been first duly sworn, was examined and testified as
20 follows:

21 JUDGE BHATTACHARYYA: Thank you.

22 DIRECT EXAMINATION

23 BY MR. JACKSON:

24 Q. Good afternoon, Mr. Lehman.

25 A. Good afternoon.

1 Q. Would you please state your full name for the
2 record.

3 A. Yes.

4 My name is Steve Lehman.

5 Q. Did you prepare a demonstrative for your
6 testimony today?

7 A. Yes, I did.

8 Q. Mr. Kauffer, let's go ahead and pull up
9 demonstrative RDX-0001.

10 Mr. Lehman, where are you employed?

11 A. I'm employed at ADC Solutions Services LLC.

12 Q. Is that entity related to ADC Solutions Auto
13 LLC?

14 A. Yes. It's an affiliate.

15 Q. Is your understanding that ADC Solutions Auto
16 LLC is a Respondent in this investigation?

17 A. Yes.

18 Q. This company has been referred to as ADC
19 throughout the case?

20 A. Yes.

21 Q. What's your role at the company, sir?

22 A. At ADC, I am legally vice president of that
23 organization, but for our group of companies, I am a
24 partner of the holding company, and chief corporate
25 development officer.

1 Q. Is ADC part of a broader corporate organization?

2 A. Yes.

3 ADC is a subsidiary of ADC Solutions Holdings,
4 LLC. And ADC's direct parent is a company called ADC
5 Solutions USA, LLC, which does business as Horizon Brands.

6 Q. How long have you worked there?

7 A. About six years.

8 Q. How long has ADC been in business?

9 A. Over 20 years.

10 Q. Can you briefly describe your educational
11 history.

12 A. Sure.

13 I went to college in Massachusetts at Williams
14 College, where I double-majored in math and economics.

15 Q. Let's go to slide 2, please, Mr. Kauffer.

16 What type of business is ADC engaged in?

17 A. So ADC makes products for personalizing your
18 vehicle. It ranges from what we call soft goods, which is
19 things like seat covers and seat cushions, to electronic
20 items, like jump starters and dash cams and LED lighting.

21 Q. Are portable battery jump starters an important
22 part of your company's business?

23 A. Yes, they are.

24 Q. Do you sell lots of other products as well?

25 A. Yes, we do.

1 Q. Let's move to slide 3, Mr. Kauffer.

2 Can you please describe ADC's physical presence
3 in the United States?

4 A. Sure.

5 So we have a headquarters in Costa Mesa,
6 California. We have about 90 employees at ADC and the
7 affiliates that work there. And about 50 of them are
8 involved in the auto side, including jump starters.

9 Q. About how many -- I'm sorry. You said about 50
10 are involved in jump starters?

11 A. Yes.

12 Q. Where is the executive team for ADC located?

13 A. The executive team is also located in Costa
14 Mesa, California. Actually, everybody except myself. I
15 was in the office in Costa Mesa, but a few months ago moved
16 with my family back to Zurich, Switzerland, where I lived
17 for a long time and where I met my wife. She's from
18 Austria, and we -- she got a little homesick after being in
19 California for six years, and we moved back there to raise
20 our son there.

21 Q. Let's move to slide 4, Mr. Kauffer.

22 Do you recognize these folks?

23 A. Yes. This is our team in Costa Mesa.

24 Q. Are these some of your colleagues?

25 A. Yes.

1 MR. JACKSON: Your Honor, at this time, I think
2 we need to move to the ADC confidential record.

3 JUDGE BHATTACHARYYA: We are moving to the ADC
4 confidential record.

5 (Whereupon, the trial proceeded in confidential
6 session.)

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1 O P E N S E S S I O N

2 BY MR. JACKSON:

3 Q. Mr. Kauffer, we can take down -- thanks.

4 Mr. Lehman, has ADC been engaged in other
5 litigation with NOCO?

6 A. Yes. We have faced a blizzard of litigation
7 from them.

8 Q. Has that involved any litigation in Europe?

9 A. Yes. It's involved also litigation in Europe,
10 in Germany, based on the patent from our previous ITC trial
11 with NOCO. That's a process that's ongoing. It's based on
12 the previous patent. So, yes.

13 Q. What was the initial result in that European
14 litigation regarding that patent in the same family?

15 A. The initial result was that the patent was --
16 well, initially, NOCO asserted the patent, and asserted the
17 patent to Amazon, and our product and competitors' products
18 were taken down from Amazon and unable to be sold on Amazon
19 in Germany for over a year.

20 That patent was ruled invalid, and now NOCO
21 continues to appeal that. So we continue to fight that in
22 Germany.

23 Q. I'm sorry. Just to make sure I understand. Did
24 you say NOCO had your products taken down on Amazon in
25 Europe?

1 A. Yes.

2 Q. But the patent that was at issue was ruled
3 invalid?

4 A. The patent was ruled invalid. But that took
5 some time. Until the patent was ruled invalid, Amazon did
6 not allow the products to be sold.

7 Q. Has ADC been involved in a previous ITC case
8 against NOCO?

9 A. Yeah. The one I was just mentioning before.

10 Q. Was that the 1256 investigation?

11 A. Yes.

12 Q. What's your understanding of the accused
13 products in that case versus this case?

14 A. It's the same products. My understanding is
15 that the patents in this case are in the same patent family
16 as the patent in the previous case.

17 Q. Do you recall the result of the 1256
18 investigation?

19 A. Yes. We were -- we were basically -- we won the
20 case. We were found not to infringe. Really, you know, we
21 were happy about that. And at that point, we thought that
22 we just would be able to compete fairly in the marketplace.

23 Q. Did you rely on that outcome in any way?

24 A. Yeah. We -- you know, we continued to produce
25 the product, and thought we would be able to compete

1 fairly.

2 Q. Did you think your products had been cleared in
3 relation to the family of patents?

4 A. Yes. Yes, we did.

5 Q. Then what happened?

6 A. Well, you know, here we are. And ended up back
7 in the courtroom here, sort of dealing with the same
8 accused products in a patent in the same family.

9 Q. Do you have an understanding of whether NOCO has
10 asserted these patents against other companies in the
11 industry?

12 A. So my understanding is that they have asserted
13 these patents against several other competitors, but have
14 not been successful.

15 Q. What have been the economic impacts of these
16 litigations against NOCO?

17 A. Well, you know, for our firm, it's been
18 significant. We've had to spend, honestly, a lot on legal
19 defense, on travel. We spent a lot of time, of myself and
20 others, dealing with this. So it's been very significant.

21 Q. Mr. Kauffer, let's pull up RX-4004.

22 Were you deposed in this case?

23 A. Yes, I was.

24 Q. Where did that occur?

25 A. It occurred at the Jones Day offices in Milan.

1 Q. Was the NOCO attorney present in-person for your
2 deposition?

3 A. No, they were not.

4 Q. Was your understanding that it was going to be
5 an in-person deposition?

6 A. That was my understanding, yes.

7 Q. Do you see here where it says the deposition
8 will be held at the Offices of Jones Day in Milan, Italy?

9 A. I do, yes.

10 Q. What was your understanding of whether NOCO's
11 counsel had been insisting upon in-person depositions in
12 this case?

13 A. My understanding was that it had to be
14 in-person. And the reason that we were going to the Jones
15 Day office in Milan is because that's where -- you know,
16 living in Switzerland, that's where -- that was a place we
17 could go to where it was allowed to have a US deposition.

18 Q. Was it expensive to attend this deposition
19 in-person?

20 A. It was. We -- you know, had my attorney had to
21 fly over from the United States. We were there for several
22 days preparing for the deposition, so that I could provide
23 a useful deposition.

24 I had to travel from Switzerland.

25 Q. Were you surprised that the NOCO attorney was

1 taking the deposition virtually?

2 A. I was very surprised. We learned about it the
3 night before, and immediately was questioning why I and my
4 attorney had to travel to Milan.

5 Q. Has ADC filed any actions relating to NOCO's
6 patents?

7 A. Yes, we have. We have filed two IPRs.

8 Q. Why did you do that?

9 A. You know, we did that because we just want to,
10 you know -- we don't like to be accused of infringement,
11 and we just want to compete fairly in the market.

12 Q. Does ADC have a policy or practice, in terms of
13 licensing intellectual property?

14 A. We do license intellectual property where we
15 think it's fair and just and makes sense, yes.

16 Q. Are there recent examples of you having done
17 that?

18 A. Yeah.

19 So we have trademark licenses with Michelin,
20 with Battelle. We also have a technology license with
21 Philips.

22 Even on a smaller level, we met a father-and-son
23 development team at a trade show who had some interesting
24 LED lighting technology. We signed a two-year license
25 agreement with them to try to commercialize the product.

1 And we worked with them for a couple of years.

2 Unfortunately, it didn't result in a successful
3 product in the marketplace, but we were happy with the
4 partnership, nonetheless.

5 Q. Thank you, sir.

6 MR. JACKSON: I pass the witness, Your Honor.

7 JUDGE BHATTACHARYYA: Proceed.

8 MR. EVANS: John Evans for NOCO.

9 CROSS-EXAMINATION

10 BY MR. EVANS:

11 Q. Good afternoon, Mr. Lehman.

12 A. Good afternoon.

13 Q. You know who Benson Leung is; right?

14 A. Yes, I do.

15 Q. As of the date of your deposition in this
16 investigation, he was ADC's president; correct?

17 A. Correct.

18 Q. You understand that Mr. Leung was deposed in
19 this investigation; right?

20 A. Yes.

21 Q. And Mr. Leung was deposed on October 26th, 2023;
22 correct?

23 A. Correct.

24 Q. Mr. Leung was deposed after you were deposed in
25 this investigation; correct?

1 A. That's correct.

2 Q. Mr. Lehman, I have some questions about
3 Mr. Leung.

4 In your deposition, when you were asked how many
5 prototype units the WinPlus Respondents import on a
6 quarterly basis, you testified that you had no idea; right?

7 A. I don't recall that specifically.

8 Q. Okay.

9 Let's have CX-1217C, 27 to 28, lines 104 through
10 16 to 19.

11 For the record, do you recognize your deposition
12 transcript here, sir?

13 A. Yes, I do.

14 Q. Okay.

15 Did I ask you the question: How many prototype
16 units does -- do the WinPlus Respondents import on a
17 quarterly basis, approximately?

18 A. Yes.

19 Q. Your answer was, "I have no idea. You'd have to
20 talk to R&D"?

21 A. Correct.

22 Q. I asked you those questions, and you gave that
23 answer?

24 A. That's correct.

25 (Whereupon, the trial proceeded in confidential

1 session.)
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1 O P E N S E S S I O N

2 MR. BOSCO: Your Honor, it will just take one
3 moment while I make sure we have all of the materials for
4 Dr. Horenstein.

5 (PAUSE in the proceedings.)

6 DIRECT EXAMINATION

7 BY MR. BOSCO:

8 Q. Good afternoon, Dr. Horenstein.

9 A. Good afternoon.

10 Q. Will you please introduce yourself to the Court.

11 A. Yes.

12 I'm Mark Horenstein.

13 JUDGE BHATTACHARYYA: I'll swear the witness in
14 before we go further.

15 Could you please raise your right hand.

16 Whereupon--

17 MARK HORENSTEIN, PhD,

18 having been first duly sworn, was examined and testified as
19 follows:

20 MS. WILKES: Your Honor, I'm sorry to interrupt.

21 I think we can go on the public record.

22 JUDGE BHATTACHARYYA: Yes. We should be on the
23 public record. Thank you.

24 BY MR. BOSCO:

25 Q. I know I already did this, but good afternoon,

1 Dr. Horenstein.

2 A. Good afternoon again.

3 Q. Could you introduce yourself to the Court again.

4 A. I'm Mark Horenstein.

5 Q. Dr. Horenstein, have you been present in the
6 courtroom, for the most part, since the beginning of the
7 trial?

8 A. Yes, sir, I have.

9 Q. Dr. Horenstein, did you listen to Dr. Fayed's
10 opinions regarding ADC infringement?

11 A. Yes, I did. All of them.

12 Q. Do you have some rebuttal opinions that you'd
13 like to offer?

14 A. Yes.

15 Q. Did you prepare any demonstratives to assist you
16 with providing your testimony today?

17 A. Yes, I did.

18 Q. Can you turn -- you should have a white binder.

19 Could you turn to Tab RDX-2 and confirm that
20 those are your demonstratives?

21 Can we put RDX-2 up on the screen.

22 A. You said "REX"?

23 Q. I said RDX, but, in fact, you can look up at
24 your screen. Does this look like your demonstratives?

25 A. Yes, yes.

1 Q. You can go to slide 2.

2 Dr. Horenstein, what is your field of expertise?

3 A. I'm an expert in electric circuits and
4 electronics and power electronics, analog and digital
5 design electric power systems and engineering design, in
6 general.

7 Q. Could you please give the Court an overview of
8 your educational background?

9 A. Yes. I have a PhD from the Massachusetts
10 Institute of Technology, MIT. I have a master of science
11 from the University of California at Berkeley and a
12 bachelor's degree from MIT, all in electrical engineering.

13 Q. Are you a named inventor on any patents?

14 A. Yes. Six of them.

15 Q. Let's go to the next slide, please.

16 Can you give an overview, Dr. Horenstein, of
17 your professional background?

18 A. Yes. I spent 41 years on the faculty of Boston
19 University in Boston, Massachusetts, starting at the rank
20 of assistant Professor in 1979 and working my way up the
21 ranks through associate professor and full professor.

22 I spent about eight years as one of the deans of
23 the college of engineering for graduate programs and
24 research.

25 Before my tenure at BU, I worked for a short

1 time in a corporation, Spire Corporation, where I was a
2 research scientist.

3 Q. So over those over 40 years of teaching
4 electrical engineering at Boston University, can you give
5 us an overview of some of the courses that you taught and
6 the subject matter of these courses?

7 A. Sure.

8 Pretty much the same as my area -- what I
9 indicated were my areas of expertise. I taught courses in
10 electric circuits and electronics. I started our
11 department's course in power electronics with a laboratory
12 component. I taught electromagnetics, robotics, and I
13 taught our engineering design course for about ten years as
14 well.

15 Q. How many students, would you estimate, that
16 you've taught over those four decades of teaching?

17 A. I don't know. I would estimate at 5,000, give
18 or take. I really don't know.

19 Q. Did you ever win any teaching awards?

20 A. I won teacher of the year award in engineering
21 four times over the years, including my very first year at
22 BU.

23 Q. Can we move to slide 5 -- slide 4. Excuse me.

24 Dr. Horenstein, have you ever authored any
25 textbooks?

1 A. Yes. I'm the author of two textbooks. One is a
2 major work called "Microelectronic Circuits and Devices."
3 I authored Editions 1 and 2. It was published by Prentiss
4 Hall. I'm the author of "Design Concepts For Engineers,"
5 now in its fifth edition. Also published by Prentiss Hall.

6 I'm also a named author on over 200 journal
7 articles and conference papers.

8 Q. Can you tell me a little bit about the content
9 of the textbook, "Design Concepts For Engineers"?

10 A. Well, it covers a broad range of engineering
11 disciplines, including electrical, of coursing, but
12 computer, mechanical, biomedical engineering, and civil
13 engineering.

14 It teaches students the concepts and skills
15 needed to design a product from the ground up, from a
16 statement of purpose to the finished product.

17 Q. Dr. Horenstein, are you a member of any
18 professional associations?

19 A. Yeah, a few. I'm a life fellow of the Institute
20 of Electrical and Electronic Engineers, the IEEE. I'm also
21 an international fellow in electrostatics named by the
22 European Federation of Chemical Engineers.

23 I was past president of the Electrostatics
24 Society of America, and I'm a certified engineer by the
25 National Association of Radio and Telecommunications

1 Engineers.

2 Q. Have you been admitted as an expert in prior
3 litigations?

4 A. Yes.

5 Q. How many times, would you estimate?

6 A. Probably about ten by now, including the
7 previous ITC investigation, 1256 between NOCO and WinPlus.

8 Q. So I understand your testimony, you were an
9 expert in that 1256 investigation?

10 A. That's right.

11 Q. Did your testimony involve some of the same ADC
12 jump starters that you've been analyzing for this
13 investigation?

14 A. Yes. One of them.

15 Q. Do you recall whether those jump starters were
16 found to infringe in the ADC -- in the 1256 investigation?

17 A. They were found to -- not to infringe.

18 Q. Let's move to slide 5 of your demonstratives.

19 Dr. Horenstein, can you explain just at a high
20 level what you've depicted on this slide?

21 A. This is the level of skill in the art that a
22 person of ordinary skill would have, as specified in the
23 Markman order in this case.

24 I proceeded with my investigation with this
25 level of skill in mind.

1 Q. If some of the parties had minor variations
2 proposed for the level of skill, would that impact your
3 opinions in any way?

4 A. It would make no difference at all.

5 Q. Let's look to the next slide, slide 6.

6 What are you showing here, Dr. Horenstein?

7 A. Well, again, this is the claim construction for
8 USB input circuit and USB charge circuit as specified in
9 the same Markman order.

10 I used this definition, or construal of those
11 terms, in doing my investigations as well.

12 Q. What about for any terms that were not expressly
13 construed in those patents, how did you interpret them?

14 A. I interpret them as -- interpreted them as a
15 person of ordinary skill in the art would have done it in
16 the time frame of the patent's priority date using the
17 plain and ordinary meaning of those terms.

18 Q. Let's move to slide 7.

19 Dr. Horenstein, does this slide reflect the
20 legal standards that you applied in analyzing infringement?

21 A. That's correct.

22 Q. Let's go to slide 8.

23 What's illustrated on this slide,
24 Dr. Horenstein?

25 A. These are pictures of some of the accused

1 products. I examined all of them on the accused list, but
2 here are pictures of some of them, including the two on
3 which I performed real tests, extensive testing, which I
4 think we will hear about that later.

5 Q. Let's go to slide 9.

6 Dr. Horenstein, is this a comprehensive list of
7 all of the model numbers that you analyzed?

8 A. That's right. I looked at 17 products, all the
9 ones in Group A. All of the ones in Group B, and the ones
10 in bold at the top are the ones I used in testing products.

11 Q. Did I understand correctly that you, in fact,
12 evaluated samples of all 17 of these products?

13 A. That's right.

14 Q. Dr. Horenstein, you were here, as you testified
15 earlier, when Dr. Fayed testified; correct?

16 A. Yes.

17 Q. Do you have any opinions regarding the
18 analytical rigor of his representativeness analysis?

19 A. I do find the grouping somewhat arbitrary. He
20 testified that he grouped them by whether the product had a
21 USB controller or a USB circuit made from discrete
22 components. But the products in each group have other
23 differences that have nothing to do with the USB -- I'm
24 sorry, have nothing to do with other functions of the
25 product.

1 All of them share the same smart circuit, the
2 circuit that's inside the cable that is the primary focus
3 of my investigation.

4 So, you know, I adopted his grouping, but I did
5 find it somewhat arbitrary.

6 Q. So the smart circuit that you just mentioned,
7 that's one thing that's common to all of the products; is
8 that right?

9 A. That's right.

10 Q. Let's go to slide 10.

11 What are you depicting here, Dr. Horenstein?

12 A. Well, I'm showing the list of asserted claims of
13 the '023 Patent against the WinPlus -- I'm sorry, the ADC
14 products.

15 Q. Let's go to slide 11.

16 What's reflected here?

17 A. Same is true of this slide. These -- the claims
18 on the right are the list of claims asserted against the
19 ADC products.

20 Q. Slide 12. Have you reached some -- formed some
21 opinions based on your analysis, Dr. Horenstein?

22 A. Sure. They're summarized by the two bullet
23 points.

24 In my opinion, none of the accused products
25 infringe any of the claims asserted from the '023 and

1 '243 Patents.

2 I also looked at the redesigns that we heard
3 about a moment ago from Mr. Lehman, and I found that those
4 products, in my opinion, don't infringe, and they're
5 obviously technically viable because they're ready for
6 market, as he indicated as well.

7 Q. Let's go to slide 13.

8 At this point, Your Honor, I think we should go
9 on the ADC confidential record.

10 JUDGE BHATTACHARYYA: We're moving to the ADC
11 confidential record.

12 (Whereupon, the trial proceeded in confidential
13 session.)

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1 O P E N S E S S I O N

2 BY MR. BOSCO:

3 Q. Look through slides 14 through 17.

4 And maybe we can just slowly scroll through
5 them, and just confirm that it's the claim language that's
6 at issue in the prior slide.

7 A. That's the specific claim language that I looked
8 at for the '023 Patent limitation 1[e].

9 The same is true of limitation 39[e] of the
10 '023 Patent, and limitation 54[e] of the '023 Patent.

11 Q. Let's go to slide -- oh, go ahead, Your Honor --
12 Dr. Horenstein.

13 Did you address Claim 2, Dr. Horenstein?

14 A. I was going to say, the same thing for Claim 2
15 of the '243 Patent.

16 Q. Let's go to slide 18.

17 MR. BOSCO: And let's go back on the
18 confidential record, if we could.

19 JUDGE BHATTACHARYYA: Moving back to the ADC
20 confidential record.

21 (Whereupon, the trial proceeded in confidential
22 session.)

23

24

25

1 C O N T E N T S

2 WITNESS DIRECT CROSS REDIRECT RECROSS STAFF

3 David Ricketts 813 875 945 937

4 PhD

5 Ayman Fayed PhD 951 988 997

6 Steve Lehman 1004 1021 1031

7 Mark Horenstein, 1033

8 PhD

9

10 CARKU RESPONDENTS REST: 949

11 COMPLAINANT RESTS REBUTTAL: 1003

12 AFTERNOON SESSION: 912

13

14 CONFIDENTIAL SESSIONS: 801-811; 813-825; 845-851; 918-936;

15 955-973; 992-993; 1009-1015; 1024-1032; 1043; 1045-end

16

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23

24

25

1 E X H I B I T S

2 EXHIBIT LISTS SUBMITTED FOR ADMISSION:

3 From Complainant's and Respondents' Deposition Designations

4 Complainant's Designations:

5 Xingliang (Leon) Lei

6 CX-0155C

7 CX-1266

8 Xue Li

9 CX-0156C

10 CX-1266

11 CX-1234

12 CX-1235

13 CX-1236

14 CX-1237C

15 CX-1238

16 CX-1239

17 Wenhua Zhao

18 CX-0158C

19 Wenhua Zhao

20 CX-0159C

21 Xuehaio Jiang

22 CX-0160C

23 CX-1244

24 Wulin Yu

25 CX-0161C

- 1 CX-1266
- 2 CX-1245
- 3 CX-1246
- 4 Enpeng Bai
- 5 CX-0162C
- 6 CX-1243
- 7 CX-1247
- 8 Jang Jun
- 9 CX-0163C
- 10 CX-1243
- 11 CX-1247
- 12 Ming (Frank) Li
- 13 CX-0164C
- 14 CX-1240
- 15 CX-1241
- 16 CX-1242C
- 17 Whenhua Zhao
- 18 CX-0165C
- 19 CX-1266
- 20 CX-1235
- 21 Yanping Zhuo
- 22 CX-0166C
- 23 CX-1266
- 24 CX-1243
- 25 CX-1247

1 CX-1248
2 CX-1249C
3 CX-1250C
4 CX-1251C
5 CX-1252C
6 CX-1253C
7 CX-1254
8 CX-1255
9 Fan Shi
10 CX-0167C
11 CX-1266
12 CX-1236
13 CX-1245
14 CX-1256C
15 CX-1257C
16 CX-1258C
17 CX-1259
18 CX-1260
19 Liying Zhang
20 CX-0168C
21 Xue Li
22 CX-0169C
23 CX-1266
24 CX-1261
25 CX-1262

1 CX-1263
2 CX-1264
3 Liying Zhang
4 CX-0170C
5 Yushui Lin
6 CX-0171C
7 CX-1265
8 Steve Lehman
9 CX-0172C
10 JX-0003
11 CX-1267
12 CX-1268C
13 CX-1269
14 CX-1270C
15 CX-1271C
16 CPX-0063C
17 CX-1272
18 CX-1273C
19 Derek Underhill
20 CX-0173C
21 CX-1380C
22 CX-1381C
23 CX-1382C
24 CX-1383C
25 CX-1385

1 CX-1386
2 CX-1299C
3 JX-0005
4 Benson Leung
5 CX-0174C
6 CX-1403C
7 CX-1273C
8 CX-1404
9 CX-1405
10 CX-1406
11 CX-1407
12 CX-1408
13 CX-1409
14 CX-1410
15 CX-1411
16 CX-1412
17 CX-1413
18 CX-1414
19 CX-1415
20 CX-1416
21 CX-1417
22 CX-1418
23 CX-1419
24 CX-1420
25 CX-1421

1 Jing Lu
2 CX-0175C
3 CX-1322C
4 Zhifeng Zhang
5 CX-0176C
6 CX-1329
7 CX-1330C
8 CX-1331C
9 CX-1332C
10 CX-1333C
11 CX-1334C
12 CX-1335C
13 CX-1336C
14 CX-1337C
15 CX-1338C
16 CX-1339C
17 CPX-0064C
18 CX-1340C
19 CX-1341C
20 CPX-0065C
21 CX-1342C
22 CX-1343C
23 CX-1344C
24 CX-1345C
25 CX-1346C

1 CX-1347C
2 CX-1348C
3 CX-1349C
4 CX-1350C
5 CX-1351C
6 CX-1352C
7 CX-1353C
8 CX-1354C
9 CX-2713C
10 Ming Cheng
11 CX-0177C
12 CX-1357
13 CX-1358C
14 CX-1331C
15 CX-1677C
16 CX-1359C
17 CX-1683C
18 CX-1698C
19 CX-1360C
20 CX-1361C
21 CX-0728C
22 CX-1362C
23 CX-1363C
24 CX-1364C
25 CX-1365C

1 Respondents' Designations:
2 A. Hacker Davidson
3 RX-4090C
4 RX-0238C
5 RX-0241C
6 RX-0242C
7 RX-0245C
8 RX-0246C
9 RX-0247C
10 RX-2355C
11 RX-2356C
12 RX-2357C
13 RPX-0304.1
14 V. Lam
15 RX-4091C
16 RX-0224C
17 B. Legates
18 RX-4092C
19 RX-0169
20 RX-0172
21 RX-0173
22 RX-1569
23 RX-1570
24 J. Lu
25 RX-4093C

1 RX-4074C
2 J. Nook
3 RX-4094C
4 JX-0003
5 JX-0005
6 JX-0006
7 RX-0198C
8 RX-0221C
9 RX-0222C
10 RX-0225
11 RX-0232C
12 RX-0446C
13 RX-0449C
14 RX-0470C
15 RX-1581
16 RX-1582
17 R. Stanfield
18 RX-4095C
19 RX-0218C
20 RX-0231C
21 RX-0442C
22 RX-0443C
23 RX-1595
24 RX-1596
25 RX-2369

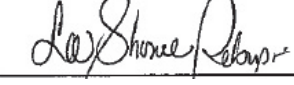
1 RX-2370C
2 RX-2371C
3 JX-0001
4 JX-0002
5 JX-0005
6 RX-2375C
7 RX-2376
8 RX-2377
9 RX-2378
10 RX-2379
11 RX-2380
12 RX-2381
13 RX-2382
14 RX-2384C
15 RX-4030
16 RX-4031
17 RX-4032C
18 RX-4033C
19 RX-4034C
20 RX-4035C
21 RX-4036C
22 RX-4037C
23 RX-4038C
24 RX-4040C
25 RX-4042C

1 RX-4043C
2 RX-4044
3 RX-4045
4 L. Szymanski
5 RX-4096C
6 RX-0219C
7 RX-0226C
8 RX-0228C
9 RX-0230C
10 RX-0449C
11 RX-1581
12 RX-4026C
13 J. Underhill
14 RX-4097C
15 RX-0187C
16 RX-0353C
17 RX-0444C
18 RX-0468C
19 RX-1581
20 RX-1583
21 RX-1584
22 RX-1585
23 RX-1586
24 RX-1587
25 RX-1588

1 RX-1589
2 RX-1590
3 JX-0003
4 JX-0005
5 J. Weiner
6 RX-4098C
7 RX-0185C
8 RX-0432C
9 RX-0447C
10 RX-0448C
11 RX-0449C
12 RX-0450C
13 RX-0487C
14 RX-0488C
15 RX-0489C
16 RX-0490C
17 RX-1591
18 RX-1593C
19 RX-3086C
20 RX-4027
21
22
23
24
25

1 CERTIFICATE OF REPORTER
2 TITLE: CERTAIN PORTABLE BATTERY JUMP STARTERS AND
3 COMPONENTS THEREOF
4 INVESTIGATION NO: 337-TA-1359
5 HEARING DATE: Thursday, February 29, 2024
6 LOCATION: Courtroom B
7 NATURE OF HEARING: Evidentiary Hearing, Volume IV

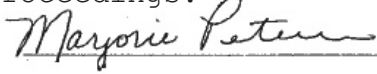
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12 Date: February 29, 2024

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13 Authorized Contractor's Representative
14 1220 L Street, N.W, Suite 206
Washington, D.C. 20005

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21 Natalie Bourlier, Proofreader

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25 Marjorie Peters, FAPR, RMR, CRR Court Reporter