

UNITED STATES PATENT AND TRADEMARK OFFICE

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PATENT TRIAL AND APPEAL BOARD

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**APPLE INC.,**  
Petitioner,

v.

**COMARCO WIRELESS TECHNOLOGIES, INC.,**  
Patent Owner.

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Case No. IPR2015-01879  
U.S. Patent No. 8,492,933

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**DEPOSITION TRANSCRIPT OF NATHANIEL J. DAVIS, IV, Ph., D.,**

**PATENT OWNER'S EXHIBIT 2002**

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1 UNITED STATES PATENT AND TRADEMARK OFFICE  
2 PATENT TRIAL AND APPEAL BOARD

3 APPLE INC., Case No. IPR2015-01879  
4 Petitioner, U.S. Patent No.  
5 -v- 8,492,933

6 COMARCO WIRELESS DEPOSITION UPON  
7 TECHNOLOGIES, INC., ORAL EXAMINATION  
8 Patent Owner. OF  
9 NATHANIEL J. DAVIS,  
10 IV, PH. D.

11 TRANSCRIPT of testimony of NATHANIEL  
12 J. DAVIS, IV, Ph.D taken stenographically by and  
13 before JOANNE L. SEKELLA, a Certified Court Reporter  
14 and Notary Public of the State of New Jersey, at the  
15 offices of O'MELVENY & MYERS, LLP, Times Square  
16 Tower, 7 Times Square, New York, New York, on  
17 Wednesday, April 13, 2016, commencing at  
18 approximately 9:35 a.m.

Page 2

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Page 3

1 I N D E X  
2 WITNESS PAGE  
3 NATHANIEL J. DAVIS, IV, PhD 4  
4 MR. QUINN 4

5  
6 E X H I B I T S  
7 (NONE MARKED)  
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1 NATHANIEL J. DAVIS, IV, PhD,  
2 residing at 4515 South State Route 202, Tipp City,  
3 Ohio 45371, having been duly sworn, testified as  
4 follows:  
5 EXAMINATION BY MR. QUINN:  
6 Q. Good morning, Dr. Davis. As you know,  
7 my name is Charles Quinn, and I represent Comarco  
8 Wireless Technologies.  
9 I apologize, I forgot to bring home  
10 your resume last night. I assumed it was attached  
11 to your declaration. So some of these questions may  
12 be already answered by your resume, but I should ask  
13 them anyway.  
14 Have you ever testified before?  
15 A. I have.  
16 Q. When and where?  
17 A. Are you talking deposition or trial or  
18 what?  
19 Q. Good question. Deposition?  
20 A. This is my ninth deposition, and so  
21 far I've testified at trial four times.  
22 Q. Okay.  
23 And that's all reflected on your  
24 resume, I presume?  
25 A. Yes.

1 Q. And the type of cases and the  
2 technology involved?  
3 A. On my resume?  
4 Q. Yes.  
5 A. Yes.  
6 Q. Have you ever testified before with  
7 regard to power supplies for portable electronic  
8 devices?  
9 A. What I've testified about and is  
10 related to this case is the communication circuitry  
11 that wraps around the power supply in this asserted  
12 patent, and the technology associated with that  
13 circuitry.  
14 Q. What case or cases was that?  
15 A. Almost all of them in some respect.  
16 Q. Okay.  
17 Now, you also prepared a declaration in  
18 this case. Is that correct? I hand it to you.  
19 A. Yes, I did.  
20 Q. And could you tell me generally about  
21 how you went about preparing that declaration?  
22 A. Do you want to tag this or anything or  
23 are we good?  
24 Q. If you'd like. Hold on just a second.  
25 For the record, your declaration has

1 been previously marked as Apple 1010.  
2 A. All right. So ask your question  
3 again. I'm sorry.  
4 Q. I think my question was, could you tell  
5 me generally how you went about preparing your  
6 declaration?  
7 A. After reading the asserted patent, the  
8 933 patent, I gathered material that I reviewed as  
9 potential prior art documents. And based on those,  
10 I selected the prior art that I thought was the most  
11 powerful and then used that to draft my declaration.  
12 Q. Did you conduct the prior art search  
13 yourself?  
14 A. Parts of it, yes.  
15 Q. What parts did you conduct?  
16 A. Once I was looking for prior art, I  
17 attempted to do a Google search. And I also used --  
18 my school has got a subscription to IEEE Explore  
19 database, so I tried to gather information from  
20 those sources.  
21 The weakness with the IEEE Explore  
22 database is it tends to be journal and conference  
23 papers and not patents. And counsel told me that  
24 what is better prior art in cases like this going  
25 back before the patent board is patents. And I

1 don't have a good search mechanism for that myself,  
2 so I asked counsel if they could -- had done any  
3 prior art searching and if they could provide me  
4 with any of those results, which they did.  
5 Q. Okay.  
6 And which counsel -- excuse me.  
7 Could you identify the counsel you are  
8 referring to there, please?  
9 A. O'Melveny.  
10 Q. Who at O'Melveny?  
11 A. It was Mr. Williamson, Mr. Brian.  
12 There were several others. I don't remember the  
13 names at this point.  
14 Q. Okay.  
15 And did they point you to certain prior  
16 art?  
17 A. Yes, they did.  
18 Q. In particular, Allen, Castleman and  
19 Breen?  
20 A. Among others.  
21 Q. Now, you mentioned that you drafted  
22 your declaration. Is that right? Did you actually  
23 write it?  
24 A. In terms of word processing, no. The  
25 document itself was held under the O'Melveny filing

1 system, what have you. So I created drafts and  
2 edited and made comments, fed that back to them, and  
3 they kept the document current. And I added stuff  
4 and they would append it to it.  
5 Q. Okay.  
6 A. The one section I didn't draft is the  
7 Section 3 on legal standards, because that's very  
8 important and I'm not a lawyer. I asked them to  
9 draft this section, brief me on it, if you will,  
10 give me the tutorial so that I understood what was  
11 here, especially in light of changes that occur  
12 from, you know, over time based on court rulings and  
13 whatnot. And then I had them append that in here.  
14 The rest of the report was my creation.  
15 Q. Okay.  
16 So you sat down and did the first draft  
17 and sent it to O'Melveny?  
18 A. Yes.  
19 Q. And did they make comments in writing  
20 or --  
21 A. Nothing in writing. We would have  
22 phone conferences about what I was doing, where I  
23 was headed.  
24 Q. Okay.  
25 A. Things of that nature.



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1 Q. All right.  
2 So then this is primarily -- this  
3 declaration, putting aside Section 3 as you  
4 mentioned, is primarily your work product?  
5 A. Yes.  
6 Q. Is that correct?  
7 A. Yes.  
8 Q. Have you had occasion to review your  
9 declaration recently in preparation for this  
10 deposition?  
11 A. Yes, I have.  
12 Q. Is there anything you would like to  
13 amend, supplement, change, add to?  
14 MR. WILLIAMSON: Objection.  
15 BY MR. QUINN:  
16 Q. I am trying to think of a number of  
17 synonyms for change.  
18 MR. WILLIAMSON: Object to form.  
19 THE WITNESS: I can probably come up  
20 with grammatical errors, but, otherwise, I will  
21 stand by my declaration.  
22 BY MR. QUINN:  
23 Q. Okay.  
24 Let's start with the Allen patent. Is  
25 the Allen patent a patent you found or O'Melveny

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1 found for you?  
2 A. I think they provided it to me.  
3 Q. This has been previously marked by  
4 Apple as Exhibit 1003, if memory serves. Feel free  
5 to refer to your declaration, Dr. Davis.  
6 A. Sure.  
7 Q. I think your discussion of Allen starts  
8 around --  
9 A. Page 30.  
10 Q. -- 30. In any event, Allen describes a  
11 power adapter which is capable of transforming  
12 either alternating current or direct current into  
13 regulated DC current that is supplied to an  
14 electronic device, generally speaking. Is that  
15 right?  
16 A. They describe a system that includes  
17 that power adapter.  
18 Q. And that power adapter has a circuit  
19 which determines whether the adapter is drawing AC  
20 or DC power, correct?  
21 A. Yes, that's correct.  
22 Q. And referring to Figure 4, that would  
23 be power detection -- I think power detection  
24 circuit 74?  
25 A. Yes.

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1 Q. Okay.  
2 And power detection circuit 74 is  
3 connected to the incoming AC power or DC power,  
4 correct?  
5 A. Yes. In Figure 4, they have dotted  
6 lines showing that connection.  
7 Q. And it's, obviously, sampling the  
8 incoming power before the power goes to the AC to DC  
9 converter, correct?  
10 A. Yes, that's correct.  
11 Q. And depending upon the type of power  
12 the power detection circuit detects, it causes a  
13 switch to close -- excuse me. Let me start that  
14 over again.  
15 Depending upon the type of power that  
16 the power detection circuit detects, it will cause  
17 either switch 75 to close if it's detecting incoming  
18 AC power, correct?  
19 A. In essence, I believe you are correct.  
20 Q. Well, that's what Figure 4 shows,  
21 doesn't it?  
22 A. Yes. And that's what the text of the  
23 specification says, as well.  
24 Q. Referring to the disclosure on column 5  
25 starting around line 5?

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1 A. Yes.  
2 Q. Okay.  
3 And alternatively, if the power  
4 detection circuit 74 determines that the adapter is  
5 drawing DC power, it will cause circuit 76 to close?  
6 A. In the alternative, yes.  
7 Q. And that would activate DC  
8 identification circuit 78, right?  
9 A. Yes.  
10 Q. And if incoming AC voltage is  
11 determined, the power detection circuit will  
12 activate AC identification circuit 77, right?  
13 A. Yes, that's out of line 19ish, 19 and  
14 20 in column 5.  
15 Q. Okay.  
16 And these circuits, they're  
17 obviously -- the power detection circuitry, which I  
18 will refer to -- excuse me.  
19 When I say "power detection circuitry,"  
20 I mean power detection circuit 74, switches 75 and  
21 76, and AC identification circuit 77 and DC  
22 identification circuit 78. Is that okay with you?  
23 MR. WILLIAMSON: Objection to form.  
24 THE WITNESS: Power detection circuit  
25 is identified in Figure 4 as just Block 74.

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1 BY MR. QUINN:  
2 Q. Okay.  
3 Do you have any problem with referring  
4 to -- calling the combination of the power detection  
5 circuit 74, the switches 75 and 76 and AC  
6 identification circuit 77 and DC identification  
7 circuit 78 power source determination or detection  
8 circuitry in Allen?  
9 MR. WILLIAMSON: Objection to form.  
10 THE WITNESS: I would be more  
11 comfortable if we just characterized it as it's  
12 labeled in Figure 4, please.  
13 BY MR. QUINN:  
14 Q. Okay, that's fine.  
15 Now, is power detection circuit 74  
16 always on while the adapter is drawing power from  
17 either an AC or DC source?  
18 A. I don't think that's addressed in the  
19 patent per se.  
20 Q. All right.  
21 Well, what's your understanding as a  
22 person of more than the ordinary skill in the art as  
23 to what Allen discloses with regard to whether or  
24 not the power detection circuit is always on while  
25 the adapter is drawing power from an AC or DC

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1 source?  
2 A. I don't think I can give you an  
3 opinion on that.  
4 Q. All right.  
5 Now, power -- or excuse me.  
6 AC identification circuit 77 or DC  
7 identification circuit 78 sends a signal out line 42  
8 to an electronic device, correct?  
9 A. The patent specifically recites,  
10 picking up on, like, line 21, "If the power  
11 detection circuit 74 detects incoming AC power,  
12 switch 75 is closed and the AC identification  
13 circuit 77 is activated, thereby, transmitting a  
14 data signal on line 42 indicating that DC power  
15 carried on the DC power line 38 is generated from AC  
16 source." And it has similar wording for if DC is  
17 detected by Block 74.  
18 Q. Okay.  
19 And you are just reading from column 5  
20 of the patent there, correct?  
21 A. Yes.  
22 Q. Okay.  
23 Allen -- paragraph 33 of your  
24 declaration you state that, "A person of ordinary  
25 skill..." --

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1 A. Wait a minute.  
2 Q. Go ahead. Take your time.  
3 A. 33?  
4 Q. Paragraph 33.  
5 A. Okay.  
6 Q. You state that, "A person of ordinary  
7 skill in the art would understand that the signal  
8 output by either AC identification circuit 77 or DC  
9 identification circuit 78 is an analog signal,"  
10 correct?  
11 A. You said paragraph 33, and that has  
12 nothing to do with what you just said. Paragraph 33  
13 is back in Section 3 on legal standards.  
14 Q. I'm sorry, Page 33, excuse me. It's  
15 paragraph 71. I apologize, sir.  
16 A. Hang on a second and let me read this,  
17 and then I will get back with you.  
18 Q. Sure.  
19 A. All right, I've read the paragraph.  
20 Can you ask your question again?  
21 Q. Yeah. In paragraph 71 you state that,  
22 "A person of ordinary skill would understand that  
23 the signal output by either AC identification  
24 circuit 77 or DC identification circuit 78 to an  
25 electronic device on line 42 is analog," correct?

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1 A. No, I said it could be -- someone  
2 could understand it could either be an analog or --  
3 data signal, or digital data signal.  
4 The quote that I have, which is in the  
5 middle of Page 33, "A person of ordinary skill in  
6 the art would understand Allen's disclosure of a  
7 'data signal on line 42' to mean either an analog  
8 data signal or a digital data signal."  
9 Q. Okay.  
10 A. Because those are the only two options  
11 you got.  
12 Q. All right, but you go on to say a  
13 person of ordinary -- excuse me.  
14 Okay.  
15 And does Allen disclose explicitly that  
16 the signal output on line 42 from either AC  
17 identification circuit 77 or DC identification  
18 circuit 78 is analog?  
19 A. He just discloses that it's a data  
20 signal.  
21 Q. Okay.  
22 Referring to Figure 5 -- or excuse me,  
23 column 5 of Allen starting around line 43, Allen  
24 discloses a digital implementation of the data  
25 signal output on line 42, doesn't he?

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