

In The Matter Of:
Qualcomm, Inc. v.
Bandspeed, Inc.

Dr. Zhi Ding
April 15, 2016

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Bandspeed, Inc.
EXH. 2006
Patent Owner - Bandspeed, Inc.
Petitioner - Qualcomm, Inc.
IPR2015-00316

Min-U-Script® with Word Index

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1 UNITED STATES PATENT AND TRADEMARK OFFICE
 2 PATENT TRIAL AND APPEAL BOARD
 3 --oOo--
 4 QUALCOMM, INC.,)
 5 Petitioner,)
 6 vs.) Trial No. IPR2015-00314
 7 BANDSPEED, INC.,) IPR2015-00315
 8 Patent Owner.) IPR2015-00316
 9) IPR2015-00531
 10
 11 --oOo--
 12 DEPOSITION
 13 OF
 14 DR. ZHI DING
 15 --oOo--
 16 Friday, April 15, 2016
 17 --oOo--
 18
 19
 20
 21
 22
 23
 24 Reported By: ROSE GONI DAVIS, CRR/RMR, CSR 8760
 25 Job Number: 2016-33711

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1 APPEARANCES
 2
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 6 ---oOo---
 7
 8 INDEX OF EXHIBITS
 9 Number Description Page
 10 No New Exhibits Marked
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1 BE IT REMEMBERED that on Friday, the
 2 15th day of April, 2016, commencing at the hour
 3 of 9:08 a.m. thereof, at the offices of Regus
 4 Sacramento, 980 Ninth Street, 16th Floor, Sacramento,
 5 California, before me, ROSE GONI DAVIS, a Certified
 6 Shorthand Reporter of the State of California, there
 7 personally appeared
 8
 9 DR. ZHI DING,
 10
 11 called as a witness by the Respondent Patent Owner
 12 Bandspeed, Inc., who, being by me first duly sworn,
 13 was thereupon examined and interrogated as
 14 hereinafter set forth.
 15
 16 EXAMINATION
 17 BY MR. DONAHUE:
 18 Q. Good morning, Dr. Ding. My name is Greg
 19 Donahue. I'm working with DiNovo Price Ellwanger &
 20 Hardy.
 21 A. Good morning, Mr. Donahue.
 22 Q. Hi.
 23 A. Hi.
 24 Q. I hope all is well out there. I appreciate
 25 your being here today.

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1 A. Same here.
2 Q. I'm hoping that this won't take too much
3 time today, so I appreciate your cooperation.
4 A. Not a problem at all.
5 Q. I represent Bandspeed, Inc., in a patent
6 litigation matter against, among others, Qualcomm,
7 Inc., and also in these IPR proceedings which are
8 numbered IPR2015-00314, -00315, -00316 and -00531.
9 Do you understand that?
10 A. Yes, I do.
11 Q. Have you ever been deposed before?
12 A. Yes.
13 Q. In what type of cases have you been deposed
14 before?
15 A. In both a class action lawsuit as well as in
16 IPR cases.
17 MR. LEVENTHAL: Hey, Greg, just to interrupt
18 you, can I get my appearance on the record.
19 MR. DONAHUE: Absolutely. Sorry. Go ahead.
20 MR. LEVENTHAL: Daniel Leventhal for
21 Qualcomm, Inc., and with me is Nathan Rees, both of
22 Norton Rose Fulbright US.
23 BY MR. DONAHUE:
24 Q. Dr. Ding, did you say that you had been
25 deposed before in conjunction with IPR proceedings?

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1 A. Yes.
2 Q. Let me go ahead and just enter the relevant
3 deposition notices. There are four of them. They
4 are marked as Exhibits 2004 in the four different IPR
5 proceedings. I just want to make sure that you put
6 them in front of you and make sure you've seen them
7 before. When you take a look at them, after you're
8 done, just let me know.
9 A. Yes.
10 All right, yes, I have them. I have seen
11 them. I'm sorry.
12 Q. Have you seen those documents before?
13 A. I have seen the notice for my appearance
14 today -- for my appearance to come in here today
15 before -- from -- I was given that notice. I got a
16 copy of the notice from Daniel yesterday.
17 Q. Okay. Do you understand that you're here to
18 testify regarding your supplemental declarations that
19 you submitted on March 21st, 2016, in conjunction
20 with the four IPR proceedings that I previously
21 designated?
22 A. Yes. Yes, I do.
23 Q. Well, let's just take a couple of minutes to
24 go over some basics about depositions. It sounds
25 like you've been deposed before, so you probably get

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1 it.
2 But if at any time you want to take a break
3 or need to take a break, just let me know and I will
4 attempt to accommodate you. And hopefully -- I would
5 appreciate if you can complete any pending answer
6 before we take a break. But if at any time you need
7 to or want to take a break, please just let me know.
8 Don't be shy.
9 A. Okay.
10 Q. In order to ensure that we maintain a clear
11 and accurate record, particularly since I'm appearing
12 telephonically, I'll ask that you give verbal answers
13 to my questions rather than shaking your head or
14 making some sort of hand gestures that I wouldn't be
15 able to see and the court reporter would have
16 difficulty recording anyway.
17 A. Understood.
18 Q. I'd also ask that you allow me to finish my
19 questions before you begin answering. And I will, of
20 course, extend you the same courtesy and try to allow
21 you to complete your answer before I ask another
22 question.
23 A. Yes.
24 Q. Does that sound fair?
25 A. Yes. Thank you.

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1 Q. Are you on any medication today that would
2 prevent you from being able to testify truthfully and
3 accurately?
4 A. No.
5 Q. Okay. I'd like to get started with
6 IPR2015-00531, which is the '643 Patent IPR.
7 A. Okay.
8 Q. So if I can introduce Exhibit 1012, which is
9 your supplemental declaration for that proceeding.
10 If you can get that particular document in front of
11 you, and then I'll ask you a few questions.
12 A. I have just been handed over that particular
13 exhibit, 1012.
14 Q. Thank you.
15 Well, let's start with if you could open it
16 up to paragraph 5.
17 A. I'm here.
18 Q. In the second sentence of paragraph 5 in
19 this declaration, you say:
20 "Nevertheless, even adopting Dr. Melendez's
21 definition of one of ordinary skill in the
22 art, my previous testimony remains unchanged
23 and it is still my opinion that the prior
24 art references disclosed in the petition
25 render Claims 1 through 15 of the '643

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1 Patent obvious."
2 Do you see that?
3 A. Yes.
4 Q. Can you tell me why you say the definition
5 of a POSITA does not change your opinion whether you
6 use your definition or Dr. Melendez's definition?
7 A. Yes. The reason -- sorry. Go ahead.
8 Q. Oh. I was just going to say why is that.
9 A. The reason is that I believe these
10 technologies are fairly simple. And based on both
11 mine and Dr. Melendez's definition of a person of
12 ordinary skill in the relevant art, I still believe
13 and it is my opinion that the prior art reference
14 disclosed in the petition render Claims 1 through 15
15 of the '643 Patent obvious. That opinion does not
16 change.
17 Q. So why does it not matter whether the
18 definition of a person of skill in the art has work
19 experience in addition to the educational experience
20 that both you and Dr. Melendez indicate in your
21 reports?
22 A. I believe I did not say that the experience
23 wouldn't have mattered. However, it is my opinion
24 that the technology in question are sufficiently
25 simple that a person of ordinary skill in the art as

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1 defined in Dr. Melendez's would have reached the same
2 conclusion as a person of ordinary skill in the art
3 as defined in my earlier definition.
4 Q. Okay. So a person with an electrical or
5 computer engineering background, even if they hadn't
6 worked in the field, would, in your opinion, reach
7 the same conclusions?
8 A. That's correct.
9 Q. Okay. Let's move now to paragraph 7 of your
10 declaration.
11 A. Okay.
12 Q. Maybe it would be helpful if you just really
13 read -- it's a short -- I think most of these
14 paragraphs are fairly short.
15 A. Yeah.
16 Q. So if you read it, it might help. Then just
17 let me know when you're done so I can ask you a
18 question.
19 A. All right. I appreciate that.
20 Yes, I have just completed my review of
21 paragraph 7.
22 Q. Okay. Do you remember if the Figure 11.3
23 that's referenced in paragraph 7 of your supplemental
24 declaration and also the quotation in paragraph 7, do
25 you remember if those were addressed in your original

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1 declaration?
2 A. That, I have to be frank, I don't recall
3 whether those exact sentences and the figure were in
4 my original declaration.
5 Q. Okay. If they weren't in your original
6 declaration, do you believe that the quotations and
7 figure from the Bluetooth Spec that are in
8 paragraph 7 should be considered for the first time
9 here when the Patent Owner and Patent Owner's expert
10 have no further opportunity to respond?
11 MR. LEVENTHAL: Object to the form.
12 THE WITNESS: The question you're asking is
13 a hypothetical one. If you don't mind, I'll ask the
14 court reporter, Rose, to read the question back to
15 me, please.
16 (Record read.)
17 THE WITNESS: The question I believe is
18 whether it is fair for us to introduce this new
19 quotation and figure.
20 Is that correct, Mr. Donahue?
21 MR. DONAHUE: That's correct.
22 THE WITNESS: I believe it is fair for the
23 following reason: Version 1.0B of the Bluetooth
24 Specification I believe was referred to by the expert
25 of the Patent Owner.

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1 With regard to that particular fact, I
2 believe the Patent Owner had ample opportunity to
3 examine the Version 1.0B of the Bluetooth
4 Specification because they were given that
5 opportunity and they were also aware of the relevance
6 with respect to this particular case.
7 BY MR. DONAHUE:
8 Q. Okay. If you thought that Haartsen was
9 insufficient for purposes of showing registers in
10 your original declaration, why didn't you introduce
11 the Bluetooth Specification and apply it as a
12 reference at the outset?
13 MR. LEVENTHAL: Object. Mischaracterizes
14 testimony.
15 THE WITNESS: To answer why -- Mr. Donahue,
16 I'm going to ask you why this particular quote and
17 figure were not introduced, if they were not
18 introduced, were not mentioned in the beginning, if
19 they were not mentioned in the first original
20 deposition, right, hypothetically.
21 And the reason as I sit here today is
22 because, in my view, it was fairly obvious for a
23 person of ordinary skill in the art reviewing
24 Haartsen to have understood that, you know, a
25 register is a commonly used device to store data and

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1 instructions. And I did not believe early on it was
2 even necessary to point that out.
3 And to the extent that the Patent Owner
4 disputes that fact, then I feel it's important for me
5 to point out that in light of the fact that the
6 Patent Owner and their own expert refused to face the
7 fact, I'd like to point out the fact to them more
8 explicitly.
9 So that's my answer.
10 BY MR. DONAHUE:
11 Q. Do you see -- did you see tables mentioned
12 in the section of the Bluetooth Specification in
13 conjunction with the use of registers that you are
14 discussing, in effect, in paragraph 7?
15 A. Tables as in tables of data?
16 Q. Yes. Tables that would be stored in memory,
17 do you see that also in the Bluetooth Specification
18 in the section that you were referring to in
19 paragraph 7?
20 A. Frankly, I don't recall. It is a very
21 long -- as you know, it took three big binders. It's
22 a very long standard. If you need to, I can review
23 the standard to identify whether there are tables
24 mentioned in that particular standard or in the
25 particular section that we're discussing.

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1 Q. Okay. Why don't we do that, then. I think
2 it's Exhibit 1011 of IPR2015-00531, the Bluetooth
3 Spec. And I think in paragraph 7 you are referring
4 to -- it looks like maybe it's page 129 of that.
5 A. Uh-huh, okay.
6 MR. LEVENTHAL: Greg, I'm just putting the
7 volume with page 129 in front of him, if that's okay
8 with you.
9 MR. DONAHUE: Yeah, that's fine.
10 THE WITNESS: All right. To answer your
11 question, Mr. Donahue, do I see tables mentioned in
12 Section 11.2 of Exhibit 1011, I do see them. I do
13 see tables mentioned in this section.
14 BY MR. DONAHUE:
15 Q. Okay. Can you tell me where you see it? Is
16 it on page 129?
17 A. No. I see them mentioned as Table 11.1 and
18 Table 11.2 on page 131 of Section 11.2.
19 Q. Okay. Well, let me scroll there too. Just
20 give me a minute.
21 A. Yes.
22 Q. Sorry, just give me a minute. My computer
23 is letting me down here.
24 A. That's quite all right.
25 Q. Okay, I'm finally in the document. So what

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1 page do you say you saw the tables on?
2 A. It's two pages forward, in the same section,
3 11.2. There are two additional -- on page 113 --
4 sorry, 131. Pardon me.
5 Q. Okay. What are the tables being used for in
6 the section that you're referring to?
7 A. The title of the Table 11.2 is "control of
8 the butterflies for the 79 hop system."
9 Q. Okay. Maybe we can streamline this, then.
10 Let me ask you, in Figure 11.3 in your
11 supplemental declaration that you have there on
12 paragraph 7, where are the registers shown in that
13 figure being loaded from?
14 A. I believe your question is where are the
15 content of the register in Figure 11.3 loaded from,
16 correct?
17 Q. Correct. That's correct.
18 A. I do not wish to speculate. But focusing
19 only on Figure 11.3, this figure does not point out
20 where the content of the registers would be loaded
21 from.
22 Q. So in paragraph 7 there is a quotation in
23 your supplemental declaration, and it's from the
24 Bluetooth Spec. And it says:
25 "The registers are loaded with the

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1 synthesizer code words corresponding with
2 the hop frequencies 0 to 78."
3 Do you see that?
4 A. Yes.
5 Q. Is it your opinion that it doesn't say --
6 doesn't give any details about where the registers --
7 where the information being put in the registers are
8 being loaded from? Is that correct?
9 A. It's loaded -- the content is loaded -- the
10 contents are the synthesizer code words corresponding
11 to the frequency. I do not believe that this
12 particular figure shows from which memory or
13 additional memory device or whatever computation
14 device that these contents are acquired from.
15 Q. Would you agree with me that it does not
16 show the registers being loaded from tables in
17 memory?
18 A. It does not show. I agree. It does not
19 show.
20 Q. Okay. Is there any discussion in the
21 Bluetooth Specification that you referred to in
22 paragraph 7 about a selection kernel addressing a bad
23 channel stored in a register and then replacing by
24 the selection kernel the bad channel stored in the
25 register with a good channel from a different good

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