



## Transcript of **Jean Renard Ward, Volume 2**

**Date:** July 15, 2016

**Case:** TCL Corporation, et al. -v- Telefonaktiebolaget LM Ericsson  
(PTAB)

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1 (Pages 264 to 267)

264	1 UNITED STATES PATENT AND TRADEMARK OFFICE 2 BEFORE THE PATENT TRIAL AND APPEAL BOARD 3 -----x 4 TCL CORPORATION; TCL : 5 COMMUNICATION TECHNOLOGY : Case No. IPR2015-01602 6 HOLDINGS, LTD.; TCT MOBILE : Case No. IPR2015-01637 7 LIMITED; TCT MOBILE INC.; : Case No. IPR2015-01641 8 AND TCT MOBILE (US) INC.; : Case No. IPR2015-01646 9 Petitioners, : U.S. Patent No. 10 v. : RE43,931 11 TELEFONAKTIEBOLAGET LM : 12 ERICSSON, : 13 Patent Owner. : 14 -----X 15 VOLUME 2 16 Videotaped Deposition of JEAN RENARD WARD 17 Alexandria, Virginia 18 Friday, July 15, 2016 19 8:58 a.m. 20 Job No.: 114418 21 Pages 264 - 373 22 Reported by: Debra A. Whitehead	266	1 A P P E A R A N C E S 2 ON BEHALF OF PETITIONERS: 3 JEREMY D. PETERSON, ESQUIRE 4 ADAM D. BROOKE, ESQUIRE 5 MORGAN, LEWIS & BOCKIUS LLP 6 1111 Pennsylvania Avenue, NW 7 Washington, DC 20004-2541 8 (202) 739-3000 9 10 ON BEHALF OF PATENT OWNER: 11 LISA M. MANDRUSIAK, ESQUIRE 12 SAMEER GOKHALE, ESQUIRE 13 OBLON, McCLELLAND, MAIER & NEUSTADT, LLP 14 1940 Duke Street 15 Alexandria, Virginia 22314 16 (703) 413-3000 17 18 ALSO PRESENT: 19 DEREK FOX, Video Specialist 20 21 22
265	1 Videotaped Deposition of JEAN RENARD WARD, held 2 at the offices of: 3 4 5 OBLON, McCLELLAND, MAIER & NEUSTADT, LLP 6 1940 Duke Street 7 Alexandria, Virginia 22314 8 (703) 413-3000 9 10 11 12 13 Pursuant to notice, before Debra A. Whitehead, an 14 Approved Reporter of the United States District Court 15 and Notary Public of the Commonwealth of Virginia. 16 17 18 19 20 21 22	267	1 C O N T E N T S 2 EXAMINATION OF JEAN RENARD WARD PAGE 3 By Mr. Peterson 269 4 By Mr. Brooke 314 5 By Ms. Mandrusiak 362 6 By Mr. Brooke 369 7 8 EXHIBITS MARKED IN TODAY'S SESSION 9 (Attached to the Transcript) 10 WARD EXHIBIT PAGE 11 Exhibit 5 80C51 Family Derivatives, 346 12 8XC552/562 Overview, 1996 August 06, 13 Phillips Semiconductors 14 15 EXHIBITS MARKED IN PRIOR SESSIONS 16 (Retained by Counsel) 17 ERICSSON EXHIBIT PAGE 18 Exhibit 2060 IITD: System Management 2011, 310 19 Components Inside a Mobile Phone 20 21 TCL EXHIBITS PAGE 22 Exhibit 1007 File History 299

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<p>268</p> <p>1 PROCEEDINGS</p> <p>2 VIDEO SPECIALIST: Here begins Tape Number</p> <p>3 1, Volume 2, in the videotaped deposition of Jean</p> <p>4 Renard Ward in the matter of TCL Corporation,</p> <p>5 et al., versus Ericsson, in the United States Patent</p> <p>6 and Trademark Office, IPR Numbers 2015-01674,</p> <p>7 2015-01676, 2015-01761, 2015-01806, 2015-01602,</p> <p>8 2015-01637, 2015-01641, 2015-01646.</p> <p>9 Today's date is July 15, 2016. The time</p> <p>10 on the video monitor is 8:58. The videographer</p> <p>11 today is Derek Fox, representing Planet Depos. This</p> <p>12 video deposition is taking place at 1940 Duke</p> <p>13 Street, Alexandria, Virginia.</p> <p>14 Would counsel please voice-identify</p> <p>15 themselves and state whom they represent.</p> <p>16 MR. PETERSON: Jeremy Peterson from</p> <p>17 Morgan, Lewis &amp; Bockius, representing TCL.</p> <p>18 MR. BROOKE: Adam Brooke from Morgan,</p> <p>19 Lewis &amp; Bockius, also representing TCL.</p> <p>20 MS. MANDRUSIAK: Lisa Mandrusiak from</p> <p>21 Oblon, representing Ericsson.</p> <p>22 MR. GOKHALE: Sameer Gokhale from Oblon,</p>	<p>270</p> <p>1 Q Page 38. Thirty-seven and 38, I'm sorry.</p> <p>2 In Paragraph 74 and 75, you discuss how</p> <p>3 Moore teaches setting certain banks of touchstrips</p> <p>4 to perform certain functions. Correct?</p> <p>5 A Yes, sir.</p> <p>6 Q Can you tell me how one would go about</p> <p>7 doing that?</p> <p>8 A Well, as it says here in my report,</p> <p>9 starting in Paragraph 74, "For example, two banks of</p> <p>10 touchstrips, each bank having two touchstrips,</p> <p>11 creating a total of four touchstrips, this would</p> <p>12 entail having 20, or 4 by 5, separate functional</p> <p>13 keys to assign any of the above-noted five functions</p> <p>14 to any one of the four strips. Therefore, Moore</p> <p>15 allows for switching which bank of touchstrips is</p> <p>16 the object of the user's attention when switching</p> <p>17 functionality of a bank of strips."</p> <p>18 And I go on to give some examples.</p> <p>19 Q So would you, for example, like, touch key</p> <p>20 6 and then a function key 1 through 5, and that</p> <p>21 would set Bank 1 to a -- one of the functions on the</p> <p>22 soft key? Is that how you would do it?</p>
<p>269</p> <p>1 representing Ericsson.</p> <p>2 VIDEO SPECIALIST: The court reporter</p> <p>3 today is Debbie Whitehead, representing Planet</p> <p>4 Depos.</p> <p>5 JEAN RENARD WARD,</p> <p>6 having been previously duly affirmed, testified</p> <p>7 further as follows:</p> <p>8 EXAMINATION BY COUNSEL FOR PETITIONERS</p> <p>9 BY MR. PETERSON:</p> <p>10 Q Mr. Ward, do you understand that you're</p> <p>11 still under oath today?</p> <p>12 A Affirmation, yes, sir.</p> <p>13 May I make one comment before we start?</p> <p>14 Q Absolutely.</p> <p>15 A I withdrew a response yesterday because it</p> <p>16 was so completely misspoken, and I'd like to extend</p> <p>17 that with an apology to you for anything that</p> <p>18 happened because of that misspeaking.</p> <p>19 Q That's absolutely fine.</p> <p>20 Can you turn to Page 38 of your Track 2</p> <p>21 declaration, please.</p> <p>22 A What was that, sir?</p>	<p>271</p> <p>1 A Something like that, yes, sir.</p> <p>2 Q What would happen if you pressed Key 6 and</p> <p>3 then immediately pressed Key 7?</p> <p>4 A Well, that would depend on how it was</p> <p>5 implemented. I expect many implementations would</p> <p>6 say, if you then next pick a key which is a function</p> <p>7 key, it would apply to the most recent selection.</p> <p>8 That would be the logical design choice for me.</p> <p>9 Q So what would the function for Bank 1 be</p> <p>10 in that situation?</p> <p>11 A Whatever it was set to previously.</p> <p>12 Q Do you know that for sure?</p> <p>13 MS. MANDRUSIAK: Objection. Form.</p> <p>14 A I see no basis for thinking something</p> <p>15 else. I suppose you could have a function key that</p> <p>16 changes the functions of both strips, that --</p> <p>17 something might be to do as a convenience.</p> <p>18 Q Do you have any reason to believe that it</p> <p>19 wouldn't set the function to keys -- or to Bank 1 to</p> <p>20 nothing?</p> <p>21 MS. MANDRUSIAK: Objection. Form.</p> <p>22 A Could -- are you referring to something in</p>

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<p style="text-align: right;">272</p> <p>1 the reference that would --</p> <p>2 Q No --</p> <p>3 A -- lead someone to that?</p> <p>4 Q -- I'm just asking you, as an expert in</p> <p>5 this case, what you know.</p> <p>6 A Could you repeat the question, please?</p> <p>7 MS. MANDRUSIAK: Please don't talk over</p> <p>8 each other.</p> <p>9 THE WITNESS: I apologize.</p> <p>10 Q Do you have any reason to believe that it</p> <p>11 wouldn't set the function -- or the function of Bank</p> <p>12 1 to nothing?</p> <p>13 MS. MANDRUSIAK: Objection. Form.</p> <p>14 A I don't recollect anything in the</p> <p>15 reference that would lead one to that possibility.</p> <p>16 And as an engineer, that -- thinking back to 1997, I</p> <p>17 don't think that -- I don't see why that would occur</p> <p>18 to someone.</p> <p>19 Q What if someone didn't want there to be a</p> <p>20 function for Bank 1?</p> <p>21 A I'd have -- it's hard for me to imagine</p> <p>22 someone starting up the device like that. But</p>	<p style="text-align: right;">274</p> <p>1 MS. MANDRUSIAK: Objection. Form.</p> <p>2 A Are you asking me to speculate about what</p> <p>3 Moore might have taught?</p> <p>4 Q At the time to a person of ordinary skill</p> <p>5 in the art, what would -- what would somebody of</p> <p>6 ordinary skill in the art need to know?</p> <p>7 MS. MANDRUSIAK: Objection. Form.</p> <p>8 A Well, it's hard for me to answer that</p> <p>9 without -- I have to project myself back without any</p> <p>10 knowledge of anything that may have been done later,</p> <p>11 such as the disclosures in the Hayes patent.</p> <p>12 I suppose it would -- could you repeat the</p> <p>13 question? I want to hear the exact wording again.</p> <p>14 Q What would Moore need to teach in order</p> <p>15 for a person of ordinary skill in the art to be able</p> <p>16 to incorporate touchstrips into a mobile phone?</p> <p>17 MS. MANDRUSIAK: Objection. Form again.</p> <p>18 A It would have to teach something that</p> <p>19 enabled them to do it. I don't know what Moore</p> <p>20 might put in his ...</p> <p>21 Q Does the '931 patent teach what's</p> <p>22 necessary in order to put touchstrips into a mobile</p>
<p style="text-align: right;">273</p> <p>1 that's a very hypothetical question.</p> <p>2 Are you asking me to consider something</p> <p>3 hypothetical in hindsight?</p> <p>4 Q Not in hindsight. I'm asking you from the</p> <p>5 disclosure of Moore.</p> <p>6 A I don't believe I found anything in Moore</p> <p>7 that would indicate or imply doing that.</p> <p>8 Q Can you turn to Paragraph 90 of your</p> <p>9 declaration, please.</p> <p>10 A Yes, sir.</p> <p>11 Q In this paragraph you discuss that Moore</p> <p>12 does not teach a person of ordinary skill in the art</p> <p>13 how to put contact-sensitive transducers into a</p> <p>14 mobile phone, only into a large cathode ray tube</p> <p>15 display. Correct?</p> <p>16 A I think what I say is Moore only discloses</p> <p>17 touch-sensitive strips integrated into a computer</p> <p>18 terminal device large enough to support a cathode</p> <p>19 ray tube display, yes, sir.</p> <p>20 Q What would Moore need to teach in order</p> <p>21 for a person of ordinary skill in the art to be able</p> <p>22 to incorporate touchstrips into a mobile phone?</p>	<p style="text-align: right;">275</p> <p>1 phone?</p> <p>2 A In its context, yes, sir, I believe so.</p> <p>3 Q Were there devices already on the market</p> <p>4 at the time of the '931 patent that had touchstrips</p> <p>5 incorporated into mobile phones?</p> <p>6 MS. MANDRUSIAK: Objection. Form.</p> <p>7 A I would have to review the art to look for</p> <p>8 that. I believe we did discuss one, the IBM Simon,</p> <p>9 that had a touch sensor on the front.</p> <p>10 Q Can you read Paragraph 84 of your</p> <p>11 declaration, please.</p> <p>12 A Read it out loud or --</p> <p>13 Q No. Just turn to it. I'm sorry.</p> <p>14 A Okay. I've skimmed it, yes, sir.</p> <p>15 Q In this paragraph you discuss the</p> <p>16 difficulties of putting a four touch sensitive</p> <p>17 strips from Moore into a phone. Correct?</p> <p>18 A I believe what it says in my resort --</p> <p>19 excuse me, in my declaration, that TCL fails to</p> <p>20 address or show or explain how the hardware used to</p> <p>21 support and operate the four touch-sensitive strips</p> <p>22 in Moore could have been implemented in the</p>

<p style="text-align: right;">276</p> <p>1 telephone of Palatsi while maintaining the size 2 requirement of Claim 1. 3 Q What is the size requirement of Claim 1? 4 A I believe we went over this yesterday. I 5 would -- could we reread my -- my answers on that 6 into the record? 7 Q I don't know if we can. But can you just 8 look at Claim 1 and tell me what the size 9 requirements are, please? 10 A As I recollect yesterday -- and I'm not 11 sure I'm recalling everything we discussed 12 yesterday -- I pointed to, such as in the first 13 element, the housing configured to be held in a 14 user's hand, such that the rear surface confronts 15 the user's palm. 16 Q So it just needs to be able to fit into 17 the user's hand and confront the user's palm. 18 Correct? 19 MS. MANDRUSIAK: Objection. Form. 20 A I believe there is more on that where we 21 would need to look into the context, and that some 22 of that is brought out in my report.</p>	<p style="text-align: right;">278</p> <p>1 whether something is impossible. And it's hard to 2 say that anything is im -- completely impossible. 3 Q I'm asking you specifically about whether 4 putting four touchstrips into a mobile phone would 5 be impossible. 6 MS. MANDRUSIAK: Objection. Asked and 7 answered. Form. 8 A It -- I think we've already discussed that 9 if you're asking whether something is completely 10 impossible, it's very hard to say that something is 11 completely impossible. And that's a much different 12 question for asking whether something could be 13 combined or whether someone, especially someone like 14 a POSITA, would be motivated to combine -- 15 Q Are you saying -- 16 A -- something. 17 Q Are you -- are you saying a POSITA 18 wouldn't be motivated to combine it? 19 A I think, if we can refer to my report, I 20 say in my report, It is my opinion that a POSITA 21 would not have been motivated to modify Palatsi 22 based on the teachings of Moore to achieve the</p>
<p style="text-align: right;">277</p> <p>1 Q Are you saying that it wouldn't be 2 possible to put the four touch-sensitive trips -- 3 strips from Moore into a mobile phone and have it 4 fit into the user's hand? 5 MS. MANDRUSIAK: Objection. Form. 6 A I think we discussed the word "possible" 7 yesterday. If you remove any expectation of 8 practicality or what a POSITA might consider in 9 combining something or whether a POSITA would 10 combine something, it's hard to say that anything, 11 without sufficient effort by sufficiently highly 12 skilled individuals, would make something 13 impossible. 14 Q But phones already existed that had 15 contact-sensitive transducers. Correct? 16 A I think we discussed the IBM Simon, yes, 17 sir. 18 Q So putting contact-sensitive transducers 19 in phones wasn't out of the realm of possibility; 20 was it? 21 MS. MANDRUSIAK: Objection. Form. 22 A I think, again, you're getting back to</p>	<p style="text-align: right;">279</p> <p>1 results of Claim 1 and the other claims numbered 2 here. This is on Page 33. 3 Q Can you tell me why they wouldn't have 4 been motivated? 5 A I believe that's discussed in my report. 6 If you have a particular place in mind, perhaps you 7 can direct me to it. 8 Q I'm not asking about a specific place in 9 your report. I'm asking if you can tell me why you 10 made that statement. 11 MS. MANDRUSIAK: Objection. Form. 12 A I suppose generally one could say I based 13 it on the analysis as presented in my report. 14 Q If you added four touchstrips, the four 15 touchstrips from Moore to a mobile phone, would it 16 be bigger than the Simon? 17 MS. MANDRUSIAK: Objection. Foundation. 18 A I'm not sure how to answer that, because 19 the Simon was built with much earlier technology, 20 and I would need to see what they were integrating 21 with. 22 Q So the technology as of 1997 would have</p>

<p style="text-align: right;">280</p> <p>1 made a phone like the Simon smaller. Correct?</p> <p>2 <b>A It's very speculative. I would -- I'm not</b></p> <p>3 <b>sure what you mean by, "like the Simon."</b></p> <p>4 Q A phone with the same functionality as the</p> <p>5 Simon, and the same power requirements and processor</p> <p>6 requirements, would be smaller in 1997. Correct?</p> <p>7 <b>A If it's just like the Simon, then it's</b></p> <p>8 <b>just like the Simon. I'm not sure what all the</b></p> <p>9 <b>factors were in making that quite so large.</b></p> <p>10 Q If you used the hardware that was</p> <p>11 available in 1997 to make a phone with the same</p> <p>12 functionality as the Simon, you don't think it would</p> <p>13 be smaller?</p> <p>14 <b>A Well, part of the functionality of the</b></p> <p>15 <b>Simon is the large display.</b></p> <p>16 <b>It's hard to say. If you're keeping all</b></p> <p>17 <b>the functionality that they made use of in that</b></p> <p>18 <b>hard -- that large display, as well as some of the</b></p> <p>19 <b>other things in it, that might dictate the size of</b></p> <p>20 <b>the device.</b></p> <p>21 Q Now, one of the reasons to use</p> <p>22 contact-sensitive touchstrips is because of their</p>	<p style="text-align: right;">282</p> <p>1 further functionality to a phone?</p> <p>2 MS. MANDRUSIAK: Objection. Form.</p> <p>3 <b>A I think it says that they were very</b></p> <p>4 <b>constrained in terms of processing power. And I</b></p> <p>5 <b>think we got into this yesterday. We can go back</b></p> <p>6 <b>over that part of the record, if you'd like.</b></p> <p>7 Q Well, in the first sentence you say, Both</p> <p>8 TCL and Dr. Wolfe further ignore what the proper</p> <p>9 POSITA would be aware of that additional components</p> <p>10 require additional processing capabilities. And the</p> <p>11 particular need to minimize the power budget of a</p> <p>12 portable handheld device or radio telephone.</p> <p>13 Do you see that?</p> <p>14 <b>A Yes, sir.</b></p> <p>15 Q So what you're talking about here is</p> <p>16 adding additional components, and that harming the</p> <p>17 power and processing capabilities of a phone.</p> <p>18 Correct?</p> <p>19 <b>A I'm sorry, your voice dropped out.</b></p> <p>20 Q So what you're talking about here is</p> <p>21 adding additional components, and by doing so</p> <p>22 harming the power and processing capabilities of the</p>
<p style="text-align: right;">281</p> <p>1 small size. Correct?</p> <p>2 MS. MANDRUSIAK: Objection. Form.</p> <p>3 <b>A I think this is also mentioned in my</b></p> <p>4 <b>report. I'm looking at one place right now.</b></p> <p>5 <b>But in the Hayes patents, one of its</b></p> <p>6 <b>teachings is that a contact-sensitive transducer to</b></p> <p>7 <b>control a radio telephone offers several advantages.</b></p> <p>8 <b>One, it says that a contact-sensitive transducer may</b></p> <p>9 <b>be configured to have a thin profile. And the</b></p> <p>10 <b>transducer may be mounted at the surface of the</b></p> <p>11 <b>radio telephone without taking up an inordinate</b></p> <p>12 <b>amount of valuable space.</b></p> <p>13 <b>So that's, based on the teachings in</b></p> <p>14 <b>Hayes, you know, I suppose so.</b></p> <p>15 Q Can you turn to Paragraph 94 of your</p> <p>16 declaration, please.</p> <p>17 The last sentence says, "They further</p> <p>18 ignore that mobile phones in the 1997 time period</p> <p>19 were very constrained in terms of processing power."</p> <p>20 Is that correct?</p> <p>21 <b>A Yes, sir.</b></p> <p>22 Q Does this mean that you couldn't add any</p>	<p style="text-align: right;">283</p> <p>1 phone. Correct?</p> <p>2 <b>A I'm quoting from a reference here,</b></p> <p>3 <b>paraphrasing from a reference, that additional</b></p> <p>4 <b>components require additional processing</b></p> <p>5 <b>capabilities, and also the reference talks about the</b></p> <p>6 <b>particular need to minimize the power budget of a</b></p> <p>7 <b>portable handheld device or radio telephone.</b></p> <p>8 Q But that doesn't mean you can't add</p> <p>9 additional components. Correct?</p> <p>10 <b>A That gets back into the -- "can't" I think</b></p> <p>11 <b>is in this case equivalent to "impossible." And I</b></p> <p>12 <b>think we have discussed that before.</b></p> <p>13 <b>If you're asking whether something is</b></p> <p>14 <b>impossible, that's a much different question from</b></p> <p>15 <b>asking whether someone is likely to make a</b></p> <p>16 <b>combination, or in particular whether a POSITA,</b></p> <p>17 <b>either of the POSITAs discussed in this case,</b></p> <p>18 <b>would -- would make a particular combination. And</b></p> <p>19 <b>that's also silent about what question -- some</b></p> <p>20 <b>questions that I believe were not addressed by both</b></p> <p>21 <b>TCL and Dr. Wolfe.</b></p> <p>22 Q I didn't ask you whether somebody would be</p>

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<p style="text-align: right;">284</p> <p>1 motivated to do it; I asked you whether you could do</p> <p>2 it. And you haven't answered that question.</p> <p>3 MS. MANDRUSIAK: Objection. Form.</p> <p>4 Argumentative. Asked and answered.</p> <p>5 <b>A Could you restate the whole question,</b></p> <p>6 <b>please?</b></p> <p>7 Q But that doesn't mean you can't add</p> <p>8 additional components. Correct?</p> <p>9 <b>A If you're talking about me personally</b></p> <p>10 <b>or ...</b></p> <p>11 Q A POSITA at the time of the filing of the</p> <p>12 '931 patent.</p> <p>13 <b>A I suppose a POSITA could do something like</b></p> <p>14 <b>glue a ruler on the side of the phone. If you're</b></p> <p>15 <b>asking whether a POSITA cannot add any new</b></p> <p>16 <b>components of any kind, that gets back into the</b></p> <p>17 <b>question of how is -- it's very hard to say that</b></p> <p>18 <b>anything is impossible.</b></p> <p>19 Q Could they add one touchstrip?</p> <p>20 MS. MANDRUSIAK: Objection. Form.</p> <p>21 <b>A It would depend on what hardware they had</b></p> <p>22 <b>available. I thought Dr. -- that was one of the</b></p>	<p style="text-align: right;">286</p> <p>1 Q Are you saying it's impossible?</p> <p>2 MS. MANDRUSIAK: Objection. Form.</p> <p>3 Mischaracterizes his testimony.</p> <p>4 <b>A Could I have my answer read back, please.</b></p> <p>5 <b>(Pending answer read.)</b></p> <p>6 <b>A That's my testimony, sir.</b></p> <p>7 Q If I asked you a yes-or-no question, is it</p> <p>8 possible, you can't answer that question?</p> <p>9 MS. MANDRUSIAK: Objection. Form.</p> <p>10 <b>A That's hypothetical, because you haven't</b></p> <p>11 <b>asked me that question yet.</b></p> <p>12 Q Is it impossible, yes or no?</p> <p>13 <b>A Is what impossible?</b></p> <p>14 MS. MANDRUSIAK: Objection. Form.</p> <p>15 Q To add one touchstrip to the Palatsi.</p> <p>16 <b>A I would say it's a very difficult to say</b></p> <p>17 <b>that anything is impossible.</b></p> <p>18 Q Isn't that exactly what the '931 teaches,</p> <p>19 that it's beneficial to add a touchstrip to a mobile</p> <p>20 phone?</p> <p>21 MS. MANDRUSIAK: Objection. Form.</p> <p>22 <b>A If we -- I think that may be dealt with in</b></p>
<p style="text-align: right;">285</p> <p>1 defects in Dr. Wolfe's testimony.</p> <p>2 Q Could they add two touchstrips?</p> <p>3 MS. MANDRUSIAK: Objection. Form.</p> <p>4 <b>A If you're going to run up the number, the</b></p> <p>5 <b>more and more things you add, the more and more</b></p> <p>6 <b>difficult it gets.</b></p> <p>7 Q But you could do it?</p> <p>8 MS. MANDRUSIAK: Objection. Form.</p> <p>9 <b>A That gets back -- when you're saying words</b></p> <p>10 <b>like "can," that gets back to questions about</b></p> <p>11 <b>something is possible or impossible.</b></p> <p>12 Q Right. I'm asking if it's possible or</p> <p>13 impossible?</p> <p>14 <b>A All right. I think we've discussed that</b></p> <p>15 <b>if you're asking whether something is impossible,</b></p> <p>16 <b>it's very difficult to say that anything is</b></p> <p>17 <b>impossible.</b></p> <p>18 Q So can I take it from your testimony that</p> <p>19 if I ask if something is possible, then it's</p> <p>20 possible?</p> <p>21 <b>A I would answer that it's very difficult to</b></p> <p>22 <b>say that anything is impossible.</b></p>	<p style="text-align: right;">287</p> <p>1 <b>my report. If it is, could you please point out the</b></p> <p>2 <b>place you're asking about?</b></p> <p>3 Q I'm asking you a question right now. Can</p> <p>4 you answer it?</p> <p>5 <b>A I think --</b></p> <p>6 MS. MANDRUSIAK: Objection. Form.</p> <p>7 <b>A -- that sounds like something --</b></p> <p>8 THE WITNESS: I'm sorry. I'm waiting.</p> <p>9 MS. MANDRUSIAK: Go ahead.</p> <p>10 <b>A Could you repeat the question, please?</b></p> <p>11 Q I'm asking you a question right now.</p> <p>12 Can you answer it?</p> <p>13 MS. MANDRUSIAK: Objection. Form.</p> <p>14 <b>A Could you repeat the question I'm supposed</b></p> <p>15 <b>to answer, please, or have the court reporter read</b></p> <p>16 <b>it.</b></p> <p>17 Q Isn't it exactly what the '931 teaches,</p> <p>18 that you could add touchstrips to mobile phones?</p> <p>19 <b>A That question is phrased in the negative,</b></p> <p>20 <b>which could be confusing. Could you please rephrase</b></p> <p>21 <b>the question.</b></p> <p>22 Q Does the '931 patent teach that it's</p>

<p style="text-align: right;">288</p> <p>1 beneficial to add touchstrips to mobile phones? 2 MS. MANDRUSIAK: Objection. Form. 3 <b>A One of the things the '931 patent teaches</b> 4 <b>is spelled out in Column 2, starting around Line 29.</b> 5 <b>Using a contact-sensitive transducer to control the</b> 6 <b>radio telephone offers several advantages. Because</b> 7 <b>a contact-sensitive transducer may be configured to</b> 8 <b>have a thin profile, the transducer may be mounted</b> 9 <b>at a surface of the radio telephone without taking</b> 10 <b>up an inordinate amount of valuable space.</b> 11 <b>It also teaches because characteristic</b> 12 <b>types of contact with the transducer can be</b> 13 <b>detected, such as swiping motions or taps, the</b> 14 <b>transducer may be used to perform display movements</b> 15 <b>such as scrolling or cursive movement -- movements</b> 16 <b>as well as for selection of items displayed on the</b> 17 <b>display.</b> 18 <b>There are other teachings in here, as</b> 19 <b>well. One of them is at the last sentence. Because</b> 20 <b>it -- contact-sensitive transducer may be fabricated</b> 21 <b>without moving parts, reliability may be improved.</b> 22 Q So in 1997, would it be possible to add a</p>	<p style="text-align: right;">290</p> <p>1 <b>transducers. Yes.")</b> 2 <b>A I believe I answered your question, sir.</b> 3 Q I didn't ask whether Hayes described a 4 radio telephone with a contact-sensitive transducer. 5 I asked whether it was possible to make one. 6 <b>A And I -- that was a yes-or-no question.</b> 7 <b>And I would like to have my answer read back again.</b> 8 <b>(Pending answer read.)</b> 9 Q Are you saying that that answers the 10 question would it be possible to make a mobile phone 11 with a contact-sensitive transducer in 1997? 12 <b>A I believe I responded correctly to your</b> 13 <b>question, yes, sir.</b> 14 Q Would it be possible to make a mobile 15 phone with two contact-sensitive transducers in 16 1997? 17 MS. MANDRUSIAK: Objection. Form. 18 <b>A I think that's mentioned somewhere in my</b> 19 <b>report. I would be happy to take a look through the</b> 20 <b>report for you.</b> 21 Q Go ahead. 22 <b>A Or it may be mentioned somewhere in Hayes.</b></p>
<p style="text-align: right;">289</p> <p>1 touchstrip to a mobile phone? 2 MS. MANDRUSIAK: Objection. Form. 3 <b>A I think that the Hayes patent describes a</b> 4 <b>radio -- handheld radio telephone, one fitting into</b> 5 <b>the palm, that includes contact-sensitive</b> 6 <b>transducers. Yes.</b> 7 Q So it would be possible. 8 MS. MANDRUSIAK: Objection. Form. Asked 9 and answered. 10 <b>A I think I've already answered the</b> 11 <b>question, but we can repeat the answer if you'd</b> 12 <b>like.</b> 13 Q Yes or no. Would it be possible to add a 14 contact-sensitive transducer to a mobile phone in 15 1997? 16 <b>A Could I have my answer read back to me to</b> 17 <b>see whether I would like to augment it? It's the</b> 18 <b>one talking about Hayes showing something.</b> 19 <b>(The reporter read the record as follows:</b> 20 <b>"I think that the Hayes patent describes a</b> 21 <b>radio -- handheld radio telephone, one fitting into</b> 22 <b>the palm, that includes contact-sensitive</b></p>	<p style="text-align: right;">291</p> <p>1 <b>I'll look at both.</b> 2 Q Are you aware of somewhere where it 3 mentions it? 4 <b>A My recollection is that it's something</b> 5 <b>that would be mentioned in my report, or sounds like</b> 6 <b>something that may be mentioned in my report.</b> 7 <b>I think we went over this yesterday. I</b> 8 <b>prepared -- excuse me. Declaration. I prepared two</b> 9 <b>declarations in this matter. One of them is 61</b> 10 <b>pages long. I think the other one may be a bit</b> 11 <b>longer.</b> 12 <b>There's been a great deal of paperwork, a</b> 13 <b>great deal of things for me to study, a great number</b> 14 <b>of references for me to refer. And particularly</b> 15 <b>under the circumstances, I think I'm justified in</b> 16 <b>asking to look at the references to check memory.</b> 17 Q I didn't say you couldn't look in the 18 references. But -- 19 <b>A I was responding to your previous comment</b> 20 <b>or question, sir. I apologize if that -- if I</b> 21 <b>misunderstood your intent.</b> 22 MS. MANDRUSIAK: Why don't you ask a new</p>



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8 (Pages 292 to 295)

<p style="text-align: right;">292</p> <p>1 question, Jeremy. Or repeat your question.</p> <p>2 Q Can you turn to Paragraph 95 of your</p> <p>3 report?</p> <p>4 A It happens to be open right here.</p> <p>5 Q Okay. How large would a phone disclosed</p> <p>6 in Palatsi be if you added four touchstrips to it?</p> <p>7 MS. MANDRUSIAK: Objection. Form.</p> <p>8 A Well, to answer that specific question, it</p> <p>9 would depend on the dimensions of the touchstrips,</p> <p>10 how they're added, how it's configured, and what</p> <p>11 else had to be done to the phone as a result of</p> <p>12 that. You may have had to redesign other components</p> <p>13 to fit something new in.</p> <p>14 Cellphones, portable phones throughout</p> <p>15 their history have always been some of the most</p> <p>16 problematic things to construct because they're in</p> <p>17 such tight spaces. And not only is there a</p> <p>18 limitation on the -- simply on the volume of space</p> <p>19 available for components, but also you have to be</p> <p>20 extremely careful in dealing with interferences,</p> <p>21 both mechanical, electronic, and electromagnetic,</p> <p>22 among components.</p>	<p style="text-align: right;">294</p> <p>1 Q Yeah. I think I've got a small amount of</p> <p>2 questions here.</p> <p>3 A Okay. And what paragraph was that?</p> <p>4 Q 101, please.</p> <p>5 MS. MANDRUSIAK: Did you say 104</p> <p>6 previously? Is it 101 or 104?</p> <p>7 MR. PETERSON: 101. Did I say 104?</p> <p>8 A Yes, sir.</p> <p>9 Q Is this paragraph talking about one-handed</p> <p>10 swiping ability?</p> <p>11 MS. MANDRUSIAK: Objection. Form.</p> <p>12 A In the second sentence it says, "It is my</p> <p>13 opinion that the one-handed swipe to scroll ability</p> <p>14 provided by the '931 patent was a significant</p> <p>15 breakthrough for its time."</p> <p>16 And it goes on to say, "I am not aware of</p> <p>17 any commercially available handheld device that</p> <p>18 achieved similar results by December 1997."</p> <p>19 Q Is a one-handed swipe ability to scroll an</p> <p>20 element of Claim 1 of the '931 patent?</p> <p>21 A I did not see the word "swipe" appearing</p> <p>22 in that claim. And as I point out in my report,</p>
<p style="text-align: right;">293</p> <p>1 So as I say here, it is my opinion that</p> <p>2 the four strips added to Palatsi along with the</p> <p>3 required hardware would be problematic in a portable</p> <p>4 radio telephone fitting in the palm of a user's</p> <p>5 hand. I think it should be confronting the palm.</p> <p>6 Fitting the palm is the equivalent.</p> <p>7 Q But the -- I'm sorry. But the '931 patent</p> <p>8 teaches that the transducers are actually quite</p> <p>9 small. Correct?</p> <p>10 MS. MANDRUSIAK: Objection. Form.</p> <p>11 Relevance.</p> <p>12 A I think what it teaches is in Column 2.</p> <p>13 Is that because a contact-sensitive transducer may</p> <p>14 be configured to have a thin profile, the transducer</p> <p>15 be mounted at a surface of the radio telephone</p> <p>16 without taking up an inordinate amount of valuable</p> <p>17 space.</p> <p>18 Q Can you turn to Paragraph 104 of your</p> <p>19 declaration, please.</p> <p>20 A Yes. Could we take a short break in the</p> <p>21 next five minutes, or next couple of questions,</p> <p>22 whatever is more convenient?</p>	<p style="text-align: right;">295</p> <p>1 this is in a discussion of unexpected results in</p> <p>2 the -- in the -- that result from the claims of the</p> <p>3 '931 patent.</p> <p>4 Q Is it in a claim of the '931 patent?</p> <p>5 A Is it permitted for me to make a very</p> <p>6 small tic part on this copy of the document? Is</p> <p>7 that all right with you?</p> <p>8 Q You can mark it up however you want.</p> <p>9 A While I'm reading, could you read the</p> <p>10 question back to me, please, just to make sure I'm</p> <p>11 oriented properly.</p> <p>12 (Pending question read.)</p> <p>13 A And the question before that.</p> <p>14 Q I'll -- I'll reask to make it clearer for</p> <p>15 you.</p> <p>16 A Yeah.</p> <p>17 Q Is the ability to scroll while -- with the</p> <p>18 thumb while holding it in one hand, an element of</p> <p>19 any claim of the '931 patent?</p> <p>20 A Is that the same question?</p> <p>21 Q Is -- I'll ask you the identical question.</p> <p>22 Is a one-handed swipe ability to scroll an</p>

<p style="text-align: right;">296</p> <p>1 element of Claim 1 of the '931 patent?</p> <p>2 <b>A Thank you.</b></p> <p>3 (A discussion was held off the record.)</p> <p>4 <b>A Before I respond, could the reporter read</b></p> <p>5 <b>the question again.</b></p> <p>6 (Pending question read.)</p> <p>7 <b>A In this reading right now, I do not find</b></p> <p>8 <b>the word "swipe" in the language of the claims.</b></p> <p>9 <b>If I can refer to my report, I believe I'm</b></p> <p>10 <b>discussing the one-handed swipe control ability</b></p> <p>11 <b>provided by the '931 patent is in the section on</b></p> <p>12 <b>unexpected results. I believe the word "swipe" does</b></p> <p>13 <b>appear in the specification. I'm -- it's my</b></p> <p>14 <b>recollection at the moment. I would be happy to go</b></p> <p>15 <b>through and locate that for you.</b></p> <p>16 <b>Q It's not necessary. My question is</b></p> <p>17 <b>whether it appears in the claims.</b></p> <p>18 <b>A Are you reasking the same question?</b></p> <p>19 <b>Q Yes.</b></p> <p>20 <b>A Then same answer.</b></p> <p>21 <b>Q Okay. So it doesn't appear in the claims.</b></p> <p>22 <b>A The word "swipe" does not appear in the</b></p>	<p style="text-align: right;">298</p> <p>1 MS. MANDRUSIAK: Objection. Form.</p> <p>2 <b>A If you're asking me for a legal opinion,</b></p> <p>3 <b>I'm not a lawyer.</b></p> <p>4 <b>Q So you don't know if unexpected results</b></p> <p>5 <b>are related to just the claimed invention, rather</b></p> <p>6 <b>than the specification?</b></p> <p>7 MS. MANDRUSIAK: Objection. Form.</p> <p>8 <b>A I believe in my report I state that</b></p> <p>9 <b>unexpected results of the invention -- and I believe</b></p> <p>10 <b>that includes the claimed invention in the Hayes</b></p> <p>11 <b>patent -- include the one-handed swipe to scroll</b></p> <p>12 <b>ability.</b></p> <p>13 <b>Q But the claims don't have the -- the</b></p> <p>14 <b>claims -- sorry. Strike the question.</b></p> <p>15 The ability to one-hand swipe scroll is</p> <p>16 not an element of the claimed -- claims of the '931</p> <p>17 patent; is it?</p> <p>18 MS. MANDRUSIAK: Objection. Asked and</p> <p>19 answered.</p> <p>20 <b>A In -- I come -- I provide the same answer,</b></p> <p>21 <b>that I went -- which I believe is that I went</b></p> <p>22 <b>through the claims and I did not locate the word</b></p>
<p style="text-align: right;">297</p> <p>1 <b>claims, no, sir. That -- would need to study this</b></p> <p>2 <b>further to consider whether to -- to double-check</b></p> <p>3 <b>whether the use of the word "swipe" is encompassed</b></p> <p>4 <b>or defined as something that relates to the language</b></p> <p>5 <b>in the claims. It's always something to check.</b></p> <p>6 <b>Q So the ability to one-handed swipe is</b></p> <p>7 <b>irrelevant to the claimed invention; isn't it?</b></p> <p>8 MS. MANDRUSIAK: Objection. Form.</p> <p>9 <b>A Could you ask that as a question without a</b></p> <p>10 <b>statement first? Because the phrasing is a little</b></p> <p>11 <b>bit ...</b></p> <p>12 <b>Q Is the ability to one-handed swipe</b></p> <p>13 <b>relevant to the claimed invention of the '931</b></p> <p>14 <b>patent?</b></p> <p>15 <b>A As I point out in my report, I discussed</b></p> <p>16 <b>that in the section concerning unexpected results of</b></p> <p>17 <b>the Hayes invention. And it's my understanding that</b></p> <p>18 <b>unexpected results do have relevance to -- some</b></p> <p>19 <b>legal relevance to the claims.</b></p> <p>20 <b>Q But the unexpected results are only</b></p> <p>21 <b>relevant to the claims. Correct? To the claimed</b></p> <p>22 <b>invention?</b></p>	<p style="text-align: right;">299</p> <p>1 <b>"swipe" in the claims in my reading of it right now.</b></p> <p>2 <b>That leaves open the question of what may</b></p> <p>3 <b>be in the specification that gives meaning to the</b></p> <p>4 <b>claims.</b></p> <p>5 MR. PETERSON: We can take a break.</p> <p>6 THE WITNESS: Thank you.</p> <p>7 VIDEO SPECIALIST: This -- this marks the</p> <p>8 end of Tape Number 1 in the deposition of Jean</p> <p>9 Renard Ward. We are off the record at 9:52.</p> <p>10 (A recess was taken.)</p> <p>11 VIDEO SPECIALIST: Here begins Tape Number</p> <p>12 2 in the deposition of Jean Renard Ward. We are</p> <p>13 back on the record at 10:09.</p> <p>14 BY MR. PETERSON:</p> <p>15 <b>Q Mr. Ward, I'm going to hand you what's</b></p> <p>16 <b>been premarked as Exhibit 1007.</b></p> <p>17 (TCL Exhibit 1007, previously marked,</p> <p>18 retained by counsel.)</p> <p>19 MS. MANDRUSIAK: Is this two copies in</p> <p>20 here, or that's the whole --</p> <p>21 MR. PETERSON: Yes, there's two in there,</p> <p>22 one for each of you.</p>

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10 (Pages 300 to 303)

<p>300</p> <p>1 MS. MANDRUSIAK: That's a whole waste of 2 paper, guys. Next time don't print out the 3 prosecution histories for us. 4 THE WITNESS: Do you need to mark it? 5 COURT REPORTER: No. 6 BY MR. PETERSON: 7 Q Can you turn to Page 217, on the very 8 bottom, the page numbers on the very bottom. 9 And starting on Page 216, do you 10 understand what this is? 11 A 216 says it's an amendment. 12 Q So do you understand this is an amendment 13 made by the patent owner? 14 A I'll accept that, yes, sir. 15 Q And it says that it's a response to the 16 examiner's office action mailed March 30, 2011. 17 Correct? 18 A Yes. 19 Q Can you tell me what the date of this 20 amendment is? I believe you'll find it on Page 239. 21 A On Page 239? 22 Q Yes.</p>	<p>302</p> <p>1 surface -- 2 A Yes, sir. 3 Q -- sorry -- in response to moving contact 4 of an object along the contact-sensitive surface. 5 Right? 6 A I'm sorry for speaking over you. 7 Yes, sir. I see that. 8 Q And it also has the; the element for the 9 controller to -- which controls at least one of the 10 display and the radio telephone communications 11 transceiver and which scrolls displayed rows along 12 an axis of the display. Correct? 13 A Yes, sir. It goes on. But yes, sir. 14 Q But it's missing the first and second mode 15 elements. Correct? 16 MS. MANDRUSIAK: Objection. Form. 17 Relevance. 18 A I don't see the words "first mode" or 19 "second mode" here. Would you like me to look at 20 the rest of the claims here? 21 Q No. That's fine. I'm just looking at 22 Claim 1 for right now.</p>
<p>301</p> <p>1 A It says 29 June, 2011. 2 Q Okay. Before we get to this, do you -- do 3 you understand that this is the file history for the 4 '931 patent? 5 A Without going through it, I'll accept 6 that, yes. 7 Q Now, Claim 1 on Page 217. 8 This claim as it stood on June 29, 2011, 9 had the housing element. Correct? 10 A Starts out, "a housing." 11 Q Uh-huh. 12 A Yes, sir. 13 Q And it had the radio communications 14 transducer supported by the housing element. 15 Correct? 16 A Yes, sir. I see that. 17 Q And the display supported by the housing 18 element? 19 A Yes, sir. 20 Q And a contact-sensitive transducer 21 supported by the housing and having a 22 contact-sensitive surface disposed at said front</p>	<p>303</p> <p>1 Can you turn to Page 151, please? 2 A Yes, sir. 3 Q Do you understand what you're looking at? 4 A On Page 150 it says, Amendment. "The 5 following amendments remarks presented in response 6 to the examiner's office action mailed August 18, 7 2011," so forth. 8 Q And at the end of Claim 1 there's some 9 underlined text. Correct? 10 A Yes, sir. And also a bit before the end. 11 Q Okay. So we went through that the Claim 1 12 that we just looked at a moment ago had said front 13 surface in it. Correct? And it had, in response to 14 moving contact in that claim, as well? 15 MS. MANDRUSIAK: Objection. Form. 16 Relevance. 17 A I would need to go back and check, but if 18 that's your representation. 19 Q Okay. In this -- in this claim the first 20 and second mode have been added. Correct? 21 A First mode and second mode are in the 22 underlined text, yes, sir.</p>

<p>304</p> <p>1 Q Do you understand the underlined text 2 means that that has been added to the claim? 3 A I accept that, yes, sir. 4 Q Can you turn to Page 166, please. 5 Can you read the third paragraph down on 6 Page 166, please. 7 A Out loud or just ... 8 Q Out loud. 9 A Examiner has asserted that U.S. Patent 10 Number 5,621,437 to Jeong, quote, Jeong, teaches 11 this claim limitation. Applicants respectfully 12 respond that Jeong fails to suggest that selection 13 between the first mode and the second mode is in -- 14 is, quote, in response to an input from a user as 15 recited by Claim 30. In fact, Jeong teaches that 16 power to the touchpanel is turned off when a timer 17 counts down. Jeong at Column 7, Lines 1 to 28. In 18 the presence of user input, Jeong's controller will 19 not enter into a second mode, parentheses, same 20 reference. Hence, Jeong fails to teach or even 21 suggest a controller having a second mode 22 unresponsive to contact with the contact-sensitive</p>	<p>306</p> <p>1 we can go back to the front of this. I think it's 2 Page 150. I think it says, The following amendments 3 are remarks presented in response to the examiner's 4 office action. 5 Q Can you read on Page 167, the last 6 paragraph. 7 A The one starting, "Because Jeong"? 8 Q Just read it to yourself. 9 A Okay. 10 Q I'll read it out loud. It says, "Because 11 Jeong fails to teach or even suggest a controller 12 that enters a second mode in response to an input 13 from a user, the rejection of the pending claims is 14 improper and should be withdrawn. For at least 15 these reasons, and in addition to the reasons 16 previously asserted in prior responses, all pending 17 claims are patentable over the cited references by 18 virtue of their recitation directly or by dependency 19 of the combination of claim limitations, including 20 that the second mode being entered in response to an 21 input from a user." 22 A Yes, sir. That's what I read.</p>
<p>305</p> <p>1 transducer, quote, the second mode being entered in 2 response to an input from a user, end quote. 3 Q Thank you. I actually asked you to read 4 the third paragraph down, but that's fine. I'll 5 just read it? 6 A Oh, I'm sorry. 7 Q That's fine. "Each pending independent 8 claim now recites a controller having a first mode 9 wherein the controller is responsive to contact with 10 the contact-sensitive transducer and a second mode 11 wherein the controller is unresponsive to contact 12 with the contact-sensitive transducer and further 13 recites the second mode being entered in response to 14 an input from a user." 15 A Yes, sir. That's what I read, also. 16 Q Now, do you understand that the applicant 17 needed to add the first and second mode to get over 18 a prior art rejection? 19 MS. MANDRUSIAK: Objection. Form. 20 Relevance. 21 A I wouldn't add my -- advertise myself as 22 an expert on patent office procedure. But I -- if</p>	<p>307</p> <p>1 Q So the applicant is arguing that it's 2 because of this first and second mode that have been 3 added that the claims are now allowable. Correct? 4 MS. MANDRUSIAK: Objection. Form. 5 Document speaks for itself. 6 A I would just read back what it says. 7 Q But you're a patent agent. Right? You're 8 a registered patent agent? 9 A I think we went over this yesterday. At 10 one point I took the patent agent's exam, with no 11 particular intention of making a career as a patent 12 agent. And other than one application I filed for 13 my dentist, I have made no use of that. 14 I -- it's been a long time since I did 15 that studying. I understand there have been changes 16 in the law and changes in patent practice since 17 then, even if I did remember everything I studied. 18 Something called the Inventing America Act 19 changes -- 20 Q My question was, you were a patent agent. 21 Correct? 22 A I wouldn't describe it that way.</p>

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12 (Pages 308 to 311)

<p>308</p> <p>1 Q And you can't tell me whether that 2 paragraph that I just read to you states that the 3 applicant now believes that this claim is allowable 4 because of the addition of the first and second mode 5 requirement? 6 MS. MANDRUSIAK: Objection. Form. 7 <b>A What it says is, For at least these</b> 8 <b>reasons, and in addition to the reasons previously</b> 9 <b>asserted in prior responses, all pending claims are</b> 10 <b>patentable, and so forth.</b> 11 Q In the Remarks section of this amendment, 12 on Page 166 and 167, does the applicant discuss any 13 other reason, besides the first and second mode, for 14 these claims being allowable? 15 <b>A Could the court reporter read the question</b> 16 <b>back to me, please, before I respond?</b> 17 (Pending question read.) 18 <b>A Yes.</b> 19 Q And what was that reason? 20 <b>A Well, I'm saying yes because I believe you</b> 21 <b>misquoted or incompletely quoted what's described in</b> 22 <b>here.</b></p>	<p>310</p> <p>1 declaration, please. 2 <b>A The Track 2 one?</b> 3 Q Yes, please. 4 On this page there's a figure from Exhibit 5 2060. Correct? 6 <b>A Yes, sir.</b> 7 Q You are being handed what has been 8 premarked as Ericsson Exhibit 2060. 9 (Ericsson Exhibit 2060, previously marked, 10 retained by counsel.) 11 Q Have you seen this document before? 12 <b>A Yes. It looks like the one I got off the</b> 13 <b>Internet, because it all came out black in the</b> 14 <b>background.</b> 15 Q What is this document? 16 <b>A Well, I believe it's described in my</b> 17 <b>report. But it says at the top, IIITD System</b> 18 <b>Management 2011. It says, "This blog is to provide</b> 19 <b>a forum for students enrolled in systems management</b> 20 <b>course at IIIT Delhi to have a meaningful discussion</b> 21 <b>related to the course."</b> 22 <b>And the top of the page it says,</b></p>
<p>309</p> <p>1 <b>It also talks about, at the bottom of Page</b> 2 <b>166, the second mode being entered in response to an</b> 3 <b>input from a user. And since you left that out, I</b> 4 <b>didn't think I could answer your question no.</b> 5 <b>I also note that it refers to reasons</b> 6 <b>previously asserted. And so that brings those in --</b> 7 <b>into the discussion.</b> 8 Q But the applicant doesn't specifically 9 talk about any other reasons, besides the first and 10 second mode requirement, in this remarks section of 11 this amendment; does it? 12 MS. MANDRUSIAK: Objection. Form. Asked 13 and answered. 14 <b>A As I answered previously, it also includes</b> 15 <b>the words, "the second mode being entered in</b> 16 <b>response to an input from a user." And it does</b> 17 <b>specifically refer to reasons previously asserted.</b> 18 <b>That's the -- in the interest of moving on, at the</b> 19 <b>moment, skimming over it, I don't see another</b> 20 <b>reference to reasons previously asserted. But I</b> 21 <b>also haven't looked at the following pages.</b> 22 Q Can you turn to Page 44 of your</p>	<p>311</p> <p>1 <b>"components inside a mobile phone."</b> 2 Q Is that Delhi in India? 3 <b>A I don't remember checking, but I'll take</b> 4 <b>your representation for it.</b> 5 Q And this is a blog post. Correct? 6 <b>A Yes, sir. That's what it appears to be.</b> 7 Q Have you talked to the author of this blog 8 post? 9 <b>A Not to my knowledge.</b> 10 Q Did you help draft this blog post? 11 <b>A No, sir.</b> 12 Q Now, you say in Paragraph 87 of your Track 13 2 declaration that the photo on Page 44 is a 14 photograph of the Sony Ericsson T200 released in 15 2002. Correct? 16 <b>A Yes, sir.</b> 17 Q And is that the same photo from the first 18 page of Exhibit 2060? 19 <b>A Yes, sir.</b> 20 Q Can you show me where on Exhibit 2060 that 21 picture is identified as a T200 Ericsson? 22 <b>A I don't see it in what's visible on this</b></p>

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TCL Ex. 1210, Page 13

TCL et al. v. Ericsson

IPR2015-01674, -01676, -01761, -01806

Videotaped Deposition of Jean Renard Ward, Volume 2  
Conducted on July 15, 2016

13 (Pages 312 to 315)

<p style="text-align: right;">312</p> <p>1 printed copy. Not right now.</p> <p>2 Q How do you know that's an Ericsson T200?</p> <p>3 A My recollection is that while I was</p> <p>4 Googling around looking for representative pictures</p> <p>5 of phones, I saw this. And I also saw something</p> <p>6 that I believed identified it as that model. It</p> <p>7 certainly was consistent with what I remember being</p> <p>8 representative of a typical components found in</p> <p>9 mobile phones in 1997.</p> <p>10 Q But there's nothing in this blog that says</p> <p>11 it's a T200 or that it's even a T200 from 2002.</p> <p>12 Correct?</p> <p>13 MS. MANDRUSIAK: Objection. Form.</p> <p>14 A I would need to check the rest of the</p> <p>15 blog. And as I said, at the moment I don't remember</p> <p>16 where I went to check to see what led me to identify</p> <p>17 it as that model. But I did that in good faith.</p> <p>18 And it's presented as being representative of</p> <p>19 typical components found in mobile phones in that</p> <p>20 time frame, and it was consistent with my</p> <p>21 recollection of that.</p> <p>22 Q But you don't know this is a T200.</p>	<p style="text-align: right;">314</p> <p>1 record. The time is 10:30.</p> <p>2 (A recess was taken.)</p> <p>3 VIDEO SPECIALIST: We are back on the</p> <p>4 record. The time is 10:42.</p> <p>5 EXAMINATION BY COUNSEL FOR PETITIONERS</p> <p>6 BY MR. BROOKE:</p> <p>7 Q Good morning, Mr. Ward.</p> <p>8 A Good morning.</p> <p>9 What was your name again, I'm sorry?</p> <p>10 Q My name is Adam Brooke.</p> <p>11 A Pleased to meet you.</p> <p>12 Q You, as well.</p> <p>13 Do you know what an analog-to-digital</p> <p>14 converter is?</p> <p>15 A Generally, yes.</p> <p>16 Q Okay. Can you just kind of give me an</p> <p>17 overview of what an analog-to-digital converter is?</p> <p>18 A Well, generally, the best example, simple</p> <p>19 example, might be something that converts an analog</p> <p>20 voltage and makes a digital measurement of what the</p> <p>21 voltage is.</p> <p>22 Q Okay. And I plan to refer to an</p>
<p style="text-align: right;">313</p> <p>1 MS. MANDRUSIAK: Objection. Form.</p> <p>2 A I believe I stated the basis why I</p> <p>3 identified it that way.</p> <p>4 Q You also identified the A-to-D converter</p> <p>5 in this picture. Correct?</p> <p>6 A Yes, sir.</p> <p>7 Q Can you tell me what the model number is</p> <p>8 of that A-to-D converter?</p> <p>9 A It's not visible in this picture.</p> <p>10 Q What about the manufacturer?</p> <p>11 A It's not visible in this picture.</p> <p>12 Q Can you tell how many input pins it has?</p> <p>13 A I think I -- it's hard to tell in the</p> <p>14 picture, but I think I can count at least six, what</p> <p>15 appear to be on one side. So other than that, no,</p> <p>16 it's not visible in this picture.</p> <p>17 MR. PETERSON: Can we take a break?</p> <p>18 MS. MANDRUSIAK: Are we planning to switch</p> <p>19 gears to Adam?</p> <p>20 MR. PETERSON: Yes.</p> <p>21 MS. MANDRUSIAK: Okay.</p> <p>22 VIDEO SPECIALIST: We are going off the</p>	<p style="text-align: right;">315</p> <p>1 analog-to-digital converter as an A-to-D converter.</p> <p>2 Is that okay?</p> <p>3 A That's fine. That's common.</p> <p>4 Q Do you know what a microcontroller is?</p> <p>5 A That's a somewhat general term. It often</p> <p>6 refers to what a -- microprocessor used to control a</p> <p>7 particular device or used in an embedded setting.</p> <p>8 You could also have a controller that might not be</p> <p>9 classified as a full-scale processor executing</p> <p>10 software.</p> <p>11 Q Turning to Exhibit 1012, the Moore</p> <p>12 reference.</p> <p>13 Can you just tell me the date of the Moore</p> <p>14 patent?</p> <p>15 A I think this is the issue date in the top</p> <p>16 right.</p> <p>17 Q That's correct.</p> <p>18 A It's 1986.</p> <p>19 Q And the date of the '931 patent is 1997.</p> <p>20 Correct?</p> <p>21 A I can check it, but --</p> <p>22 Q Sure.</p>

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TCL Ex. 1210, Page 14

TCL et al. v. Ericsson

IPR2015-01674, -01676, -01761, -01806

<p style="text-align: right;">316</p> <p>1       <b>A</b>   This one, the reissue date, the reissue 2       <b>date is 2013. You may be referring to one of the</b> 3       <b>other dates.</b> 4       <b>Q</b>   Right. I'm sorry. The earliest filing 5       date of the '931 patent is 1997. Correct? 6       <b>A</b>   I see where it says, Continuation of 7       <b>application filed on December 30, 1997, yes.</b> 8       <b>Q</b>   Okay. So would you agree that by 1997 9       electronic components, including microcontrollers, 10      microprocessor, and A-to-D converters, were 11      technically more advanced than those of 1986? 12      <b>A</b>   I would have to know what specific 13      <b>examples you're referring to, and also need to know</b> 14      <b>whether you're referring to something what's</b> 15      <b>commercially available or what might exist in a</b> 16      <b>laboratory someplace. And also those -- the state</b> 17      <b>of technology varies quite a bit for what kind and</b> 18      <b>what kind of an application you're referring to.</b> 19           There's something called a flash 20      <b>converter, which is used for very high-speed</b> 21      <b>digitization. And I'm not sure when those entered</b> 22      <b>the marketplace.</b></p>	<p style="text-align: right;">318</p> <p>1       Track 2 declaration. 2       <b>A</b>   The one starting, "First TCL fails to 3       <b>address"?</b> 4       <b>Q</b>   That's correct, yes. 5       <b>A</b>   And could you also speak up a little bit. 6       <b>I can understand you better than the other</b> 7       <b>gentleman, but ...</b> 8       <b>Q</b>   Certainly. 9       <b>A</b>   It's partly my hearing. 10      <b>Q</b>   Understand. 11           You show there a picture of Figure 3 of 12      Moore with a blue box around some components. 13      <b>A</b>   Yes, I believe we referred to that as 14      <b>annotation.</b> 15      <b>Q</b>   Yes. Now -- 16      <b>A</b>   I believe that that's TCL's annotation. I 17      <b>would want to go back and check. But I think that's</b> 18      <b>what I say here.</b> 19           (A discussion was held off the record.) 20      BY MR. BROOKE: 21      <b>Q</b>   Okay. So is it your opinion that the 22      components within this blue box are necessary for</p>
<p style="text-align: right;">317</p> <p>1       <b>Q</b>   Okay. Let's give an example. For a 2       microprocessor in 1997 of a certain size, would you 3       generally agree that that microprocessor would have 4       more functional capabilities than one in 1986? 5       <b>A</b>   It would depend -- 6           MS. MANDRUSIAK: Objection. Form. 7       Objection. Foundation. Assumes facts not in 8       evidence. 9       <b>A</b>   Do you have something, a reference that 10      <b>you're referring to on that?</b> 11      <b>Q</b>   I do not, no. 12           Are you familiar with CMOS technology? 13      <b>A</b>   I wouldn't say I'm an expert on CMOS 14      <b>technology. If you mean what's involved in the</b> 15      <b>physics of metal oxide semiconductors, no. But CMOS</b> 16      <b>technology is a common term for certain classes of</b> 17      <b>electronic components, yes.</b> 18      <b>Q</b>   Do you know if CMOS technology was 19      commonly used for microprocessors in 1986? 20      <b>A</b>   I am not an expert on market share. No, 21      <b>sir.</b> 22      <b>Q</b>   If you could turn to Paragraph 84 of your</p>	<p style="text-align: right;">319</p> <p>1       implementing one of Moore's touchstrips in Palatsi? 2           MS. MANDRUSIAK: Objection. Form. 3       <b>A</b>   I believe my opinion is -- are stated 4       <b>in -- in my report, such as on Page 43, where I'm</b> 5       <b>commenting on TCL's presentation.</b> 6           And TCL suggests it would have been 7       <b>obvious to modify the existing processor in Palatsi</b> 8       <b>to have the elements shown -- I think there's a typo</b> 9       <b>here -- elements shown in the blue box above and to</b> 10      <b>be connected to the touchstrip.</b> 11           And I point out that, However, TCL 12      <b>completely omits is that the above-noted elements</b> 13      <b>need to be incorporated four times because the</b> 14      <b>embodiment for Moore the petitioner relies upon</b> 15      <b>requires four touchstrips.</b> 16           And I do discuss that further and say, 17      <b>Even if the clock circuit and power unit could be</b> 18      <b>made common to all four of the touchstrips, there</b> 19      <b>are still clear hardware elements for Moore that are</b> 20      <b>dedicated for each touchstrip separately; such as</b> 21      <b>the filter buffer circuit, the analog-digital</b> 22      <b>converter, and the select control logic. And I go</b></p>

<p>320</p> <p>1 on to discuss that further.</p> <p>2 And I also comment on Dr. Moore's</p> <p>3 analysis, and as clarified in his deposition. And I</p> <p>4 give a tear-down photograph, that one we discussed</p> <p>5 earlier.</p> <p>6 Q Yes.</p> <p>7 A Which was intended to be representative of</p> <p>8 typical components found in mobile phones in -- in</p> <p>9 that time frame.</p> <p>10 Q Okay. So just to clarify, if Moore's</p> <p>11 touchstrips were combined with Palatsi, it is your</p> <p>12 opinion that the components shown within the blue</p> <p>13 box of the figure at Paragraph 84 would be</p> <p>14 necessary. Correct?</p> <p>15 MS. MANDRUSIAK: Objection. Form.</p> <p>16 Mischaracterizes his testimony.</p> <p>17 THE WITNESS: Could you speak up, please,</p> <p>18 Lisa, I'm sorry.</p> <p>19 MS. MANDRUSIAK: Mischaracterizes your</p> <p>20 testimony. Form.</p> <p>21 A I don't believe that's what I stated.</p> <p>22 Q Well, turning to Paragraph 85. You state</p>	<p>322</p> <p>1 being made common to all four of the touchstrips.</p> <p>2 Whether it could or could not would be something I</p> <p>3 would need to check into for that particular</p> <p>4 hardware.</p> <p>5 Q Okay.</p> <p>6 A It gets back into the discussion of</p> <p>7 impossibility.</p> <p>8 Q So Paragraph 87 you mention discrete</p> <p>9 integrated circuits.</p> <p>10 Do you see that?</p> <p>11 A Yes.</p> <p>12 Q Can you just -- do you know what an</p> <p>13 integrated circuit is?</p> <p>14 A Generally, yes. I suspect you could hear</p> <p>15 a lot of different definitions for it.</p> <p>16 Q Can you just give me a general broad</p> <p>17 definition of an integrated circuit?</p> <p>18 A Oh, one way to look at it is it's a</p> <p>19 collection of transistors, rather semiconductor</p> <p>20 elements, although some nowadays certainly aren't</p> <p>21 semiconductor elements, integrated to a single</p> <p>22 package, and often fabricated in the same process or</p>
<p>321</p> <p>1 that, "What TCL completely omits is that the</p> <p>2 above-noted elements need to be incorporated four</p> <p>3 times because the embodiment for Moore the</p> <p>4 petitioner relied upon requires four touchstrips."</p> <p>5 Do you see that?</p> <p>6 A Yes, I do.</p> <p>7 Q And do you see the word "need"?</p> <p>8 A Yes, I do.</p> <p>9 Q So is it your opinion that these elements</p> <p>10 in the blue box of Paragraph 84 need to be used when</p> <p>11 Moore is combined with Palatsi?</p> <p>12 MS. MANDRUSIAK: Objection. Form.</p> <p>13 A I believe that misrepresents my testimony.</p> <p>14 Such as in Paragraph 86, where I talk about the</p> <p>15 clock circuit and the power unit being made common</p> <p>16 to all four of the touchstrips.</p> <p>17 Q So it's your opinion, then, that some of</p> <p>18 these components in the blue box could be made</p> <p>19 common to all four of the touchstrips when Moore is</p> <p>20 combined with Palatsi?</p> <p>21 A I mention right here, the clock -- if</p> <p>22 the -- about the clock circuit and the power unit</p>	<p>323</p> <p>1 different steps of the same process.</p> <p>2 Q Okay. Is it okay for me to refer to a</p> <p>3 discrete integrated circuit as a chip, for</p> <p>4 convenience?</p> <p>5 A For convenience, yes. It gets -- not</p> <p>6 paying any attention to the packaging questions,</p> <p>7 yes.</p> <p>8 Q Okay. So you mentioned that some of the</p> <p>9 components shown in the blue box of Paragraph 84</p> <p>10 could be made common for all four of Moore's</p> <p>11 touchstrips. Correct?</p> <p>12 MS. MANDRUSIAK: Objection. Form.</p> <p>13 A I think what I referred to is that even if</p> <p>14 the clock circuit and the power unit could be made</p> <p>15 common to all four of the touchstrips, that still</p> <p>16 leaves clear hardware elements for Moore that are</p> <p>17 dedicated for each touchstrip separately. And I go</p> <p>18 on to mention examples, the filter buffer circuit,</p> <p>19 the analog-to-digital converter, A-to-D converter,</p> <p>20 and the select control logic.</p> <p>21 Q Do you agree that by 1997 some of the</p> <p>22 components shown in the blue box of Paragraph 84</p>



<p>324</p> <p>1 could have been made part of a single discrete 2 integrated circuit?</p> <p>3 <b>A That would require me to investigate</b> 4 <b>the -- the state of the art for fabrication of</b> 5 <b>integrated circuits at the time to give a definitive</b> 6 <b>answer.</b></p> <p>7 Q Do you have a preliminary answer without 8 looking at such materials?</p> <p>9 MS. MANDRUSIAK: Objection. Form.</p> <p>10 <b>A If by "preliminary" you mean without</b> 11 <b>investigating it or considering it to the level of</b> 12 <b>qualifying as an expert opinion, I believe I'm here</b> 13 <b>to give expert opinions. And I would need to be</b> 14 <b>very careful to delineate, if at all possible,</b> 15 <b>something that is not an expert opinion.</b></p> <p>16 Q So you can't offer an expert opinion on 17 whether by 1997 some of the components shown in the 18 blue box of Paragraph 84 could have been made part 19 of a single integrated circuit. Is that correct?</p> <p>20 MS. MANDRUSIAK: Objection. Form, 21 relevance, mischaracterizes his testimony.</p> <p>22 <b>A You're using the subjunctive form of the</b></p>	<p>326</p> <p>1 <b>very difficult to say that anything is impossible.</b></p> <p>2 Q Are you familiar with general-purpose 3 input/output pins of a microcontroller?</p> <p>4 <b>A That's a very generic term. You would --</b> 5 <b>I've heard it used before. If you're going to ask</b> 6 <b>questions about it I would need to know the specific</b> 7 <b>thing that you're referring to, because it gets used</b> 8 <b>in different ways.</b></p> <p>9 Q Would a microcontroller from 1997 be able 10 to provide the functions -- I'm sorry, strike that.</p> <p>11 Turning to Paragraph 88 of your Track 2 12 declaration. And the following figure on Page 45.</p> <p>13 Can you describe what you show in this 14 figure?</p> <p>15 <b>A Well, this is my best effort at the time</b> 16 <b>to illustrate with a figure what I say in Paragraph</b> 17 <b>88. That, therefore, in the petitioner's alleged</b> 18 <b>combination, the phone would have at least four more</b> 19 <b>A-to-D converter chips, four filter buffer circuits,</b> 20 <b>and at least the equivalent of four clock circuits,</b> 21 <b>four select control logic units, and four MPU</b> 22 <b>interface units, as depicted below.</b></p>
<p>325</p> <p>1 <b>verb "can," which is in this context equivalent to</b> 2 <b>asking about possibility or impossibility. And it's</b> 3 <b>very hard to say on anything that something is</b> 4 <b>absolutely impossible.</b></p> <p>5 <b>I think I've been asked that question</b> 6 <b>several times, and I've given -- I hope the response</b> 7 <b>is clear at this point.</b></p> <p>8 Q Sorry. One second.</p> <p>9 Based on your -- strike that.</p> <p>10 Based on the knowledge that you have, do 11 you think it would have been possible for some of 12 the components shown in the blue box of Paragraph 84 13 to have been included in a microcontroller?</p> <p>14 MS. MANDRUSIAK: Objection. Form.</p> <p>15 <b>A Again, you're using the subjunctive -- I</b> 16 <b>believe you used the word "could," which is a</b> 17 <b>subjunctive form of the verb "can." Being</b> 18 <b>subjunctive, it's a hypothetical question. Being</b> 19 <b>the verb "can," it also is equivalent to the</b> 20 <b>question in this context of something being</b> 21 <b>impossible or not.</b></p> <p>22 <b>And as I've said, it's generally very,</b></p>	<p>327</p> <p>1 <b>If you want to discuss the individual</b> 2 <b>units -- individual components, I would like to have</b> 3 <b>the opportunity to go back and study this, because</b> 4 <b>this is something that took a while to construct and</b> 5 <b>it was the best effort I made at the time.</b></p> <p>6 <b>I could make at the time. I'm sorry.</b></p> <p>7 Q Let's see. If you want to briefly refresh 8 yourself on the functions of each of these 9 components, you're welcome to. I believe the 10 Exhibit is 1012, which is Moore.</p> <p>11 <b>A The components in?</b></p> <p>12 Q The components shown in that figure on 13 Page 45. Sorry.</p> <p>14 MS. MANDRUSIAK: Objection. Is there a 15 question, or are you just asking him to read the 16 reference?</p> <p>17 MR. BROOKE: I'm asking him to refresh 18 himself on the --</p> <p>19 MS. MANDRUSIAK: For what purpose?</p> <p>20 Q If you want to discuss the individual 21 units --</p> <p>22 MS. MANDRUSIAK: That was his question.</p>

Videotaped Deposition of Jean Renard Ward, Volume 2  
Conducted on July 15, 2016

17 (Pages 328 to 331)

<p>328</p> <p>1 Are you asking him a question?</p> <p>2 MR. BROOKE: I'm asking him to refresh</p> <p>3 himself on the function of these components so that</p> <p>4 I can ask my next question. As he said, I would</p> <p>5 like to have this opportunity to go back and study</p> <p>6 this because this is something that took a while to</p> <p>7 construct.</p> <p>8 MS. MANDRUSIAK: Why don't you ask your</p> <p>9 question first so he knows what he's refreshing</p> <p>10 himself to answer.</p> <p>11 MR. BROOKE: I would like him merely to</p> <p>12 refresh himself on the function of the blocks shown</p> <p>13 in the figure on Page 45.</p> <p>14 MS. MANDRUSIAK: Just trying to make it</p> <p>15 more efficient.</p> <p>16 THE WITNESS: I apologize if my response</p> <p>17 was not understood the way I intended. I would need</p> <p>18 to know what questions you're asking in order to</p> <p>19 know what I should focus on while trying to refresh</p> <p>20 my memory.</p> <p>21 Q To your knowledge, did any</p> <p>22 microcontrollers as of 1997 include an A-to-D</p>	<p>330</p> <p>1 picture shown here is of a Sony Ericsson --</p> <p>2 <b>A Can you speak up, please? I'm sorry.</b></p> <p>3 Q Sorry. Yes.</p> <p>4 You state here that this photograph is a</p> <p>5 Sony Ericsson T200 released in 2002.</p> <p>6 <b>A Yes. I believe we went over that earlier.</b></p> <p>7 <b>So I'll refer you back to the previous questions and</b></p> <p>8 <b>answers.</b></p> <p>9 Q Would the -- sorry. You see the A-to-D</p> <p>10 converter labeled in that picture. Correct?</p> <p>11 <b>A Yes, sir.</b></p> <p>12 Q Is it your opinion that this A-to-D</p> <p>13 converter would be able to analog to digitally</p> <p>14 convert the input from one of Moore's touchstrips?</p> <p>15 MS. MANDRUSIAK: Objection. Form.</p> <p>16 Relevance.</p> <p>17 <b>A I believe that's the -- a single A-to-D</b></p> <p>18 <b>converter. And I would assume that it's the one</b></p> <p>19 <b>used for the microphone, since that would be the</b></p> <p>20 <b>typical function of it. I may refer to that in the</b></p> <p>21 <b>report. We can look that up.</b></p> <p>22 Q Okay. But yes or no: Is it your opinion</p>
<p>329</p> <p>1 converter as part of the single integrated circuit?</p> <p>2 <b>A Given the vast number of fabrication</b></p> <p>3 <b>centers and designs for things that could be called</b></p> <p>4 <b>microcontrollers, I would need to clarify what</b></p> <p>5 <b>exactly -- what kind of microcontroller you have in</b></p> <p>6 <b>mind. And I would need to go back and review that.</b></p> <p>7 <b>I'm not -- as I said earlier, for example, I am not</b></p> <p>8 <b>an expert on market share or what was being offered</b></p> <p>9 <b>in the market or in a particular market.</b></p> <p>10 Q Do you have any opinion on the sort of</p> <p>11 microcontroller that would meet the requirements of</p> <p>12 Palatsi?</p> <p>13 MS. MANDRUSIAK: Objection. Form.</p> <p>14 <b>A I would need to check to see whether</b></p> <p>15 <b>that's something I listed in my report. I would</b></p> <p>16 <b>also need to review the Palatsi reference. And I</b></p> <p>17 <b>would also ask you to clarify your definition of</b></p> <p>18 <b>"sorts," how you want to classify different sorts of</b></p> <p>19 <b>microcontrollers.</b></p> <p>20 Q If you could please turn to Paragraph 87</p> <p>21 of your Track 2 declaration.</p> <p>22 I believe that you have mentioned that the</p>	<p>331</p> <p>1 that this A-to-D converter would be able to analog</p> <p>2 to digitally convert the input from one of Moore's</p> <p>3 touchstrips?</p> <p>4 MS. MANDRUSIAK: Objection. Form,</p> <p>5 relevance.</p> <p>6 <b>A Well, that's a hypothetical question. One</b></p> <p>7 <b>question might be whether they operate at compatible</b></p> <p>8 <b>voltages. You might need to ask the question about</b></p> <p>9 <b>whether there are additional buffering isolate -- or</b></p> <p>10 <b>isolating circuits required. You might need to</b></p> <p>11 <b>discuss whether -- or consider what the supply</b></p> <p>12 <b>voltage is required on it.</b></p> <p>13 <b>You might need to discuss what the</b></p> <p>14 <b>characteristics of the A-to-D converter are. There</b></p> <p>15 <b>are some that are linear or highly nonlinear. I</b></p> <p>16 <b>believe nonlinear A-to-Ds may be used in digitizing</b></p> <p>17 <b>audio signals because of the characteristics of the</b></p> <p>18 <b>signals.</b></p> <p>19 <b>You would have to give me a bit more</b></p> <p>20 <b>information to consider that hypothetical question.</b></p> <p>21 Q At Paragraph 88 of your declaration, you</p> <p>22 state that petitioner's combination would have at</p>

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TCL Ex. 1210, Page 18

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<p style="text-align: right;">332</p> <p>1 least four more A-to-D converter chips. 2 Do you see that? 3 <b>A Yes.</b> 4 <b>Q</b> What A-to-D converter chips are you 5 referring to here? 6 <b>A</b> If we can go back to the petitioner's 7 presentation on this. But I think this may be 8 discussed in my report, also. 9 <b>Q</b> Well, it is discussed in your report. I 10 guess the question is, the at least four more A-to-D 11 converter chips of Paragraph 88, what four more 12 A-to-D converter chips are you referring to here? 13 <b>A</b> I believe I was referring to the 14 components I believed were used in their 15 combination, as I point out in Paragraph 85. And if 16 we want to go this into more detail, since this took 17 some time to prepare, and time to analyze and to 18 summarize the analysis in an adequate fashion, I 19 would want to go back to the Palatsi reference and 20 go back and also look at the TCL presentation on 21 this. 22 I would also want to check Dr. Wolfe's</p>	<p style="text-align: right;">334</p> <p>1 like to point out the size of that component as it 2 appears in the photograph. 3 And that I don't even see the -- even 4 ignoring the shape of the available area, I don't 5 see enough available area in that photograph to 6 mount four more of those chips. 7 I think it would be very unlikely that 8 they would be stacked. 9 <b>Q</b> So the A-to-D converter shown in that 10 picture in Paragraph 87 is relevant to the sort of 11 A-to-D converter you would need in the combination 12 of Palatsi and Moore? 13 <b>A</b> I don't -- 14 MS. MANDRUSIAK: Objection. Form. 15 Relevance. 16 <b>A</b> I don't believe I made any such assertion. 17 <b>Q</b> But you just commented on the size of that 18 A-to-D converter. Correct? 19 <b>A</b> Could I have my answer read back to me, 20 please. Starting at where it talks about 21 hypothetical combination. 22 (The record was read as follows:</p>
<p style="text-align: right;">333</p> <p>1 analysis and testimony on this. 2 I believe I point out at the top of Page 3 44 and elsewhere a number of -- some of a number of 4 things in Dr. Wolfe's testimony and analysis that I 5 felt were at least incomplete or they were points 6 that he did not address. 7 <b>Q</b> Yes. So going back to Paragraph 87, and 8 the A-to-D converter shown in the picture. That is 9 not the A-to-D converter you're referencing in 10 Paragraph 88. Correct? 11 MS. MANDRUSIAK: Objection. Form. 12 <b>A</b> I believe what I say in Paragraph 88, 13 Therefore, in the petitioner's alleged combination, 14 the phone would have at least four more A-to-D 15 converter chips. And there's a typo there. I 16 apologize. 17 <b>Q</b> So do you mean four more of the A-to-D 18 converter chips shown in the picture above Paragraph 19 88? 20 <b>A</b> I only state -- and what I do state is, at 21 least four more A-to-D converter chips. If they 22 were identical chips, if that hypothetical case, I'd</p>	<p style="text-align: right;">335</p> <p>1 "I only state -- and what I do state is, 2 at least four more A-to-D converter chips. If they 3 were identical chips, if that hypothetical case, I'd 4 like to point out the size of that component as it 5 appears in the photograph. And that I don't even 6 see the -- even ignoring the shape of the available 7 area, I don't see enough available area in that 8 photograph to mount four more of those chips. I 9 think it would be very unlikely that they would be 10 stacked.") 11 <b>A</b> When we review the transcript I'll check 12 the punctuation, but I believe that's correct. 13 Thank you. 14 <b>Q</b> So as I asked, you had just commented on 15 the size of that A-to-D converter. Correct? 16 <b>A</b> In a hypothetical case. And I think it 17 was a double hypothetical, because I weren't sure 18 whether you were posing that hypothetical case. 19 <b>Q</b> Are you familiar with input channels of 20 A-to-D converters? 21 <b>A</b> Again, that's a general term, "channel" 22 and also "input," and "input/output channel." I</p>

<p style="text-align: right;">336</p> <p>1 <b>believe it refers both to -- it's used both in</b> 2 <b>hardware and software context, as well as a variety</b> 3 <b>of hardware context. But, yes, I've heard the term.</b> 4 Q Do you have an opinion on how many input 5 channels an A-to-D converter would need for handling 6 four of Moore's touchstrips? 7 MS. MANDRUSIAK: Objection. Form. 8 A My opinion is that what we need to -- I'd 9 need to know whether you're including additional 10 multiplexing circuitry in that. I would need to 11 know the totality of the design. I would need to 12 know which -- I would need to clarify what you mean 13 by an input channel. We would need to clarify what 14 you are refer -- what set of components you're 15 referring to as A-to-D converter. 16 There are things sold as an A-to-D 17 converter that they're the size of a bread box. 18 Q I believe you mentioned earlier -- and 19 please do correct me if I am wrong -- that the 20 A-to-D converter shown in the figure of Paragraph 87 21 appeared to have six input channels on one side? 22 A I don't believe that was my testimony.</p>	<p style="text-align: right;">338</p> <p>1 the Figure at Paragraph 87 has? 2 MS. MANDRUSIAK: Objection. Relevance. 3 Form. 4 A As I believe I noted earlier -- and we can 5 refer back to that -- I said something approximately 6 like I would need to know what -- clarify what you 7 mean by channel. Because that's an overloaded term. 8 And I believe there was more in that response. 9 For the record, on the question about the 10 pins, I believe that may be a case where because of 11 difficulty hearing the voice, I may have 12 misunderstood the question. 13 Q Okay. So you don't know how many input 14 channels are in the A-to-D converter of Paragraph 15 84. Correct? 16 A I'll refer back to my previous statement 17 about what -- about what would be involved in 18 knowing something like that, yes. Or no. I'm not 19 sure whether yes or no is the correct answer there. 20 Q Well, the question was, you don't know how 21 many input channels are in the A-to-D converter of 22 Paragraph 84. Correct?</p>
<p style="text-align: right;">337</p> <p>1 Could we have the testimony read back into 2 the record? 3 Let me rephrase that. I don't recollect 4 that that was my testimony. 5 (The reporter read the record as follows: 6 "I think I -- it's hard to tell in the 7 picture, but I think I can count at least six, what 8 appear to be on one side.") 9 A Could you please refer to -- read me the 10 previous question and answer, since it referred back 11 to that. 12 (The reporter read the record as follows: 13 "Can you tell how many input pins it 14 has?") 15 A Okay. I will correct that answer because 16 I misinterpreted the question. You asked about 17 input pins, and my answer was directed to the number 18 of visible pins. 19 Q Okay. So you have -- let me rephrase 20 that. 21 Do you have an opinion then on how many 22 A-to-D input channels the A-to-D converter shown in</p>	<p style="text-align: right;">339</p> <p>1 A I'll add yes to my previous answer. For 2 the record. We can have it read back in and I can 3 add the yes now, if you'd like. 4 Q Okay. So you're confirming that you don't 5 know how many input channels are in the A-to-D 6 converter of Paragraph 84. Is that correct? 7 A I've already answered yes. 8 Q Okay. 9 A Referring back as an amendment to the 10 previous answer. 11 Q Okay. 12 A If that is not an answer to your question, 13 could you please clarify the question. 14 Q That's fine. Thanks. 15 Would a microcontroller of 1997 always 16 have used a separate discrete A-to-D chip? 17 MS. MANDRUSIAK: Objection. Form. 18 A Well, it's hard to answer that question 19 because I don't know your context. 20 If your context was a microcontroller used 21 in a system which had no need for A-to-D conversion, 22 would it necessarily -- necessarily have used an</p>

<p style="text-align: right;">340</p> <p>1 A-to-D chip? I guess the answer is no, because 2 there's no need for one. 3 Q Turning to Paragraph 97 of your Track 2 4 declaration. Can you read when you are ready the 5 second sentence from the bottom. 6 A Starting, "Further, my consideration" 7 Q Yes. Please. 8 A "Further, my consideration of the quote 9 tear down of a representative device shows that the 10 analog-to-digital converter circuitry that already 11 is included in the device is a separate component 12 and is not integrated with the microprocessor, as 13 Dr. Wolfe assumes and relies upon in his deposition 14 testimony." 15 Q Okay. Is it your opinion that a POSITA 16 would not have known to make the analog-to-digital 17 conversion within the microprocessor? 18 MS. MANDRUSIAK: Objection. Form. 19 A Could you restate the question, please? 20 Q Is it your opinion that a POSITA would not 21 have known to use the microprocessor itself for 22 A-to-D conversion?</p>	<p style="text-align: right;">342</p> <p>1 circuitry. Correct? 2 MS. MANDRUSIAK: Objection. Form. 3 Mischaracterizes his testimony. 4 A I think you're mischaracterizing my 5 previous answer. If you can provide -- we can go 6 back to it. If you can provide those things, then 7 I'm not sure how long it would take. But I could 8 attempt to do that analysis now. 9 Q Let me ask it a different way. 10 What relevance does the fact that the 11 analog-to-digital converter circuitry of the 12 representative device of Paragraph 87 have to what a 13 POSITA would have done in the combination of Palatsi 14 and Moore? 15 A Well, one of the places in my report that 16 I believe is relevant -- excuse me, my declaration 17 that I believe is relevant -- I notice I'm not the 18 only one who has made that substitution. 19 For instance, it is my opinion that the 20 four touchstrips added to Palatsi along with the 21 required hardware would be problematic in a portable 22 rated telephone fitting in the palm of a user's</p>
<p style="text-align: right;">341</p> <p>1 MS. MANDRUSIAK: Objection. Form. 2 A I think my opinions are spelled out in the 3 report. 4 I will make reference that there are two 5 definitions to POSITAs in this proceeding. And that 6 some of my analysis addresses the lack of 7 obviousness for either of them. And I think in one 8 case I also point out -- make a reference to how 9 it's even -- I think words to the effect that it 10 even more unobvious for one of them than the other. 11 If that answers your question. 12 Q So you state that the -- sorry. At 13 Paragraph 97 you state that the analog-to-digital 14 converter circuitry that already is included in the 15 device is a separate component. Correct? 16 A Yes. I'm referring to the component 17 that's visible on that example. 18 Q The T200 example of Paragraph 87? 19 A I believe so. And we've talked about the 20 identification of that. 21 Q Okay. And you have acknowledged that you 22 don't know the number of A-to-D channels in that</p>	<p style="text-align: right;">343</p> <p>1 hand. They add to the bulk and cellphone size and 2 weight desirable to be minimized as specifically 3 taught in Palatsi. As well as in other references. 4 And I mention one of the other references. 5 And I noted here that under deposition, 6 Dr. Wolfe made several unsubstantiated claims about 7 how a mock -- microprocessor, whether we're talking 8 about it in Moore or Palatsi, it would ordinarily 9 include additional circuitry. 10 And then while he was referring to 11 ordinarily additional circuitry, he goes on to say, 12 And in this particular case, it would ordinarily 13 include analog-to-digital converter circuitry 14 capable of connecting to the touchstrips of Moore. 15 I state that in his deposition, he simply 16 assumes that in 1997 all the additional circuitry 17 and processing capability for a number of additional 18 touchstrips would simply be available in a 19 microprocessor used in a handheld telephone. 20 I go on to explain that point further. 21 And one aspect of that example is it shows that what 22 one would plausibly assume would be an</p>

<p style="text-align: right;">344</p> <p>1 analog-to-digital converter that would be present in 2 most common, ordinarily be present in cellphones, 3 would be the A-to-D converter circuitry for the 4 microphone. 5 Because radio telephones generally have a 6 microphone, and they generally need to convert the 7 input signals to a digital form in order to perform 8 the compression and signal-processing algorithms 9 that are required for cellphone communications or 10 just interfacing to a radio telephone circuitry. 11 And that even that A-to-D converter, at a 12 period, although I believed it was representative 13 and I give that it's representative of this time 14 period, five years later did not have it included as 15 Dr. Wolfe assumed. 16 If I've mistakenly referred to him as 17 Dr. Moore again, I apologize to Dr. Wolfe. 18 I'm not sure how long we've been going, 19 but I'll -- could we take a break after -- 20 Q Sure. 21 A -- your next question? 22 Q I have one more question.</p>	<p style="text-align: right;">346</p> <p>1 MR. BROOKE: Okay. I'm ready to break, if 2 you are. 3 THE WITNESS: Thank you. 4 VIDEO SPECIALIST: This marks the end of 5 Tape Number 2 in the deposition of Jean Renard Ward. 6 We are off the record at 11:36. 7 (A recess was taken.) 8 VIDEO SPECIALIST: Here begins Tape Number 9 3 in the deposition of Jean Renard Ward. We are 10 back on the record at 11:47. 11 MR. BROOKE: Would you mark that as 12 Exhibit 5 to the deposition. 13 (Ward Deposition Exhibit 5 marked for 14 identification and is attached to the transcript.) 15 BY MR. BROOKE: 16 Q All right. You're being handed what's 17 been marked as Exhibit 5 to this deposition. Please 18 take a moment to briefly skim through the document. 19 I think it's 60 pages long. 20 A Will I be questioned on this document 21 afterwards? 22 Q Not substantively, no.</p>
<p style="text-align: right;">345</p> <p>1 So -- 2 A Is this all your questions, or just one 3 more for now? 4 Q Sorry. Just one more question before 5 break. 6 You just stated that even that A-to-D 7 converter at a time period, although I believe that 8 it was representative and I give that it is 9 representative of this time period, five years later 10 did not have it included as Dr. Wolfe assumed. 11 What did not have it included five years 12 later? 13 A The microprocessor. You can see that in 14 Paragraph 96. 15 Q Okay. Great. 16 A I'm quoting from Dr. Wolfe there. 17 MR. BROOKE: We can take a break, if you 18 are ready. Sorry, did you have more? 19 THE WITNESS: No. I just want to call 20 attention that this was one of a number of, let's 21 say, defects, in Dr. Wolfe's analysis on multiple 22 technical points.</p>	<p style="text-align: right;">347</p> <p>1 A If there are no substantive questions, 2 what am I reviewing it for? To check the date? 3 Q I'm sorry. You may be asked a question or 4 two about the substance, but based solely on 5 passages that I will point to. 6 A I would prefer to read the entire document 7 and not take things out of context. And I would -- 8 may want to go back and reread things in context 9 after you point out a passage. 10 Q How about we do that. Is it okay for me 11 to point out a passage, and if you want to read the 12 context, if it makes you feel more comfortable 13 before you answer, then please feel free to. 14 A I still may want to read the entire 15 document. 16 Q Okay. Well, starting out, can you please 17 just read the line of the title page, which is Page 18 1, starting at 80C51. 19 A 80C51 Family Derivatives. 20 Q Okay. Thank you. 21 And can you please read the date printed 22 on Page 1.</p>

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22 (Pages 348 to 351)

<p>348</p> <p>1     <b>A 1996, August 6.</b></p> <p>2     Q Okay. Thank you.</p> <p>3         And turning to Page 2. Could you please</p> <p>4 just read the first sentence of the first paragraph</p> <p>5 at Page 2, starting with, "The 8XC552."</p> <p>6     <b>A Out loud?</b></p> <p>7     Q Please.</p> <p>8     <b>A "The 8XC552 overview. The 8XC552 is a</b></p> <p>9 <b>standalone high-performance microcontroller designed</b></p> <p>10 <b>for use in real-time applications such as</b></p> <p>11 <b>instrumentation, industrial control, and automotive</b></p> <p>12 <b>control applications such as engine management and</b></p> <p>13 <b>transmission control. The device provides, in</b></p> <p>14 <b>addition to the 80C51 standard functions, a number</b></p> <p>15 <b>of dedicated hardware functions for these</b></p> <p>16 <b>applications."</b></p> <p>17     Q Thank you.</p> <p>18         Now, I understand that you have not had an</p> <p>19 opportunity to read through this document.</p> <p>20     <b>A Could you speak up, please?</b></p> <p>21     Q Sorry. I understand that you have not had</p> <p>22 an opportunity to read through this document in its</p>	<p>350</p> <p>1 sentence?</p> <p>2     <b>A I see the words, "an 8 input ADC."</b></p> <p>3     Q Is it your understanding that ADC here</p> <p>4 means analog-to-digital converter?</p> <p>5     <b>A That's the common abbreviation, yes. I</b></p> <p>6 <b>have no idea what kind of a converter it is.</b></p> <p>7     Q Okay.</p> <p>8     <b>A And I also note that it refers to it in</b></p> <p>9 <b>the singular.</b></p> <p>10     Q But with eight inputs. Correct?</p> <p>11     <b>A I beg your pardon?</b></p> <p>12     Q But with eight inputs. Correct?</p> <p>13     <b>A Yes.</b></p> <p>14     Q And then if you would, please, just turn</p> <p>15 to Paragraph -- I'm sorry, Page 46.</p> <p>16         MS. MANDRUSIAK: Are we done with this</p> <p>17 document?</p> <p>18         MR. BROOKE: Not done with that document.</p> <p>19         MS. MANDRUSIAK: Oh, no. Page 46 of that</p> <p>20 document. I'm sorry.</p> <p>21     Q Can you please read out loud the first</p> <p>22 sentence under Port 5 Operation.</p>
<p>349</p> <p>1 entirety.</p> <p>2         But based on the title page and this</p> <p>3 paragraph, would you agree that this at least</p> <p>4 appears to be a technical overview of the 8XC552/562</p> <p>5 microcontroller as of August 6, 1996?</p> <p>6         MS. MANDRUSIAK: Objection. Form.</p> <p>7 Foundation. Relevance.</p> <p>8     <b>A It says right here, 8XC552 Overview. And</b></p> <p>9 <b>I suppose you could characterize this first</b></p> <p>10 <b>paragraph as giving some form of an overview. To</b></p> <p>11 <b>that extent, perhaps yes.</b></p> <p>12     Q Okay. Thank you.</p> <p>13     <b>A I'm not aware to what detail or which</b></p> <p>14 <b>aspects are covered in this interview.</b></p> <p>15     Q I understand.</p> <p>16         Remaining on Page 2. About midway down</p> <p>17 the left column. Can you please just read the first</p> <p>18 sentence, starting with, "The 8XC552 contains." It</p> <p>19 does not need to be out loud.</p> <p>20     <b>A Okay. I have skimmed that paragraph.</b></p> <p>21     Q Thank you.</p> <p>22         Do you see the word "8 input ADC" in that</p>	<p>351</p> <p>1     <b>A The first sentence?</b></p> <p>2     Q Yes.</p> <p>3     <b>A "Port 5 may be used to input up to eight</b></p> <p>4 <b>analog signals to the ADC."</b></p> <p>5     Q Okay. Thank you.</p> <p>6         Would you agree then that this document at</p> <p>7 least appears to describe a microcontroller in 1996</p> <p>8 that included an eight-input analog-to-digital</p> <p>9 converter?</p> <p>10         MS. MANDRUSIAK: Objection. Form,</p> <p>11 foundation, relevance.</p> <p>12     <b>A It says right here, Port 5 may be used to</b></p> <p>13 <b>input up to eight analog signals to the ADC. I see</b></p> <p>14 <b>nothing here as to the voltage level, the type of</b></p> <p>15 <b>the signal, the operation. Although I would like,</b></p> <p>16 <b>before really responding to these questions, I would</b></p> <p>17 <b>like to read the whole document. In the section you</b></p> <p>18 <b>had me read out earlier, it refers to it's a</b></p> <p>19 <b>high-performance microcontroller designed for use in</b></p> <p>20 <b>real-time applications, such as instrumentation,</b></p> <p>21 <b>industrial control, and automotive control</b></p> <p>22 <b>applications such as engine management and</b></p>

<p>352</p> <p>1 <b>transmission control.</b></p> <p>2 <b>But I have not had an opportunity to read</b></p> <p>3 <b>the entire document.</b></p> <p>4 Q I understand.</p> <p>5 A <b>And I also do not know the full context of</b></p> <p>6 <b>your question.</b></p> <p>7 Q Sure. If you go to Page 46 again, and the</p> <p>8 top heading, I/O Port Structure.</p> <p>9 A <b>Yes, I see it.</b></p> <p>10 Q Okay. And do you see the first sentence</p> <p>11 saying, "The 8XC552 has six 8-bit ports"?</p> <p>12 A <b>Yes, sir. That's the first sentence.</b></p> <p>13 Q Thank you. And do you understand Port 5</p> <p>14 described a few paragraphs below to be one of those</p> <p>15 ports?</p> <p>16 A <b>Without reading the rest of the document,</b></p> <p>17 <b>that's probably a -- what it's intended to refer to,</b></p> <p>18 <b>yes.</b></p> <p>19 Q Okay. And so would you agree that Port 5</p> <p>20 is describing -- strike that.</p> <p>21 Would you agree that the Port 5</p> <p>22 description of being used to input up to eight</p>	<p>354</p> <p>1 graphics are being scrolled vertically or laterally</p> <p>2 while in the scrolling mode of Moore (such as in a</p> <p>3 word-processing application), and the user switches</p> <p>4 to the menu mode by pressing the menu selection</p> <p>5 function key of the keyboard, then a new list of</p> <p>6 titles will be displayed adjacent to respective</p> <p>7 portions of the touchstrip."</p> <p>8 A <b>It goes on. But, yes, I see that.</b></p> <p>9 Q Sure.</p> <p>10 A <b>May I ask a point of clarification here?</b></p> <p>11 Q Certainly.</p> <p>12 A <b>I just directed my attention to another</b></p> <p>13 <b>reference.</b></p> <p>14 Q That's correct.</p> <p>15 A <b>And only to certain portions of it.</b></p> <p>16 Q Yes.</p> <p>17 A <b>Is there a connection -- since you</b></p> <p>18 <b>directed my attention to that immediately prior to</b></p> <p>19 <b>asking this question, is there a connection between</b></p> <p>20 <b>these two?</b></p> <p>21 Q There is no connection.</p> <p>22 A <b>Okay. And you've already said there are</b></p>
<p>353</p> <p>1 analog signals to the ADC pertains to the 8XC552</p> <p>2 microcontroller?</p> <p>3 MS. MANDRUSIAK: Objection. Form,</p> <p>4 foundation, relevance.</p> <p>5 A <b>The document says at the top, 8X5 --</b></p> <p>6 <b>8XC552/562 overview. And on this page, talking</b></p> <p>7 <b>about the 80C51 derivatives, it refers to Port 5,</b></p> <p>8 <b>yes.</b></p> <p>9 Q Okay. Thank you.</p> <p>10 If you could turn to your Track 2</p> <p>11 declaration again. We're switching gears.</p> <p>12 So in the second sentence of Paragraph 115</p> <p>13 you state that --</p> <p>14 A <b>Excuse me. Could you let me get to that</b></p> <p>15 <b>paragraph?</b></p> <p>16 Q Oh, sure. Take your time.</p> <p>17 A <b>Which paragraph?</b></p> <p>18 Q Paragraph 115.</p> <p>19 A <b>Starting, "However, in the scrolling</b></p> <p>20 <b>mode"?</b></p> <p>21 Q The third sentence. I'll read it to you.</p> <p>22 You state, "As illustrated below, if display text or</p>	<p>355</p> <p>1 <b>no substantive questions about this reference.</b></p> <p>2 Q I've asked all the questions that I plan</p> <p>3 to ask about that reference, yes.</p> <p>4 A <b>Okay. And it is on the record that this</b></p> <p>5 <b>refers to, in only the section -- one of the few</b></p> <p>6 <b>sections you directed my attention to, it refers to</b></p> <p>7 <b>use in real-time applications such as</b></p> <p>8 <b>instrumentation, industrial control --</b></p> <p>9 Q Yes.</p> <p>10 A <b>-- and automated control applications.</b></p> <p>11 <b>Correct?</b></p> <p>12 Q That's correct. I believe you read that</p> <p>13 before.</p> <p>14 A <b>Okay. I'm -- I was confused by the</b></p> <p>15 <b>transition.</b></p> <p>16 Q Sorry.</p> <p>17 Okay. So turning back to Paragraph 115.</p> <p>18 You state that, A new list of titles will be</p> <p>19 displayed adjacent to respective portions of the</p> <p>20 touchstrip.</p> <p>21 A <b>Yes.</b></p> <p>22 Q Can you point me to where Moore discloses</p>



<p>356</p> <p>1 that?</p> <p>2 <b>A Do we have Moore here?</b></p> <p>3 <b>Q</b> It is Exhibit 1012.</p> <p>4 <b>A Say again?</b></p> <p>5 <b>Q</b> Exhibit 1012.</p> <p>6 MS. MANDRUSIAK: It's one of the patents.</p> <p>7 THE WITNESS: Yeah, I know.</p> <p>8 Here it is.</p> <p>9 <b>A Is it all right if I make a small mark on</b></p> <p>10 <b>this copy?</b></p> <p>11 <b>Q</b> It's perfectly fine. You can make as many</p> <p>12 marks as you want.</p> <p>13 <b>A Thank you. I'm not finished, but could we</b></p> <p>14 <b>have the question read back to me just to make sure</b></p> <p>15 <b>I'm -- just to refresh, make sure I'm not</b></p> <p>16 <b>misremembering the question.</b></p> <p>17 <b>(Pending question read.)</b></p> <p>18 THE WITNESS: And the question before</p> <p>19 that, question and answer before that.</p> <p>20 <b>(The record was read.)</b></p> <p>21 THE WITNESS: Thank you.</p> <p>22 <b>A May I mark on -- small mark just that</b></p>	<p>358</p> <p>1 <b>note, through an editing error I did not identify it</b></p> <p>2 <b>in the report.</b></p> <p>3 <b>Q</b> Okay.</p> <p>4 <b>A Column 3, Line 45. "By pressing the menu</b></p> <p>5 <b>selection function key, a program is selected which</b></p> <p>6 <b>enables the user to select one title from a list of</b></p> <p>7 <b>displayed titles merely by pressing the touchstrip,</b></p> <p>8 <b>usually the vertically extending touchstrip, at a</b></p> <p>9 <b>location adjacent to the particular displayed title.</b></p> <p>10 <b>"Once having selected this title from the</b></p> <p>11 <b>list, the user can perform any number of</b></p> <p>12 <b>manipulating functions. For example, displaying a</b></p> <p>13 <b>further set of possible selections within the broad</b></p> <p>14 <b>title selected."</b></p> <p>15 <b>And my intent, I believe, was to</b></p> <p>16 <b>paraphrase that section. So I apologize for the</b></p> <p>17 <b>editing error.</b></p> <p>18 <b>Q</b> That's fine. Thanks.</p> <p>19 MS. MANDRUSIAK: Maybe it's helpful to</p> <p>20 note that the citation is included in the previous</p> <p>21 paragraph with almost similar language.</p> <p>22 THE WITNESS: It is. The exact same</p>
<p>357</p> <p>1 <b>section right here?</b></p> <p>2 <b>Q</b> Please.</p> <p>3 <b>A It appears to me there are two editing</b></p> <p>4 <b>errors in here, which I apologize for. It's not as</b></p> <p>5 <b>confabulated as one of the other ones I pointed out.</b></p> <p>6 <b>But I think the reference is fairly clear.</b></p> <p>7 <b>This is -- refers to Column 3, Sections 45</b></p> <p>8 <b>through 54. And it appears also that as an editing</b></p> <p>9 <b>error I may have omitted a few words in the middle.</b></p> <p>10 <b>I would be happy to stipulate or whatever the word</b></p> <p>11 <b>is that the wording should have been either</b></p> <p>12 <b>identically or same meaning paraphrase as what's at</b></p> <p>13 <b>that section.</b></p> <p>14 <b>Q</b> What do you believe the wording should</p> <p>15 have been?</p> <p>16 <b>A I'll need to check again to see if I'm</b></p> <p>17 <b>also referring -- got something in here that's from</b></p> <p>18 <b>another place.</b></p> <p>19 <b>Q</b> Okay.</p> <p>20 <b>A But one thing could have been done would</b></p> <p>21 <b>have been a full quote, and I -- looking at it now,</b></p> <p>22 <b>I believe this is the correct section, although as I</b></p>	<p>359</p> <p>1 section.</p> <p>2 <b>Q</b> Okay.</p> <p>3 <b>A I apologize for not noticing that.</b></p> <p>4 <b>Q</b> That's fine.</p> <p>5 <b>A And you had directed my attention solely</b></p> <p>6 <b>to Paragraph 115, which I unfortunately did not read</b></p> <p>7 <b>in the full context in my report.</b></p> <p>8 <b>Q</b> So in the passage you just read, the word</p> <p>9 "new" does not appear. Correct?</p> <p>10 <b>A Displaying a further set of possible</b></p> <p>11 <b>selections. And I apologize if the paraphrase</b></p> <p>12 <b>were -- could be interpreted other than as I</b></p> <p>13 <b>intended. My intent was to paraphrase the meaning</b></p> <p>14 <b>of the section that is identified in the previous</b></p> <p>15 <b>paragraph.</b></p> <p>16 <b>Q</b> Well, I understand. But so with regard to</p> <p>17 Column 3, Lines 45 to 53 of Moore, it does not</p> <p>18 expressly disclose that a list of new displayed</p> <p>19 titles is displayed. Correct?</p> <p>20 MS. MANDRUSIAK: Objection. Form.</p> <p>21 <b>A I believe you're -- you may be</b></p> <p>22 <b>misrepresenting my testimony by the phrasing of your</b></p>

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25 (Pages 360 to 363)

<p>360</p> <p>1 question.</p> <p>2 <b>Could I please have my response on that</b></p> <p>3 <b>point read back to me?</b></p> <p>4 Q Okay. Moore does not expressly</p> <p>5 disclose -- I'll phrase it as a question, but I'll</p> <p>6 read your -- I'll read your declaration.</p> <p>7 Moore does not expressly disclose at</p> <p>8 Column 3, Lines 45 to 53 that, and I quote, a new</p> <p>9 list of titles will be displayed, end quote.</p> <p>10 Correct?</p> <p>11 MS. MANDRUSIAK: Objection. Form.</p> <p>12 <b>A I refer you back to my previous testimony,</b></p> <p>13 <b>that this was the -- the intent here was to</b></p> <p>14 <b>paraphrase without changing the meaning of the</b></p> <p>15 <b>section from 45 to 53. Other than the editing</b></p> <p>16 <b>errors I've noted, I believe that in context it does</b></p> <p>17 <b>make it clear that that's a section I'm referring</b></p> <p>18 <b>to, and I apologize for any confusion because I</b></p> <p>19 <b>paraphrased it not using identical language.</b></p> <p>20 <b>In retrospect, based on this confusion, if</b></p> <p>21 <b>I had known that that would happen, I would have</b></p> <p>22 <b>done something like make an exact quote from the</b></p>	<p>362</p> <p>1 for video technical matters.</p> <p>2 MR. BROOKE: I think we're getting close,</p> <p>3 so probably not.</p> <p>4 (A discussion was held off the record.)</p> <p>5 MR. BROOKE: No further questions.</p> <p>6 MS. MANDRUSIAK: Okay. Let's take a quick</p> <p>7 break.</p> <p>8 VIDEO SPECIALIST: We are going off the</p> <p>9 record. The time is 12:21.</p> <p>10 (A recess was taken.)</p> <p>11 VIDEO SPECIALIST: We are back on the</p> <p>12 record. The time is 12:28.</p> <p>13 EXAMINATION BY COUNSEL FOR PATENT OWNER</p> <p>14 BY MS. MANDRUSIAK:</p> <p>15 Q Okay. I have just a very brief redirect.</p> <p>16 Mr. Ward, do you have your Track 2</p> <p>17 declaration in front of you? We'll just use that</p> <p>18 one for convenience.</p> <p>19 <b>A Okay.</b></p> <p>20 Q Please turn -- okay. Please turn to</p> <p>21 Paragraph 22. And read that paragraph to yourself,</p> <p>22 please.</p>
<p>361</p> <p>1 section.</p> <p>2 Q Okay. So do you agree that the word "new"</p> <p>3 does not appear in Column 3, Lines 45 to 53 of</p> <p>4 Moore?</p> <p>5 MS. MANDRUSIAK: Objection. Asked and</p> <p>6 answered. Form.</p> <p>7 <b>A I believe I've already responded to that</b></p> <p>8 <b>question. And I believe I've already stated my</b></p> <p>9 <b>intent was to paraphrase without changing the</b></p> <p>10 <b>meaning. And I believe I pointed to the word "new"</b></p> <p>11 <b>and the word "further set" as intending to have the</b></p> <p>12 <b>same meaning.</b></p> <p>13 <b>If you're asking whether the word</b></p> <p>14 <b>literally N-E-W does not appear in there, I'll grant</b></p> <p>15 <b>you that that exact word does not appear. But that</b></p> <p>16 <b>was certainly not my intent, to in any way change</b></p> <p>17 <b>the meaning of this section.</b></p> <p>18 MR. BROOKE: I'm sorry, I'm connecting</p> <p>19 here again.</p> <p>20 MS. MANDRUSIAK: We're disconnected, too.</p> <p>21 MR. BROOKE: Just wait a second.</p> <p>22 THE WITNESS: If you need to take a break</p>	<p>363</p> <p>1 <b>A Yes, I have read through it.</b></p> <p>2 Q Okay. Is your degree from MIT a</p> <p>3 bachelor's degree in electrical engineering or</p> <p>4 computer engineering?</p> <p>5 <b>A It's -- I believe the title that year was</b></p> <p>6 <b>electrical engineering and computer science. It was</b></p> <p>7 <b>a combined program.</b></p> <p>8 Q Okay.</p> <p>9 <b>A With the -- met the requirements of both</b></p> <p>10 <b>programs.</b></p> <p>11 Q Okay. Do you have at least two to three</p> <p>12 years of hands-on experience working with handheld</p> <p>13 contact-sensitive user interface devices?</p> <p>14 <b>A Yes.</b></p> <p>15 Q Do you have direct knowledge of the types</p> <p>16 of user interfaces used in mobile phones and</p> <p>17 handheld devices in 1997?</p> <p>18 <b>A Yes.</b></p> <p>19 Q Can you explain how you have this direct</p> <p>20 knowledge?</p> <p>21 <b>A Well, as you can see from looking through</b></p> <p>22 <b>the reference bibliography I keep, one way I have it</b></p>

<p style="text-align: right;">364</p> <p>1 is that ever since the late 1970s, really, anything 2 that related to touch or pen or stylus or 3 handwriting recognition or gesture input has been, I 4 guess you would say a personal passion of mine. 5 My spouse talks about somebody having a 6 large slide collection and keeping it indexed. So 7 one place I have that is because anytime I became 8 aware of something that related to -- broadly to 9 touchscreen devices, and particularly handheld 10 devices that started coming out in the late -- 11 mid -- well, early '90s, I would be investigating 12 it, how it worked. 13 At times I worked on handheld devices 14 myself. I worked on devices that had certainly very 15 similar characteristics, particularly when you get 16 down to the small sizes of those handheld devices. 17 Since I was doing this on my own nickel, I 18 really didn't have a budget to go out and buy stuff. 19 I would -- there were a couple of electronics stores 20 and computer stores that were close by. And any 21 time new family of products came out commercially, 22 that would be something we would spend an hour or</p>	<p style="text-align: right;">366</p> <p>1 Q I think that's -- that's sufficient. 2 Thank you. 3 Do you meet or exceed the definition of a 4 POSITA set forth in your declaration? 5 A Yes. 6 Q Okay. Thank you. 7 Are you aware that TCL's definition of a 8 POSITA is slightly different from your definition of 9 a POSITA? 10 A I believe I pointed that out in my report. 11 Q Okay. For convenience, I'll read what 12 their definition is. Okay? 13 A Uh-huh. 14 Q "For purposes of the obviousness analysis 15 presented below for each ground, petitioners submit 16 that a POSITA is someone with a bachelor's degree in 17 computer engineering, electrical engineering, or 18 computer science, and two years of experience with 19 touch-based user input systems or equivalent 20 education and experience on December 30th, 1997." 21 So I think it's clear that you have the 22 equivalent -- or the education requirement met.</p>
<p style="text-align: right;">365</p> <p>1 two down there, trying them all out, seeing how they 2 worked, particularly the user interfaces, also how 3 the hardware worked. 4 There were some products that made a 5 transition from electronic stylus to touch and -- a 6 finger in cursor-based input. That was interesting, 7 because you could see whether they had had to make 8 any design differences and what design differences 9 they did or did not have to make. 10 There were other units that had the 11 characteristic of the IBM Simon that it worked with 12 both a stylus and a finger. And what you have to 13 deal with in that case, because you -- you cannot 14 assume -- and there's good reason not to assume -- 15 that the stylus will be what the person is using. 16 I also used these just because I had smart 17 phones and handheld devices, and I have a collection 18 of such devices going back to -- I think I have one 19 working device from the 1970s. I have some others 20 that don't work anymore. 21 We can also go through my CV, but I think 22 we did some of that earlier.</p>	<p style="text-align: right;">367</p> <p>1 Do you have two years of experience with 2 touch-based user input systems or equivalent 3 education and experience on December 30th, 1997? 4 A Yes, I did. 5 Q Okay. Thank you. 6 Do you remember a line of questioning 7 yesterday where Jeremy was asking for anything in 8 the '931 patent that would lead a POSITA to 9 understand that the second mode needs to be 10 unresponsive to contact across the entire 11 contact-sensitive surface? 12 A I don't remember the exact question, but 13 there was something like that, yes. 14 Q Okay. Can you get the '931 patent in 15 front of you. Right here. 16 A Yeah. Yes. 17 Q And so if I recall correctly, I think that 18 your position was that Claim 1 would be interpreted 19 by a POSITA as referring to the entire surface being 20 nonresponsive. Is that correct? 21 A I would have to go back and check to see 22 what it was. Some of that, particularly -- I would</p>

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27 (Pages 368 to 371)

<p>368</p> <p>1 want to go back and double-check. But I'll -- I'll</p> <p>2 accept your characterization.</p> <p>3 Q Okay. Can I draw your attention, please,</p> <p>4 to Column 5 and the sort of towards the bottom half</p> <p>5 there's a paragraph starting with "Figure 3."</p> <p>6 A Uh-huh.</p> <p>7 Q Please read that to yourself.</p> <p>8 A Okay.</p> <p>9 Q Does that support your interpretation that</p> <p>10 the contact surface in its entirety would be on or</p> <p>11 off at any given time?</p> <p>12 A I believe it's -- does, yes, but --</p> <p>13 Q Okay. Thank you.</p> <p>14 A -- we can certainly go back through</p> <p>15 things.</p> <p>16 Q I also draw your attention to Column 7,</p> <p>17 and right around the middle there's a paragraph</p> <p>18 starting, "When either of the right or left strips."</p> <p>19 Do you see that?</p> <p>20 A Yes, ma'am, I do.</p> <p>21 Q Please read that paragraph to yourself.</p> <p>22 A May I make a small mark on this copy?</p>	<p>370</p> <p>1 imported into the claim?</p> <p>2 A My understanding is that the specification</p> <p>3 is a -- a guide to the meaning of the claims because</p> <p>4 the terms in the claims may be defined or the</p> <p>5 meaning may -- the context of the meaning may be set</p> <p>6 within the specification.</p> <p>7 Although I'm not an attorney, I think I've</p> <p>8 heard something like what you've just said, so I'll</p> <p>9 take your representation.</p> <p>10 MR. BROOKE: No further questions.</p> <p>11 MS. MANDRUSIAK: Great.</p> <p>12 VIDEO SPECIALIST: This marks the end of</p> <p>13 Volume 2 of the deposition of Jean Renard Ward. We</p> <p>14 are going off the record at 12:39.</p> <p>15 (Off the record at 12:39 p.m.)</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>
<p>369</p> <p>1 Q Of course.</p> <p>2 A Okay. Thank you.</p> <p>3 Q Does that paragraph also support your</p> <p>4 interpretation that the contact surface in its</p> <p>5 entirety would be on or off, depending on the mode?</p> <p>6 A Looking at it right now, it appears to,</p> <p>7 yes, ma'am.</p> <p>8 MS. MANDRUSIAK: Thank you.</p> <p>9 We have no further questions.</p> <p>10 MR. BROOKE: Okay. I just have one</p> <p>11 question, I believe.</p> <p>12 EXAMINATION BY COUNSEL FOR PETITIONERS</p> <p>13 BY MR. BROOKE:</p> <p>14 Q You were just referred to Column 7 of the</p> <p>15 '931 patent for supporting your understanding of</p> <p>16 what the claims of the '931 patent require.</p> <p>17 Correct?</p> <p>18 A I'm not sure. I don't think that's how</p> <p>19 the question was phrased. But I'll accept that so</p> <p>20 that we can go on.</p> <p>21 Q Okay. Do you understand that limitations</p> <p>22 from the specification in patent law are not</p>	<p>371</p> <p>1 ACKNOWLEDGMENT OF DEPONENT</p> <p>2 I, JEAN RENARD WARD, do hereby acknowledge that I</p> <p>3 have read and examined the foregoing testimony, and</p> <p>4 the same is a true, correct and complete transcription</p> <p>5 of the testimony given by me and any corrections</p> <p>6 appear on the attached Errata sheet signed by me.</p> <p>7</p> <p>8 _____</p> <p>9 (DATE) (SIGNATURE)</p> <p>10</p> <p>11</p> <p>12</p> <p>13</p> <p>14</p> <p>15</p> <p>16</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>

Videotaped Deposition of Jean Renard Ward, Volume 2  
Conducted on July 15, 2016

28 (Pages 372 to 373)

372	<p>1 CERTIFICATE</p> <p>2 I, Debra Ann Whitehead, Certified Reporter and</p> <p>3 Notary Public within and for the Commonwealth of</p> <p>4 Virginia, do hereby certify:</p> <p>5</p> <p>6 That JEAN RENARD WARD, the witness whose</p> <p>7 deposition is hereinbefore set forth, was duly</p> <p>8 affirmed by me before the commencement of such</p> <p>9 deposition and that such deposition was taken before</p> <p>10 me and is a true record of the testimony given by such</p> <p>11 witness.</p> <p>12</p> <p>13 I further certify that the adverse party,</p> <p>14 TELEFONAKTIEBOLAGET LM ERICSSON, was represented by</p> <p>15 counsel at the deposition.</p> <p>16</p> <p>17 I further certify that the deposition of</p> <p>18 JEAN RENARD WARD occurred at the offices of OBLON,</p> <p>19 McCLELLAND, MAIER &amp; NEUSTADT, LLP, 1940 Duke Street,</p> <p>20 Alexandria, Virginia, 22314, on Friday, July 15, 2016,</p> <p>21 from 8:58 a.m. to 12:39 p.m.</p> <p>22</p>
373	<p>1 I further certify that I am not related to</p> <p>2 any of the parties to this action by blood or</p> <p>3 marriage, I am not employed by or an attorney to any</p> <p>4 of the parties to this action, and that I am in no way</p> <p>5 interested, financially or otherwise, in the outcome</p> <p>6 of this matter.</p> <p>7</p> <p>8 IN WITNESS WHEREOF, I have hereunto set my</p> <p>9 hand this 21st day of July, 2016.</p> <p>10</p> <p>11 My commission expires:</p> <p>12 October 31, 2019</p> <p>13</p> <p>14 -----</p> <p>15 NOTARY PUBLIC IN AND FOR THE</p> <p>16 COMMONWEALTH OF VIRGINIA</p> <p>17</p> <p>18</p> <p>19</p> <p>20</p> <p>21</p> <p>22</p>

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