

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

~~~~~ CASE NO. :  
COMCAST CABLE COMMUNICATIONS, LLC, IPR2024-00432  
IPR2024-00435  
Petitioner, IPR2024-00438  
vs.  
ENTROPIC COMMUNICATIONS, LLC,  
Patent Owner.  
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DEPOSITION OF
DAVID B. LETT - VOLUME II

DECEMBER 11, 2024
9:14 A.M. TO 1:06 P.M.

VIRTUAL DEPOSITION VIA ZOOM
LOS ANGELES, CALIFORNIA

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<p style="text-align: right;">Page 2</p> <p>1 APPEARANCES OF COUNSEL 2 VIA ZOOM VIDEO CONFERENCE 3 4 FOR THE PETITIONER COMCAST CABLE COMMUNICATIONS, LLC: 5 Banner Witcoff 6 By: Paul T. Qualey, Esq. and Michael S. Cuviello, Esq. 7 1100 13th Street NW Suite 1200 8 Washington, DC 20005 202.824.3120 PQualey@bannerwitcoff.com 9 MCuviello@bannerwitcoff.com 10 11 K&L Gates By: Matthew A. Blair, Esq. 12 2801 Via Fortuna Suite 650 13 Austin, Texas 78746 +1.512.482.6851 Matthew.Blair@klgates.com 14 15 FOR THE PATENT OWNER ENTROPIC COMMUNICATIONS, LLC: 16 17 Lowenstein & Weatherwax, LLP By: Parham Hendifar, Esq. 18 1016 Pico Boulevard Santa Monica, California 90405 310.307.4514 19 Hendifar@lowensteinweatherwax.com 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 4</p> <p>1 DEPOSITION OF DAVID B. LETT - VOLUME II 2 WEDNESDAY, DECEMBER 11, 2024 3 4 5 DAVID B. LETT - VOLUME II, 6 having been duly administered an oath by the Court 7 Reporter, was examined and testified as follows: 8 9 EXAMINATION 10 BY MR. HENDIFAR: 11 Q Good morning or good afternoon, Mr. Lett, 12 depending on where you're located, and thank you for 13 your time today. 14 Do you understand that this is a continuation 15 of the deposition we conducted yesterday? 16 A Yes. 17 Q And you understand that all the rules and 18 procedures we discussed yesterday in connection with the 19 deposition still apply today? 20 A That's right. 21 Q And do you understand that you're still not 22 permitted to speak with anybody regarding the substance 23 of this deposition until my cross-examination is 24 concluded. 25 Do you understand that?</p>
<p style="text-align: right;">Page 3</p> <p>1 INDEX OF EXAMINATION 2 3 WITNESS: 4 DAVID B. LETT - VOLUME II 5 6 EXAMINATION BY: PAGE BY MR. HENDIFAR 4 7 8 9 10 INFORMATION REQUESTED 11 NONE 12 13 14 INSTRUCTION NOT TO ANSWER 15 NONE 16 17 18 INDEX OF EXHIBITS 19 NONE 20 21 22 23 24 25</p>	<p style="text-align: right;">Page 5</p> <p>1 A I do. 2 Q Okay. After we concluded yesterday's session 3 of the deposition, did you do anything in preparation 4 for today's deposition? 5 A I looked at my materials considered a little 6 bit more this morning that, you know, that include all 7 the -- my declarations and some of the materials that we 8 talked about yesterday. 9 Q And did you meet anybody in preparation for 10 today's deposition between yesterday evening and today? 11 A No. 12 Q Did you review any documents other than what 13 you identified you have in front of you yesterday? 14 A No. 15 Q Do you have any documents accessible to you now 16 other than what you identified yesterday morning? 17 A No. 18 Q Okay. May I please refer you to Figure 5 of 19 the Zhang reference? And please let me know when you 20 have it. 21 A Okay. I have it. 22 Q Thank you. 23 Where would a POSITA understand the logic -- in 24 Figure 5, the selector and by M selector selects China's 25 D1 through Dm from China's C1 through Cn, correct?</p>

<p style="text-align: right;">Page 6</p> <p>1 A That's right.</p> <p>2 Q Okay. And where would a POSITA understand that</p> <p>3 the logic is located for making the selection of D1</p> <p>4 through Dm from C1 through Cn?</p> <p>5 A Zhang doesn't really disclose where the logic</p> <p>6 would be. It could be anywhere. So my understanding is</p> <p>7 Zhang is describing the implementation of a CMOS</p> <p>8 integrated circuit that includes its functionality. So</p> <p>9 the logic a POSITA would understand would be somewhere</p> <p>10 on that integrated circuit.</p> <p>11 Q On what integrated circuit?</p> <p>12 A The integrated circuit that comprises the</p> <p>13 disclosure of Zhang's receiver.</p> <p>14 Q And what is the algorithm used to determine</p> <p>15 which channels D1 through Dm are selected from the</p> <p>16 channels C1 through Cn?</p> <p>17 A Zhang does not disclose the algorithm used.</p> <p>18 Instead, he shows the flexibility of the architecture</p> <p>19 and the capabilities of the architecture.</p> <p>20 Q And what happens to channels C1 through Cn to</p> <p>21 the ones that are not transmitted to the demodulators</p> <p>22 through D1 to Dm channels?</p> <p>23 Let me rephrase that question.</p> <p>24 What happens to the channels C1 through Cn that</p> <p>25 are not selected for transmission to the demodulators in</p>	<p style="text-align: right;">Page 8</p> <p>1 channel, he can -- he can have that channel output to</p> <p>2 the demodulators. But at the particular time that he's</p> <p>3 not wanting to watch that channel or record, it's not</p> <p>4 being sent to the demodulators, but it's -- I don't</p> <p>5 think it's wasted. It's really -- it's there for a</p> <p>6 quick channel change to the new -- to the new desired</p> <p>7 channel that may be going from an undesired to a desired</p> <p>8 channel.</p> <p>9 It's like I'm watching television programs and</p> <p>10 I'm not watching ESPN right now and then so it's</p> <p>11 undesired. And then I want to watch ESPN, so then I</p> <p>12 would select that I want to watch ESPN and it would come</p> <p>13 out as a desired channel out of the demodulators.</p> <p>14 Q And I appreciate that explanation. So did I</p> <p>15 understand correctly that Zhang demultiplexes more</p> <p>16 channels that at one time may be sent to the demodulator</p> <p>17 so that the user can switch between the desired channels</p> <p>18 at a faster speed?</p> <p>19 A Yeah. So Zhang discloses the digital selector</p> <p>20 provides the subscriber with fast channel search</p> <p>21 capabilities. That's in paragraph 5 in 28 cited in</p> <p>22 Zhang.</p> <p>23 Q Understood.</p> <p>24 Okay. Now, you recall yesterday we discussed</p> <p>25 on Page 84 of your declaration, I believe for the '866</p>
<p style="text-align: right;">Page 7</p> <p>1 D1 to Dm?</p> <p>2 A I'm not sure that Zhang discloses what happens</p> <p>3 to those channels.</p> <p>4 Q As an expert, are you able to make a</p> <p>5 determination?</p> <p>6 A So -- so as Zhang discloses, desired and</p> <p>7 undesired channels come in and desired channels are</p> <p>8 output the demodulator as a digital data stream. So he</p> <p>9 doesn't say. And I suppose those undesired channels</p> <p>10 just don't get sent out of the -- to the demodulator.</p> <p>11 Q So the demultiplexing of those undesired</p> <p>12 channels are just going to waste?</p> <p>13 A Going to what, I'm sorry?</p> <p>14 Q Going to waste.</p> <p>15 A Wait.</p> <p>16 Q Waste.</p> <p>17 A Waste, w-a-s-t-e?</p> <p>18 Q Right. So the demultiplexing of those</p> <p>19 undesired channels just goes to waste?</p> <p>20 A I'm not sure I would characterize it as waste.</p> <p>21 So the way the system works is, it's a bunch of channels</p> <p>22 coming in and when a subscriber wants to watch or record</p> <p>23 a channel, then that channel is output the demodulator.</p> <p>24 If the channel -- if -- so the channel is still there so</p> <p>25 that if the -- if a subscriber later wants to watch that</p>	<p style="text-align: right;">Page 9</p> <p>1 patent, you had two annotations of Zhang's Figure 5 for</p> <p>2 how the different channels may be transmitted through</p> <p>3 the boss interface?</p> <p>4 Do you recall that?</p> <p>5 A Can you tell me the page number again?</p> <p>6 Q Sure. I believe it was Page 84 of your</p> <p>7 declaration for the '866 patent.</p> <p>8 A I'm not sure that's correct. What I'm seeing</p> <p>9 is --</p> <p>10 Q You're right --</p> <p>11 A Serial and parallel -- parallel versus serial</p> <p>12 explanation.</p> <p>13 Q I apologize. Give me one moment.</p> <p>14 Let me ask you the question this way then.</p> <p>15 Sitting here now, are you able to provide an</p> <p>16 example of how Figure 5 may work where the channels</p> <p>17 multiplexed are on data buses, either data buses are</p> <p>18 actually demultiplexed in the time division DeMux 530</p> <p>19 before being sent out?</p> <p>20 A Are you referring to a particular claim element</p> <p>21 because, as I recall, I don't remember a case where I</p> <p>22 looked at that particular situation? And if it's in a</p> <p>23 claim element, maybe you could tell me which one. I'll</p> <p>24 look at it.</p> <p>25 Q No, I'm trying to ascertain what the function</p>

<p style="text-align: right;">Page 10</p> <p>1 of the time division DeMux is and -- so my question is</p> <p>2 as follows: Sitting here now, are you able to provide</p> <p>3 any example on how the Figure 5 n x m selector works</p> <p>4 where the time division DeMux 530 actually demultiplexes</p> <p>5 channels from any data bus before being sent out?</p> <p>6 MR. QUALEY: Objection to form.</p> <p>7 THE WITNESS: Sorry, my computer hung up</p> <p>8 momentarily and I couldn't see any of the documents. So</p> <p>9 give me just a second to reopen -- reopen the documents.</p> <p>10 I'm sorry I may have to completely close out</p> <p>11 Adobe and start all over. I apologize for the delay. I</p> <p>12 can't see -- I can't see my documents that I've been</p> <p>13 able to see up to this point.</p> <p>14 BY MR. HENDIFAR:</p> <p>15 Q It happens. No worries.</p> <p>16 A Okay. Can you please reread that question?</p> <p>17 Q Happily, I'll repeat the question.</p> <p>18 Sitting here now, are you able to provide any</p> <p>19 example of how Figure 5 in Zhang works where the time</p> <p>20 division DeMux 530 actually demultiplexes the channels</p> <p>21 on a given data bus before those channels are sent out?</p> <p>22 A So if you look at my paragraph 129 of my '362</p> <p>23 declaration.</p> <p>24 Q What paragraph, I'm sorry?</p> <p>25 A 129.</p>	<p style="text-align: right;">Page 12</p> <p>1 send it through a limited set of wires, or traces, and</p> <p>2 then demultiplex in that second module.</p> <p>3 Q Are signals necessarily demultiplexed in time</p> <p>4 division DeMux 530?</p> <p>5 A I'm sorry, could you repeat that again?</p> <p>6 Q Sure.</p> <p>7 Are signals necessarily demultiplexed in the</p> <p>8 time division DeMux 530?</p> <p>9 MR. QUALEY: Objection to form.</p> <p>10 THE WITNESS: I'm sorry, I'm not sure I caught</p> <p>11 every word. Can you say it one more time, please?</p> <p>12 BY MR. HENDIFAR:</p> <p>13 Q Of course.</p> <p>14 Are signals necessarily demultiplexed in the</p> <p>15 time division DeMux 530?</p> <p>16 MR. QUALEY: Same objection.</p> <p>17 THE WITNESS: So as I show in paragraph 125 on</p> <p>18 Page 87 of my declaration, another example of this</p> <p>19 flexible architecture where the time division DeMux is</p> <p>20 outputting the time division multiplex data as a serial</p> <p>21 output to go to a demodulator.</p> <p>22 BY MR. HENDIFAR:</p> <p>23 Q Got it.</p> <p>24 Now, may I please refer you to the '362 patent,</p> <p>25 Column 2. And please let me know when you have it.</p>
<p style="text-align: right;">Page 11</p> <p>1 Q Okay.</p> <p>2 A So as you can see, on the left side of that</p> <p>3 figure, the multiplexed -- time division multiplexed</p> <p>4 data is shown on data bus 1 and the output D1, D2, Dm is</p> <p>5 being shown on the right side of that time division</p> <p>6 multiplex -- I should say on the left diagram out of the</p> <p>7 time division multiplex block.</p> <p>8 Q Okay. Now, on the annotation you have shown on</p> <p>9 Page 90 of your declaration that you just pointed to, on</p> <p>10 the left-hand side --</p> <p>11 A Yes.</p> <p>12 Q Why would the n x m selector multiplex three</p> <p>13 channels on data bus 1 only then to demultiplex it</p> <p>14 before it's being sent out by the n x m selector?</p> <p>15 A So there could be a number of reasons, but</p> <p>16 Zhang does not disclose why. He's saying that the</p> <p>17 architecture is very flexible. And as I discussed later</p> <p>18 with Pandey, the integrated circuit implementation, one</p> <p>19 might be limited in the number of lines that go from a</p> <p>20 particular logic block to another. And I'm talking</p> <p>21 about in the layout of the IC, right. And so as Pandey</p> <p>22 teaches, the -- you can optimize the CMOS circuit design</p> <p>23 so that sometimes between blocks you might send signals</p> <p>24 in a time division multiplex fashion and then</p> <p>25 demultiplex them later in another block. So multiplex</p>	<p style="text-align: right;">Page 13</p> <p>1 A Okay.</p> <p>2 Q So if you please look at the '362 patent,</p> <p>3 Column 2, lines 20 to 22. And the question is: Why</p> <p>4 would the bandwidth of Figure 1 require very expensive</p> <p>5 digital processing circuitry?</p> <p>6 A I'm not sure I opined on that in my</p> <p>7 declaration. If I did, maybe you could point me to it</p> <p>8 and then I'll be happy to answer a question about it.</p> <p>9 Q Again, we've discussed this. I'm not limited</p> <p>10 in asking you questions only about sentences you have</p> <p>11 articulated in your declaration. So you are here as an</p> <p>12 expert on the subject matter.</p> <p>13 Let me ask you this: Did you fully review the</p> <p>14 '362 patent before providing your opinions?</p> <p>15 A Sure, I did.</p> <p>16 Q And did you fully understand the '362 patent</p> <p>17 before providing your opinions?</p> <p>18 A Yes.</p> <p>19 Q And did you review the Zhang reference in full</p> <p>20 before providing your opinions?</p> <p>21 A Yes.</p> <p>22 Q And did you fully understand the Zhang</p> <p>23 reference before providing your opinions?</p> <p>24 A Yes.</p> <p>25 Q Okay. So I am entitled to ask you about that</p>

<p style="text-align: right;">Page 14</p> <p>1 understanding of the patent and the references. So I'll 2 ask the question again. 3 In the '362 patent, Column 2, lines 20 to 22, 4 why would the bandwidth of 800 megahertz in Figure 1 5 require very expensive digital processing circuitry? 6 MR. QUALEY: Objection to form. 7 THE WITNESS: So this is in the prior arch 8 section describing what was going on before the '362 9 patent. I'm sorry, I spent most of my time looking at 10 the claims of the '362 patent and disclosing how the 11 background references render obvious those claims. 12 So -- but I'll have to go back and reread the entire 13 background section to make sure I totally understand the 14 context. 15 BY MR. HENDIFAR: 16 Q Okay. So sitting here now, you don't know why 17 the bandwidth of 800 megahertz in Figure 1 of the '362 18 patent requires very expensive digital processing 19 circuitry? 20 MR. QUALEY: Objection to form. 21 THE WITNESS: I think what he's saying is that 22 the output of Figure 1 could have a bandwidth of 23 800 megahertz, and per the Nyquist theorem, one would 24 have to sample at least twice the bandwidth or twice the 25 highest frequency. So I would have to have double that</p>	<p style="text-align: right;">Page 16</p> <p>1 THE WITNESS: So in paragraph -- excuse me -- 2 Column 6, starting on line 55, the reduced sampling rate 3 of N desired baseband channels will be sent as serial or 4 parallel data stream to a demodulator using a serial or 5 parallel data interface, according to commonly known 6 methods as shown in Figure 2. This approach provides 7 several advantages over tuner architecture. 8 First, it eliminates the need of expensive data 9 conversion filtering and channel selection on the 10 demodulator side. And that's what Zhang discloses, as I 11 showed in my declaration. 12 MR. QUALEY: David, just for the court 13 reporter's sake, when you're reading something, don't 14 read quite so fast. 15 THE WITNESS: I'm sorry, I'm usually not 16 accused of talking too fast. 17 MR. HENDIFAR: I'll share that document 18 obviously with the court reporter for the... 19 BY MR. HENDIFAR: 20 Q When the '362 patent, in Column 2, lines 24 to 21 27, refers to expensive data conversion, is that an 22 analog-to-digital data conversion or is it referencing a 23 different data conversion? 24 A I don't think he says either way. 25 Q As an expert, are you able to determine what</p>
<p style="text-align: right;">Page 15</p> <p>1 speed at least, and some extra, right, for practical 2 implementations. And so I think what he's saying at 3 this point in time that would be an expensive component. 4 BY MR. HENDIFAR: 5 Q And expensive, is that reference to money or 6 expensive in a different way? 7 A I think he's saying money. 8 Q Okay. And do you agree with this 9 characterization in Column 2, lines 20 to 22, as of 10 2009? 11 A I have no reason to doubt that. 12 Q Now, moving on for the '362 patent, Column 2, 13 same column, lines 24 to 27. The sentence that says 14 quote: "It is desirable to have wideband receiver 15 systems that can increase the dynamic range without 16 requiring expensive data conversion, filtering, and 17 channel selection at the demodulator," end quote. 18 Do you see that sentence? 19 A Yes. 20 Q How does the patent's embodiments explain they 21 achieve this objective of a wideband receiver system 22 that can increase the dynamic range without requiring 23 expensive data conversion, filtering, and channel 24 selection at the demodulator? 25 MR. QUALEY: Objection to form.</p>	<p style="text-align: right;">Page 17</p> <p>1 the patent means in Column 2, 24 through 27? 2 A He doesn't say whether it's analog-to-digital 3 or other expensive data conversion. But the paragraph I 4 just read -- excuse me -- the sentences that I just read 5 is telling how he addresses this problem and -- by 6 providing serial or parallel data stream to a 7 demodulator. 8 Q So in your opinion, the '362 patent achieves 9 the objective of a wideband receiver system that can 10 increase the dynamic range without requiring expensive 11 data conversion, filtering, and channel selection at the 12 demodulator by providing a serial or parallel interface 13 to the demodulator? Is that your opinion? 14 MR. QUALEY: Objection to form. 15 THE WITNESS: Zhang describes a wideband 16 receiver where the output of the digital data stream is 17 a serial or parallel interface. 18 BY MR. HENDIFAR: 19 Q Mr. Lett, we're having the same problem as 20 yesterday. I'm asking you a question about what the 21 '362 patent means, and you have a habit by training or 22 habit -- I don't want to speculate -- of going back to 23 the declaration, reading an irrelevant portion about 24 what Zhang says. I'm not asking you about what Zhang 25 says. I'm asking you what the '362 patent is.</p>

<p style="text-align: right;">Page 18</p> <p>1 A I read to you what the '362 patent says.</p> <p>2 Q And I asked you a follow-up question and your</p> <p>3 response was to read something about Zhang from your</p> <p>4 declaration. That's nonresponsive to my question. So</p> <p>5 I'd ask my question again. Okay?</p> <p>6 Is it your opinion that using a serial or</p> <p>7 parallel data interface is how the '362 patent achieves</p> <p>8 the objective of a wideband receiver system that can</p> <p>9 increase the dynamic range without requiring expensive</p> <p>10 data conversion, filtering, and channel selection at the</p> <p>11 demodulator?</p> <p>12 MR. QUALEY: Objection to form.</p> <p>13 THE WITNESS: I have no reason to dispute the</p> <p>14 patent '362, Column 6, 55 -- lines 55 through 62, which</p> <p>15 is describing how he's solving this problem by using</p> <p>16 serial or parallel data stream to a demodulator.</p> <p>17 BY MR. HENDIFAR:</p> <p>18 Q Okay. Thank you.</p> <p>19 In the portion that you relied upon in Column</p> <p>20 6, lines 50 forward, for your reasoning, it references</p> <p>21 expensive data conversion.</p> <p>22 Do you see that?</p> <p>23 A I do see that, yes.</p> <p>24 Q Okay. Now, here, since you are saying this</p> <p>25 sentence provides support for your opinion, what do you</p>	<p style="text-align: right;">Page 20</p> <p>1 your declaration?</p> <p>2 A I'm not sure that's what I said exactly.</p> <p>3 Q And do you recall that counsel for Comcast</p> <p>4 requested that you do provide a response to my question</p> <p>5 at that time?</p> <p>6 Do you recall that?</p> <p>7 A Yes.</p> <p>8 Q Okay. Do you understand that I can ask you</p> <p>9 questions about the references, even though you may not</p> <p>10 have stated a specific opinion in your declaration about</p> <p>11 the question I'm asking?</p> <p>12 A Can you repeat that question?</p> <p>13 Q Yes.</p> <p>14 Do you understand that I am permitted to ask</p> <p>15 you questions about the references that you've relied</p> <p>16 upon, even though you may not have a specific sentence</p> <p>17 in your declaration about the question I've asked you?</p> <p>18 A I don't know if that's true or not. If you say</p> <p>19 it is, I'll take your word for it.</p> <p>20 Q Okay. And do you understand that you cannot</p> <p>21 refuse to answer a question unless it's specifically</p> <p>22 advised by counsel on the basis of privilege?</p> <p>23 A I think so, yes.</p> <p>24 Q So please --</p> <p>25 A My answer is I don't know what data conversion</p>
<p style="text-align: right;">Page 19</p> <p>1 understand data conversion to refer to?</p> <p>2 MR. QUALEY: Objection to form.</p> <p>3 THE WITNESS: My opinion is in my declaration,</p> <p>4 and I did not address this question in my opinion.</p> <p>5 That's a new opinion you're asking me to render.</p> <p>6 BY MR. HENDIFAR:</p> <p>7 Q Okay. That's fine. I can ask you that.</p> <p>8 So sitting here now -- is it your testimony</p> <p>9 that, sitting here now, you don't know what data</p> <p>10 conversion the '362 patent is referring to in Column 6,</p> <p>11 line 61?</p> <p>12 MR. QUALEY: Objection to form.</p> <p>13 THE WITNESS: I don't feel comfortable</p> <p>14 rendering a new opinion. I can read exactly what the</p> <p>15 patent says, and he says that he's solving this problem</p> <p>16 with serial parallel data interfaces and that it</p> <p>17 eliminates the need of expensive data conversion,</p> <p>18 filtering in channel selection on the demodulator side.</p> <p>19 And he does not go to explain whether what data</p> <p>20 conversion he means.</p> <p>21 BY MR. HENDIFAR:</p> <p>22 Q Now, that's not responsive to my question.</p> <p>23 Do you recall yesterday in response to a</p> <p>24 question I asked, you flatly stated that you refuse to</p> <p>25 answer because it is not an opinion that is stated in</p>	<p style="text-align: right;">Page 21</p> <p>1 he means.</p> <p>2 Q Thank you. And that's what I was asking. If</p> <p>3 you don't know, you don't know.</p> <p>4 And if I ask you a question --</p> <p>5 A He doesn't explain it.</p> <p>6 Q That's fine. And if I ask you a question and</p> <p>7 you're willing to sit here and say "Even though I'm an</p> <p>8 expert, I don't know what this sentence means," that's</p> <p>9 fine. As long as you provide that statement, I'll move</p> <p>10 on.</p> <p>11 Just to be clear then, sitting here now, you</p> <p>12 don't know what the '362 patent means by data conversion</p> <p>13 in Column 6, line 61?</p> <p>14 A Correct.</p> <p>15 MR. QUALEY: Objection to form.</p> <p>16 BY MR. HENDIFAR:</p> <p>17 Q Now, is there a benefit in performing</p> <p>18 analog-to-digital data conversion in the tuner as</p> <p>19 opposed to the demodulator?</p> <p>20 A That's a very broad question. Can you give me</p> <p>21 a more specific question?</p> <p>22 Q Sure.</p> <p>23 Do you understand what a tuner is?</p> <p>24 A In the context of the patents we've been</p> <p>25 talking about it, I think I do, yes.</p>

<p style="text-align: right;">Page 22</p> <p>1 Q Yes. And do you understand what the</p> <p>2 demodulator is in the context of the technology we've</p> <p>3 been discussing today and yesterday?</p> <p>4 A Yes.</p> <p>5 Q Okay. Now, in the context of the technology</p> <p>6 we've been discussing today and yesterday, is there a</p> <p>7 benefit in performing analog-to-digital data conversion</p> <p>8 in a tuner as opposed to in a demodulator?</p> <p>9 MR. QUALEY: Objection to form.</p> <p>10 THE WITNESS: There are many design tradeoffs</p> <p>11 that one can make in designs and one can put components</p> <p>12 in different places, depending on the system</p> <p>13 requirements and the requirements for the design. So</p> <p>14 the answer is you might want to put it one time one</p> <p>15 place, and one another.</p> <p>16 BY MR. HENDIFAR:</p> <p>17 Q And are you able to provide a few examples of</p> <p>18 the tradeoffs for placing the analog-to-digital</p> <p>19 converter in a tuner as opposed to in a demodulator?</p> <p>20 A So the context of what we've been talking about</p> <p>21 is, you do analog-to-digital conversion and you output a</p> <p>22 digital data stream to a demodulator and all the</p> <p>23 benefits thereof, including the sentences we just read</p> <p>24 in Column 6. I don't know if we looked at or it's</p> <p>25 addressed in these documents a design where you would</p>	<p style="text-align: right;">Page 24</p> <p>1 previous question, it states in Column 6, line 60, that</p> <p>2 one of the benefits of the invention is, quoting the</p> <p>3 patent, "It eliminates the need of expensive data</p> <p>4 conversion, filtering, and channel selection on the</p> <p>5 demodulator side," end quote.</p> <p>6 Do you see that sentence?</p> <p>7 A Yes.</p> <p>8 Q Okay. Why is it beneficial not to have data</p> <p>9 conversion, filtering, and channel selection on the</p> <p>10 demodulator side?</p> <p>11 MR. QUALEY: Objection to form.</p> <p>12 THE WITNESS: Well, it says it eliminates the</p> <p>13 need of expensive, so it's not saying that there's no</p> <p>14 data conversion, filtering, and channel selection on the</p> <p>15 demodulator side.</p> <p>16 BY MR. HENDIFAR:</p> <p>17 Q So you are reading expensive to be modifying</p> <p>18 data conversion and filtering and channel selection?</p> <p>19 A I'm just reading the sentence.</p> <p>20 Q Right.</p> <p>21 A And the previous sentence is talking about</p> <p>22 outputting digital data in parallel or serial form to a</p> <p>23 demodulator. And the very next sentence is talking</p> <p>24 about eliminates expensive data conversion. And you can</p> <p>25 read that as expensive filtering and expensive channel</p>
<p style="text-align: right;">Page 23</p> <p>1 output an analog signal to a demodulator and have an A</p> <p>2 to D converter in a demodulator. Perhaps it is. And if</p> <p>3 it is, maybe you can point me to it.</p> <p>4 Q Sure. We can discuss in more detail that same</p> <p>5 sentence you've been relying upon.</p> <p>6 So going back to the '362 patent, Column 6,</p> <p>7 lines 60 to 61, where you say one of the benefits of the</p> <p>8 system disclosed in the '362 patent is, quote: "It</p> <p>9 eliminates the need of expensive data conversion,</p> <p>10 filtering, and channel selection on the demodulator</p> <p>11 side," end quote.</p> <p>12 Do you see that?</p> <p>13 A Yeah, that's not my quote. That's stated in</p> <p>14 the patent.</p> <p>15 Q Right. Right. I'm reading from the lines I</p> <p>16 mentioned.</p> <p>17 Now, why is it beneficial to have data</p> <p>18 conversion, filtering, and channel selection not on the</p> <p>19 demodulator side?</p> <p>20 MR. QUALEY: Objection to form.</p> <p>21 THE WITNESS: Can you restate the question?</p> <p>22 BY MR. HENDIFAR:</p> <p>23 Q Of course.</p> <p>24 Do you understand that in the portion of the</p> <p>25 patent you relied upon as support for the response to my</p>	<p style="text-align: right;">Page 25</p> <p>1 selection on the demodulator side or you could read it</p> <p>2 first it eliminates the need of any data conversion, any</p> <p>3 filtering, any channel selection on the demodulator</p> <p>4 side, right. So it's -- you could read the sentence</p> <p>5 either way, I think, and I'm not sure which way he</p> <p>6 means.</p> <p>7 Q Okay. So -- okay.</p> <p>8 Now, in the embodiment of Figure 2 in the '362</p> <p>9 patent, is there a need for filtering and channel</p> <p>10 selection on the demodulator side?</p> <p>11 A Well, again, this section is talking about</p> <p>12 outputting digital data to a demodulator. He then says</p> <p>13 it eliminates the need of expensive data conversion,</p> <p>14 filtering, and channel selection on the demodulator</p> <p>15 side. I'm not sure he talks about the architecture of</p> <p>16 the design of the demodulator. Perhaps he did and maybe</p> <p>17 you can point me to it.</p> <p>18 Q Again, that's nonresponsive to my question. So</p> <p>19 if you don't know the answer to my question, you can</p> <p>20 just say I don't know and that's fine, but I need an</p> <p>21 actual response.</p> <p>22 So the question is: In the '362 patent in the</p> <p>23 embodiment of Figure 2, is there a need for channel</p> <p>24 selection on the demodulator side?</p> <p>25 MR. QUALEY: Objection to form.</p>

<p style="text-align: right;">Page 26</p> <p>1 THE WITNESS: So the design, and also in Zhang, 2 outputs multiple channels via a serial or parallel 3 interface. So as a POSITA would understand, when I 4 select a channel to view, I would be selecting the 5 channel to view that's coming from multiple channels 6 from the receiver. 7 BY MR. HENDIFAR: 8 Q So does that mean there is channel selection on 9 the demodulator side in the embodiment of Figure 2 of 10 the '362 patent? 11 MR. QUALEY: Objection to form. 12 THE WITNESS: It doesn't disclose that so I 13 don't know. 14 BY MR. HENDIFAR: 15 Q Okay. 16 A But in the context of selection, the user is 17 selecting what he wants to watch. 18 Q As an expert here now, are you able to 19 articulate and explain the benefit that the embodiment 20 of Figure 2 of the '362 patent has over the direct 21 conversion tuner of Figure 1 in the '362 patent? 22 A I thought we talked about this yesterday. Did 23 we not talk about this yesterday and answer all those 24 questions? 25 Q So yesterday you explained -- well, first, you</p>	<p style="text-align: right;">Page 28</p> <p>1 Q Okay. Now as an expert, are you able to 2 articulate why there may be a benefit in performing the 3 analog-to-digital conversion before the signal is sent 4 to the demodulator as opposed to after the signal is 5 sent to the demodulator? 6 A I think it's what we've been talking about, 7 essentially, because it's a digital data stream, and if 8 it was analog it would require, according to the '362 9 patent, very expensive digital processing circuitry, 10 such as very high speed analog-to-digital conversion and 11 high speed processing in the demodulator. And again, 12 that's -- it's an analog output referring to Figure 1. 13 Q So my confusion is channel selection and 14 analog-to-digital conversion still has to be done 15 somewhere. You can't watch a program without conversion 16 and without channel selection. 17 So my question is: Why does the '362 patent 18 seem to suggest that it's beneficial to perform the 19 analog-to-digital conversion and channel selection 20 before the data is sent to the demodulator as opposed to 21 within the demodulator? 22 MR. QUALEY: Objection to form. 23 THE WITNESS: Because if it was in the 24 demodulator, it would require very expensive digital 25 processing circuitry, such as a very high speed analog</p>
<p style="text-align: right;">Page 27</p> <p>1 mentioned you don't recall what a direct conversion 2 tuner is and you don't recall the details. So you 3 pointed me to Mirabbassi, we reviewed what Mirabbassi 4 says about what a direct conversion tuner is, but I 5 don't believe we discussed the specific question I'm 6 asking now. So I'll repeat the question. 7 As an expert sitting here, are you able to 8 articulate the benefits of the embodiment in Figure 2 of 9 the '362 patent over the direct conversion tuner of 10 Figure 1 of the '362 patent? 11 MR. QUALEY: Objection to form. 12 THE WITNESS: So in the '362 patent, the 13 section we read in Column 2, line 20 is talking about 14 the design of Figure 1, essentially, and it would 15 require very expensive digital circuitry, such as very 16 high speed analog digital conversion and high speed 17 processor in the demodulator. And I think that's 18 because the signal is not a digital data stream on 19 Figure 1 output to the demodulator. 20 BY MR. HENDIFAR: 21 Q Now, Figure 2 of the '362 patent still performs 22 analog-to-digital conversion but does it before the 23 signal is sent to the demodulator, correct? 24 A That's right. It converts it to digital before 25 it goes to the demodulator.</p>	<p style="text-align: right;">Page 29</p> <p>1 digital conversion and high speed processor in the 2 demodulator. 3 BY MR. HENDIFAR: 4 Q Okay. So is it your opinion that 5 analog-to-digital conversion is less expensive if done 6 outside of the demodulator as opposed to if done within 7 the demodulator? 8 A I'm just reading the statement from the '362 9 patent, and I don't have any reason to dispute Column 2, 10 row 20 through 23. 11 Q Sure. And I'm able to read the patent; I 12 understand what it says. I'm asking you about if you're 13 able to articulate why -- why the patent explains this 14 was the situation. So let me ask you a bit differently. 15 Do you know why it would be more expensive to 16 perform analog-to-digital conversion within the 17 demodulator as opposed to outside the demodulator? 18 A The situation he's talking about is, if I have 19 an 800-megahertz analog signal come in out of Figure 1 20 and I digitize it, I have, to, again, as I explained 21 previously, I have to have an A to D converter to 22 digitize that that is at least twice the highest 23 frequency or the bandwidth of the signal. So I have to 24 have at least double 800-megahertz clock speed on my 25 analog-to-digital converter.</p>

<p style="text-align: right;">Page 30</p> <p>1 And I think that's what he means when he says</p> <p>2 very expensive, such as a very high speed</p> <p>3 analog-to-digital conversion, in that sentence I've been</p> <p>4 talking about in Column 2, lines 20 through 23.</p> <p>5 Q Okay. Now, doesn't Figure 2 of the '362 patent</p> <p>6 have to convert the same bandwidth of 800 megahertz from</p> <p>7 analog to digital?</p> <p>8 A It's a different architecture than Figure 1.</p> <p>9 Q Okay. But both Figure 1 and Figure 2 require a</p> <p>10 conversion from analog to digital of the same bandwidth,</p> <p>11 but in Figure 1, that's done within the demodulator and</p> <p>12 Figure 2, that's done before the demodulator; am I</p> <p>13 mistaken?</p> <p>14 A Can you say that again, please?</p> <p>15 Q Sure.</p> <p>16 In both Figures 1 and 2, there is a requirement</p> <p>17 to convert the same frequency bandwidth from analog to</p> <p>18 digital, with the difference being that in Figure 1,</p> <p>19 that conversion would have to be done within the</p> <p>20 demodulator, but in Figure 2, it is done before the</p> <p>21 demodulator; am I mistaken?</p> <p>22 MR. QUALEY: Objection to form.</p> <p>23 THE WITNESS: Can you break that question up</p> <p>24 for me, please?</p> <p>25 ///</p>	<p style="text-align: right;">Page 32</p> <p>1 A Yeah, but they don't require the expensive A to</p> <p>2 Ds because they require half the sampling frequency.</p> <p>3 Q I see. So it's your testimony that because</p> <p>4 Figure 2 is using a complex mixer to down-convert into I</p> <p>5 and Q portions, the digitization is less extensive than</p> <p>6 in Figure 1?</p> <p>7 A I'm just -- yeah, I'm just reading what they</p> <p>8 say about Figure 1. He says very little about it. But</p> <p>9 I think I understand what he's saying.</p> <p>10 Q Okay. Thank you.</p> <p>11 Is it a good time for a five-minute or so</p> <p>12 break? We've been going for a bit. Yes, Madam Court</p> <p>13 Reporter is saying yes.</p> <p>14 MR. HENDIFAR: Let's come back at 25 minutes</p> <p>15 past the hour.</p> <p>16 (Recess.)</p> <p>17 BY MR. HENDIFAR:</p> <p>18 Q Mr. Lett, may I please refer you to the '362</p> <p>19 patent, Column 2, lines 56 to 58. And the question is:</p> <p>20 What is a decimator?</p> <p>21 A I'm sorry, column and line number please again?</p> <p>22 Q Sure.</p> <p>23 The '362 patent, Column 2, lines 56 to 58. And</p> <p>24 the question is: What is a decimator?</p> <p>25 A So as I explain in 206 of my declaration, the</p>
<p style="text-align: right;">Page 31</p> <p>1 BY MR. HENDIFAR:</p> <p>2 Q Sure.</p> <p>3 Is it -- isn't it true that both Figures 1 and</p> <p>4 2 -- never mind.</p> <p>5 In Figure 2, do you see the analog-to-digital</p> <p>6 converters 1 and 2?</p> <p>7 A Let's see, ADC1, ADC2, yes.</p> <p>8 Q Okay. And those analog-to-digital converters</p> <p>9 digitize the same frequency band that is input in the RF</p> <p>10 input signal, correct?</p> <p>11 A Well, it's doing it based on the I and Q</p> <p>12 signals, which require half the bandwidth for the</p> <p>13 analog-to-digital converters.</p> <p>14 Q I see.</p> <p>15 A Excuse me -- half the -- half the sampling</p> <p>16 frequencies as if you were to, you know, 400 megahertz</p> <p>17 in the example we've been talking about instead of 800</p> <p>18 megahertz.</p> <p>19 Q Right. But collectively, they convert to</p> <p>20 digital the same bandwidth as the frequency bandwidth of</p> <p>21 the RF frequency signal, correct?</p> <p>22 A Yeah, that's right.</p> <p>23 Q And if the RF input signal is 800 megahertz in</p> <p>24 bandwidth, the ADCs 1 and 2 collectively digitize that</p> <p>25 same 800-megahertz bandwidth, correct?</p>	<p style="text-align: right;">Page 33</p> <p>1 decimator was commonly used to reduce the sampling rate</p> <p>2 of a digital signal.</p> <p>3 Q And why would one want to reduce the sampling</p> <p>4 rate of the digital signal in an RF receiver?</p> <p>5 A Well, the ADC must sample the signal at least</p> <p>6 twice the rate of the highest frequency and the signal,</p> <p>7 according to the Nyquist theorem that we talked about.</p> <p>8 The -- when the RF signal has sampled a number of</p> <p>9 channels, it requires a high sampling rate. Okay? So</p> <p>10 it's a large amount of data.</p> <p>11 But then if you are now -- so, originally,</p> <p>12 sample at a really high rate, right, and now I'm going</p> <p>13 to output some data that is a lot less data and a lot</p> <p>14 fewer channels, I should say, then we don't need that</p> <p>15 very, very high clock rate for those signals. So what</p> <p>16 we do is we -- we sample at a much lower rate, right.</p> <p>17 So we take -- for example, you know, if I was going to</p> <p>18 reduce it by half, I would take the first sample and</p> <p>19 then skip one and then take the next sample and take</p> <p>20 every other sample, for example, and therefore, the data</p> <p>21 that I would output would be a lot less data. We</p> <p>22 don't -- so if you sent out the whole thing with a very</p> <p>23 high sampling rate, you would have a lot of extra data</p> <p>24 that's not really useful.</p> <p>25 Q Okay. Now, is there a typical sign used in</p>

<p style="text-align: right;">Page 34</p> <p>1 electrical circuits for a decimator?</p> <p>2 A I don't know if it's universally true, but I've</p> <p>3 seen, like, the down arrow in a box.</p> <p>4 Q So if I refer you to Figure 2 of the '362</p> <p>5 patent, box says 270A to 270N, do you see the boxes with</p> <p>6 the down arrow?</p> <p>7 A Yes.</p> <p>8 Q Okay. And is that the sign for a decimator</p> <p>9 based on your understanding?</p> <p>10 A Just let me double-check. I believe he even</p> <p>11 refers to 270 as a decimator. Let me just double-check</p> <p>12 that.</p> <p>13 I'm confused in the -- in the '362 patent, it</p> <p>14 says 270A -- filter signals 260A through 260N may be</p> <p>15 sent directly to an associated demodulator identified as</p> <p>16 270A to 270N. Oh, the demodulator is not 270A to 270 --</p> <p>17 well, I don't know, the way that sentence reads what</p> <p>18 he's saying.</p> <p>19 Q So let me ask you. That was actually what I</p> <p>20 was trying to get at.</p> <p>21 Looking at Figure 2, do you see that the output</p> <p>22 of the digital front end after decimators 270A to 270N</p> <p>23 is a serial or parallel data interface to demodulator?</p> <p>24 A I see serial or parallel interface to</p> <p>25 demodulator. But what I haven't found is, yet, and</p>	<p style="text-align: right;">Page 36</p> <p>1 shifting the desired channels to the IF spectrum allow</p> <p>2 the wideband receiver system to directly interface with</p> <p>3 demodulators commercially available in 2009?</p> <p>4 A I suppose he's saying that commercially</p> <p>5 available demodulators had an IF input.</p> <p>6 Q What does IF input mean?</p> <p>7 A It means a frequency, you know, not zero and</p> <p>8 not -- not real high, you know -- I don't know, maybe</p> <p>9 20, 30, 40 megahertz, something like that. I don't --</p> <p>10 you know, IF could be anything. You know, it's kind of</p> <p>11 an intermediate frequency in between low and high.</p> <p>12 Q You were active in the field in 2009, correct?</p> <p>13 A Yes.</p> <p>14 Q Based on your experience, is it true that</p> <p>15 frequency shifting -- well, strike that.</p> <p>16 Based on your experience in the field, is it</p> <p>17 true that commercially available demodulators in 2009</p> <p>18 required frequency shifting desired channels to the IF</p> <p>19 spectrum?</p> <p>20 MR. QUALEY: Objection to form.</p> <p>21 THE WITNESS: I'm sorry, I don't understand</p> <p>22 that question.</p> <p>23 BY MR. HENDIFAR:</p> <p>24 Q Sure.</p> <p>25 You were an expert in the field of receivers</p>
<p style="text-align: right;">Page 35</p> <p>1 maybe it's in here, is if he's calling 270 a decimator.</p> <p>2 I think it may be a typo perhaps in his patent.</p> <p>3 Q I actually agree with that. I wanted to</p> <p>4 understand your view. So the question then -- let me</p> <p>5 ask you the question.</p> <p>6 Is it fair to say that in the '362 patent,</p> <p>7 Column 5, lines 54 to 58, it appears to be a</p> <p>8 typographical error where it refers to items 270 as</p> <p>9 demodulators because they are meant to be decimators?</p> <p>10 A I think that's correct, yes.</p> <p>11 Q Okay.</p> <p>12 A Because, you know, on the lower part of that</p> <p>13 diagram, it says filtered and decimated.</p> <p>14 Q Right. Again, I don't disagree, but I still</p> <p>15 have to ask you this. A lot of the questions I ask you</p> <p>16 I don't necessarily disagree. The idea is I just need</p> <p>17 to ask you to build up on it.</p> <p>18 May I now please refer you to the '362 patent,</p> <p>19 Column 2, line 66 through Column 3, line 1? And please</p> <p>20 let me know when you have it.</p> <p>21 A Column 2, 66? Yeah, let me -- let me look at</p> <p>22 the electronic version. It's easier, I think, to see.</p> <p>23 Q Sure.</p> <p>24 A Okay. I have it.</p> <p>25 Q Okay. The question is: Why would frequency</p>	<p style="text-align: right;">Page 37</p> <p>1 and the field of these patents in 2009 as well, correct?</p> <p>2 A Yes.</p> <p>3 Q Based on your experience in 2009, is it true</p> <p>4 that commercially available demodulators in 2009</p> <p>5 required frequency shifting the desired channels to the</p> <p>6 IF spectrum as an input?</p> <p>7 A I'm confused by the question. There were IF --</p> <p>8 there were demodulators at IF inputs; is that what</p> <p>9 you're asking?</p> <p>10 Q I'm asking if the commercially available</p> <p>11 demodulators in 2009 required IF input?</p> <p>12 A Some had IF input. Some had multiple inputs.</p> <p>13 You know, there were some demodulators that had IF</p> <p>14 inputs. They probably also had other inputs also, so</p> <p>15 interfacing to demodulators. And we're talking about,</p> <p>16 you know, demodulators could be -- is very broad term,</p> <p>17 right. You know, you've got, you know, very expensive</p> <p>18 ones that go in racks, you know, commercial, really</p> <p>19 fancy ones and they have multiple inputs. And, you</p> <p>20 know, a demodulator could be like a circuit on a board,</p> <p>21 so it probably wouldn't have an -- I mean, it could or</p> <p>22 could not, but it probably wouldn't have multiple</p> <p>23 inputs, right.</p> <p>24 So I'm kind of answering the question in the</p> <p>25 context of kind of a rack-mount demodulator that you</p>

<p style="text-align: right;">Page 38</p> <p>1 could purchase commercially.</p> <p>2 Q I actually said that. Thank you.</p> <p>3 Now, in Figure 2 of the '362 patent, the</p> <p>4 complex mixer divides the signal into an in-phase and</p> <p>5 quadrature component, correct?</p> <p>6 A I'm sorry, I have Figure 2 now. Can you ask</p> <p>7 your question again?</p> <p>8 Q Sure.</p> <p>9 The complex mixer in Figure 2 of the '362</p> <p>10 patent divides the signal into an in-phase and a</p> <p>11 quadrature component, correct, the I and Q?</p> <p>12 A Well, there's two sets of complex mixers, so</p> <p>13 which one are you talking about? Which ones are you</p> <p>14 talking about?</p> <p>15 Q Let me answer you this way.</p> <p>16 Can I please refer you to Column 4 of the</p> <p>17 patent, line 48? And please let me know when you're</p> <p>18 there.</p> <p>19 A I'm in Column 4. Okay.</p> <p>20 Q And is it the case that mixer 211 downconverts</p> <p>21 the in-phase component and mixer 221 downconverts the</p> <p>22 quadrature component of the input RF signal?</p> <p>23 A Well, it generates an in-phase 212 and a</p> <p>24 quadrature signal 222, under output of the</p> <p>25 demodulators -- excuse me -- at the output of the</p>	<p style="text-align: right;">Page 40</p> <p>1 components, four -- four symbols.</p> <p>2 Do you want me to read all that?</p> <p>3 Q No, I'm able to read your declaration. I'm</p> <p>4 trying to ask you a question, which you said you don't</p> <p>5 know, so that's fine.</p> <p>6 What information does the quadrature component</p> <p>7 of an RF signal convey?</p> <p>8 A You froze.</p> <p>9 MR. QUALEY: Can't hear you. Your audio is</p> <p>10 fading out.</p> <p>11 MR. HENDIFAR: Mine?</p> <p>12 MR. QUALEY: Yeah, your audio was, like, all</p> <p>13 choppy.</p> <p>14 MR. HENDIFAR: I'm sorry, I'll repeat the</p> <p>15 question. I'm sorry. Thank you.</p> <p>16 I'll repeat the question.</p> <p>17 BY MR. HENDIFAR:</p> <p>18 Q What information does the quadrature component</p> <p>19 of an RF input signal convey?</p> <p>20 I think Mr. Lett is froze --</p> <p>21 A So the in-phase is I. It's -- you know, it's</p> <p>22 multiplied by oscillator cosign, but -- can you hear me</p> <p>23 now? Can you hear me?</p> <p>24 Q Yes, now we can hear you. Now, we can hear</p> <p>25 you, yes.</p>
<p style="text-align: right;">Page 39</p> <p>1 mixers.</p> <p>2 Q Thank you.</p> <p>3 Now, what information does the in-phase</p> <p>4 component of an input RF signal convey?</p> <p>5 A It's in phase with the input signal?</p> <p>6 Q Yes. And what information does it convey?</p> <p>7 A It conveys the in-phase portion of that signal,</p> <p>8 component of the signal.</p> <p>9 Q Is the input RF signal -- strike that.</p> <p>10 If an input RF signal is only amplitude</p> <p>11 modulated, would it have an in-phase and a quadrature</p> <p>12 component?</p> <p>13 A I don't -- I can't really -- I don't really</p> <p>14 think of it that way, so I'm sorry I don't know the</p> <p>15 answer without thinking about it. I've been thinking</p> <p>16 along the context of QAM modulation.</p> <p>17 Q Okay. So maybe if you can explain it to me</p> <p>18 that way.</p> <p>19 What is QAM modulation?</p> <p>20 A Well, I have a section in my declaration that</p> <p>21 explains all that. I can go back to that and read it to</p> <p>22 you.</p> <p>23 So starting in section 8.2 of the '362</p> <p>24 declaration, talking about modulated signals, BPSK, and</p> <p>25 QPSK, and that's considered QAM modulation with four</p>	<p style="text-align: right;">Page 41</p> <p>1 A I can't hear him.</p> <p>2 MR. HENDIFAR: Madam?</p> <p>3 THE WITNESS: Should we all log off and get</p> <p>4 back on?</p> <p>5 MR. HENDIFAR: I think it may be a network</p> <p>6 issue on your office part.</p> <p>7 Sure. Let's go off the record.</p> <p>8 (Audio/technical issues.)</p> <p>9 MR. HENDIFAR: Let's go back on the record.</p> <p>10 BY MR. HENDIFAR:</p> <p>11 Q So, Mr. Lett, the question is: What does the</p> <p>12 quadrature component of an input RF signal convey?</p> <p>13 A So it's a component of the signal that's</p> <p>14 90 degrees out of phase with the in-phase component.</p> <p>15 Q Okay. Have you -- okay. What is a complex</p> <p>16 number?</p> <p>17 A An imaginary number, square root of minus one.</p> <p>18 Q Okay. And is there a correlation -- strike</p> <p>19 that.</p> <p>20 I'll come back to this question.</p> <p>21 Can I please refer you to the '362 patent,</p> <p>22 Column 4, starting on line 67?</p> <p>23 A Okay.</p> <p>24 Q What is the source of the unwanted frequency</p> <p>25 components of the signals 214 and 224?</p>

<p style="text-align: right;">Page 42</p> <p>1 A That's an image frequency.</p> <p>2 Q Okay. What is an image frequency?</p> <p>3 A So Mirabbassi is a great reference for this and</p> <p>4 explains all this. But essentially, depending on which</p> <p>5 kind of architecture we're talking about, there is a</p> <p>6 desired band and an image band that's generated as a</p> <p>7 result of mixing. And the top receiver that we've been</p> <p>8 talking about that's implemented by Zhang is low-IF</p> <p>9 receiver, tends to have a better performance in terms of</p> <p>10 image band rejection.</p> <p>11 Q On the '362 patent, may I please refer you to</p> <p>12 Column 5, line 49 -- starting on line 49?</p> <p>13 A Column 5. Okay. I see it.</p> <p>14 Q Does a desired channel refer to an RF channel or</p> <p>15 a content channel like C-SPAN?</p> <p>16 A So again, I don't think that the '362 channel</p> <p>17 defines desired channels. But I would read a desired</p> <p>18 channel to be one that -- well, actually in my</p> <p>19 declaration, I quote a source that explains, I believe,</p> <p>20 what a POSITA would be aware of as a designed channel.</p> <p>21 And that is -- now, look at paragraph 61 of my '362</p> <p>22 declaration, desired channels, channels selected for</p> <p>23 viewing by a consumer. And I'm citing the Ciciora, Jim</p> <p>24 Farmer reference as well as the Kelly patent -- I'm</p> <p>25 sorry -- yeah, the Kelly patent and the Tuttle patent.</p>	<p style="text-align: right;">Page 44</p> <p>1 as part of the digital stream, like maybe six or ten</p> <p>2 channels in 6 megahertz? Is that what you mean?</p> <p>3 Q Well, I am asking you the question: Do you</p> <p>4 know the difference? If there's a difference, I want to</p> <p>5 know.</p> <p>6 Do you understand there to be a difference</p> <p>7 between an RF channel and a content channel?</p> <p>8 A And I'm asking you: What do you mean by</p> <p>9 content channel, and then I'll be able to answer the</p> <p>10 question?</p> <p>11 Q Sure.</p> <p>12 A content channel is a channel like C-SPAN.</p> <p>13 A Do you mean it's a -- for example, an mpeg data</p> <p>14 stream that represents a C-SPAN program?</p> <p>15 Q Let me -- maybe I -- I may be able to help you.</p> <p>16 One moment, please.</p> <p>17 May I please refer you to paragraph 24 of</p> <p>18 Zhang?</p> <p>19 A Okay. I have it.</p> <p>20 Q Okay. And do you see the phrase content</p> <p>21 channel?</p> <p>22 A I do. And it's in quotes. To me, it's like --</p> <p>23 yeah, you could call it that, but it may or may not be</p> <p>24 normally called that. Now, I understand what he's</p> <p>25 talking about here. That's what -- that's the question</p>
<p style="text-align: right;">Page 43</p> <p>1 Q Thank you for reading from your declaration,</p> <p>2 but I don't believe that answered my question. So let</p> <p>3 me approach it a bit differently.</p> <p>4 Do you understand the distinction between an RF</p> <p>5 channel and a content channel?</p> <p>6 A I thought you asked me what was a desired</p> <p>7 channel.</p> <p>8 Q Well, this is -- I'll get there, and your</p> <p>9 response is not responsive so I'm going to break it</p> <p>10 down. So the question --</p> <p>11 A And I read the answer as channel selected for</p> <p>12 viewing by the consumer is a desired channel.</p> <p>13 Q And I appreciate you reading from your</p> <p>14 declaration, but that was not responsive. So let me ask</p> <p>15 this question and I'll get there again.</p> <p>16 The question is: Do you understand the</p> <p>17 distinction between an RF channel and a content channel?</p> <p>18 MR. QUALEY: Objection to form.</p> <p>19 THE WITNESS: I don't know. A content channel?</p> <p>20 What do you mean by that?</p> <p>21 BY MR. HENDIFAR:</p> <p>22 Q Okay. Such as a C-SPAN or CNN or Fox or a</p> <p>23 content channel such as those?</p> <p>24 A And do you mean -- do you mean for an RF</p> <p>25 channel that may contain any number of content channels</p>	<p style="text-align: right;">Page 45</p> <p>1 I was asking you, is that what you mean.</p> <p>2 Q So what is a content channel as Zhang uses it</p> <p>3 normally called?</p> <p>4 A I mean, I don't know. We can use that term if</p> <p>5 you want to.</p> <p>6 Q Okay. What is a distinction between an RF</p> <p>7 channel and a content channel?</p> <p>8 A So what he's describing here, and I agree with</p> <p>9 it, is that the RF spectrum includes multiple RF</p> <p>10 channels, which are carriers that contain information,</p> <p>11 and the -- it falls within a frequency band. So an RF</p> <p>12 channel in the examples we've been talking about are</p> <p>13 around 6-megahertz bandwidth in North America.</p> <p>14 A given RF channel carries one or more content</p> <p>15 channels. In other words that 6 megahertz could contain</p> <p>16 a data stream that is a multiplexed -- a transport</p> <p>17 multiplex that includes transport stream that includes</p> <p>18 multiple channels. So part of the stream is for -- I</p> <p>19 think it was CNN, you said, and another part of the</p> <p>20 stream is another channel, like HBO or something. But</p> <p>21 this was typical. So in a cable system when we're, you</p> <p>22 know, in this time frame with digital video, you know,</p> <p>23 you would put multiple content channels in a single</p> <p>24 6-megahertz RF channel.</p> <p>25 Q Understood.</p>

<p style="text-align: right;">Page 46</p> <p>1 Now, did I hear you correctly that at Zhang's 2 time, 6 megahertz was the standard size of an RF channel 3 in the U.S.? 4 A The cable systems that I was familiar with in 5 the U.S., we used 6-megahertz RF channels. 6 Q Now, going back to the '362 patent, Column 5, 7 starting on line 49. 8 A Okay. 9 Q Are the desired channels in the '362 patent RF 10 channels or content channels? 11 A So the front end portion of the mixer -- excuse 12 me -- of the mixers, right, downconverts a swath of 13 channels. And then there's a selection of the RF 14 channels, and a said selected plurality of television 15 channels are sent to a demodulator. 16 And so what he's saying is that the demodulator 17 then receives that data stream that includes the -- all 18 the digital channels that are in that data stream. 19 The -- the '362 receiver outputs that data stream to 20 demodulators. 21 Q Thank you for that explanation, but if you 22 answered my question, I missed it. My question is very 23 simple. 24 Does the phrase desired channel in the '362 25 patent refer to content channels or RF channels?</p>	<p style="text-align: right;">Page 48</p> <p>1 Q Right. So ordinarily, an RF channel and a 2 content channel are not the same thing, correct? 3 A It's hard to say. I mean, if you're -- depends 4 on what kind of video you're trying to send. Very high 5 quality video that could be the same. It just depends. 6 Q Okay. What does it depend on? 7 A It depends on the quality of the video you want 8 to send and the bandwidth of the RF channel and the 9 compression technique that's used for the signal, how 10 much can you pack in to a particular 6-megahertz channel 11 and achieve the desired level of video quality is what 12 I'm talking about. 13 Q Okay. Now, when you perform your analysis on 14 the '362 patent, did you use an understanding of desired 15 channels as desired RF channels or desired content 16 channels? 17 A So it's generally desired RF channels. 18 Q Okay. 19 A But it's converted to a digital data stream and 20 output to a demodulator. 21 Q In today's cable system, is it still true that 22 a single RF channel generally has multiple content 23 channels modulated on it? 24 A I'm sorry, I haven't worked on cable systems 25 since 2011, and so I do not know the answer.</p>
<p style="text-align: right;">Page 47</p> <p>1 A It could be either one. If you had -- if you 2 had one content in a 6-megahertz channel, and that was a 3 desired channel, that one content, then -- the 4 architecture would convert that one channel to a digital 5 data stream and output. 6 Q Okay. How can -- an RF channel and a content 7 channel are not the same thing, correct? 8 A They can be. I mean, not -- well, no. Scratch 9 that. 10 You can have one channel in an RF -- one 11 content channel in an RF channel. 12 Q Right. But -- 13 A And we did that sometimes because a very high 14 quality content video, very high bit rate video, would 15 be -- would use up a lot of -- a lot of the 6-megahertz 16 channel like, you know, super high definition or 17 whatever you want to call it. 18 Q Is it also the case that in a satellite system, 19 there would be multiple content channels on a single RF 20 channel? 21 A That's generally true, yes. 22 Q Okay. Now -- so RF channel is -- 23 A But it can be one. I mean, again, there's no 24 restriction that it has to be multiple. That was just 25 common.</p>	<p style="text-align: right;">Page 49</p> <p>1 Q Okay. In today's satellite systems, is it 2 still true that a single RF channel generally has 3 multiple content channels modulated on it? 4 A I don't know. I haven't worked on satellite 5 systems since I left EchoStar in 2016. 6 Q What prompted you to leave Cisco -- I'm sorry, 7 EchoStar in 2016? 8 A They closed the R & D center for business 9 reasons. The strategy of the company, I think, was to 10 stop funding development work in satellite systems and 11 focus more on becoming a cell phone provider. But 12 Charlie Ergen's strategy is -- who knows? That's the 13 general thought of what was going on there. 14 Q And what prompted you leaving Telular in 2022? 15 A I didn't want a three-hour commute in the car 16 each day. 17 Q Very legitimate reason. I actually quit my 18 first job because I had to start at 7 a.m. as an 19 engineer. 20 A We should have made you come in at 7 a.m. this 21 morning then. 22 Q Yesterday, you did. No, actually, I was at 23 Parsons. I had to wear a suit. And I was 22. I had to 24 wear a suit, wake up at 5:00. By the time I got home, I 25 couldn't do anything and I was like, "I don't want this</p>

<p style="text-align: right;">Page 50</p> <p>1 life at 22." So I relate to that.</p> <p>2 Now, what have you been doing since 2022 as a</p> <p>3 profession?</p> <p>4 A So I've been working as an expert, consulting</p> <p>5 as an expert.</p> <p>6 Q Did you also do consulting work as an expert</p> <p>7 before leaving Telular in 2002[SIC]?</p> <p>8 A Yes.</p> <p>9 Q Is it fair to say that since you left Telular</p> <p>10 in June of 2002, your only profession now is as an</p> <p>11 expert witness?</p> <p>12 A I left in 2022, just as a clarification.</p> <p>13 Q Yeah, I'm sorry, I didn't mean -- yes. Yes,</p> <p>14 I'll repeat the question.</p> <p>15 Is it fair to say that since you left Telular</p> <p>16 in June of 2022, your only profession now is as an</p> <p>17 expert witness?</p> <p>18 A I've done some other consulting other than</p> <p>19 being an expert witness, so I would say consulting is my</p> <p>20 only profession and the majority of my income since</p> <p>21 then -- since 2022 has been working as an expert as part</p> <p>22 of my consulting business.</p> <p>23 Q And when you say majority of your income, would</p> <p>24 it be more than 80 percent?</p> <p>25 A I think so. I think that's fair.</p>	<p style="text-align: right;">Page 52</p> <p>1 MR. HENDIFAR: Thank you very much.</p> <p>2 (Recess.)</p> <p>3 BY MR. HENDIFAR:</p> <p>4 Q May I please refer you to the '866 patent</p> <p>5 Figure 2?</p> <p>6 A Okay.</p> <p>7 Q Now, do you see the arrow at the end that says</p> <p>8 serial or parallel data interface to demodulator?</p> <p>9 Do you see that arrow?</p> <p>10 A Yes.</p> <p>11 Q Okay. And the digital data stream output in</p> <p>12 Figure 2 contains only desired channels, not undesired</p> <p>13 channels, correct?</p> <p>14 A I think he describes a lot of having desired</p> <p>15 channels. I'm not sure if he discloses -- let's see</p> <p>16 here. As another option to put -- I think -- yeah, I</p> <p>17 think they're mostly desired channels, I think is the</p> <p>18 way the text of the spec of the patent. The claims just</p> <p>19 talk about outputting desired channels.</p> <p>20 Q I see. So can we look at -- let's say, claim</p> <p>21 41 has that phrase in the '866 patent.</p> <p>22 And please let me know when you have it.</p> <p>23 A Okay. I've got it.</p> <p>24 Q Same claim 41, where it says: "Wherein each</p> <p>25 digital downconverter, of the plurality of digital</p>
<p style="text-align: right;">Page 51</p> <p>1 Q More than 90 percent?</p> <p>2 A I don't know. I'd have to look at my records</p> <p>3 to see.</p> <p>4 Q Okay. Now before you left Telular in June of</p> <p>5 2022, so between 2019 and June of 2022, roughly what</p> <p>6 percentage of your income came from litigation</p> <p>7 consulting work?</p> <p>8 A I really don't know. I'd have to look at my</p> <p>9 records to see.</p> <p>10 Q Would it be approximately more than 50 percent?</p> <p>11 A It would be less than 50 percent.</p> <p>12 Q Okay. May I please refer you to the '866</p> <p>13 patent Figure 2?</p> <p>14 A I need a break.</p> <p>15 Q Yeah, let's take a break. That's fine.</p> <p>16 A Okay.</p> <p>17 Q And I have maybe another 20 minutes or</p> <p>18 30 minutes left, so there's not much left. This may be</p> <p>19 our last break before redirect. So how much of a break</p> <p>20 would you like?</p> <p>21 A Five minutes is great. Thank you.</p> <p>22 Q Sure. Let's make it seven so we come back at</p> <p>23 15 minutes past the hour.</p> <p>24 Is that okay with everybody?</p> <p>25 MR. QUALEY: That's fine.</p>	<p style="text-align: right;">Page 53</p> <p>1 downconverters, is operable to generate a digital</p> <p>2 channel output corresponding to each desired channel,"</p> <p>3 end quote.</p> <p>4 So is it your understanding that the digital</p> <p>5 channel output corresponding to each desired channel</p> <p>6 does not contain all desired and undesired channels but</p> <p>7 just desired channels?</p> <p>8 MR. QUALEY: Objection to form.</p> <p>9 THE WITNESS: What was the question?</p> <p>10 BY MR. HENDIFAR:</p> <p>11 Q Sure.</p> <p>12 You recall that I was discussing Figure 2 with</p> <p>13 you, and then you mentioned that the claims on the</p> <p>14 required desired channels.</p> <p>15 Do you recall that discussion?</p> <p>16 MR. QUALEY: Objection to form.</p> <p>17 THE WITNESS: I don't know if I recall that</p> <p>18 discussion exactly as you characterize it.</p> <p>19 BY MR. HENDIFAR:</p> <p>20 Q Do you recall we discussed Figure 2 and whether</p> <p>21 the output of Figure 2 contains only desired channels?</p> <p>22 A I don't see the word "only" in the claims.</p> <p>23 Q So may I please refer to Figure 2 of the '866</p> <p>24 patent?</p> <p>25 A Okay.</p>

<p style="text-align: right;">Page 54</p> <p>1 Q Do you see the arrow titled "Serial or Parallel 2 Data Interface to Demodulator"?</p> <p>3 A I do, yes.</p> <p>4 Q Okay. The question is: Does the output of 5 Figure 2 contain only the desired channels and no 6 undesired channel?</p> <p>7 A It contains only the desired RF channels.</p> <p>8 Q Right. And when I say channel -- okay. I'll 9 clarify myself.</p> <p>10 A I'm not talking about the content channels.</p> <p>11 Q I appreciate that, so I'll clarify my question.</p> <p>12 A As per our previous discussion of our 13 definition we agreed upon for content channels.</p> <p>14 Q Very good. So -- and I didn't mean to be 15 ambiguous. I'll repeat my question with the 16 clarification.</p> <p>17 In Figure 2 of the '866 patent, is it your 18 understanding that the output of the system in Figure 2 19 contains only desired RF channels and no undesired RF 20 channel?</p> <p>21 A That's right.</p> <p>22 Q Can we go back to claim 41 now, since in that 23 discussion previously you referenced the claims?</p> <p>24 A Okay.</p> <p>25 Q Okay. Do you see claim 41 where it says:</p>	<p style="text-align: right;">Page 56</p> <p>1 Column 15, I can give you the specific lines I'm 2 reading.</p> <p>3 Do you have the '866 patent, Column 15?</p> <p>4 MR. QUALEY: Counsel, I hate to interrupt, but 5 your audio has gone, like, a little mushy to my hearing. 6 BY MR. HENDIFAR:</p> <p>7 Q Sorry.</p> <p>8 Mr. Lett, do you have the '866 patent in front 9 of you, Column 15?</p> <p>10 A Not yet.</p> <p>11 Q Okay. So in Column 15 of the '866 patent, can 12 I please refer you to claim 41?</p> <p>13 A I'm sorry, I'm still looking for it.</p> <p>14 Q Looking for the patent?</p> <p>15 A I'm confused. I see -- in the '866, I see the 16 columns go up to 18.</p> <p>17 Q Right. And I'm pointing you to Column 15.</p> <p>18 A I'm sorry, I thought you said 41.</p> <p>19 Q Claim 41.</p> <p>20 A Oh, I'm sorry. Okay.</p> <p>21 Q I'm sorry?</p> <p>22 A Let's get back on the same page. Thank you. 23 Okay. Now, what is your question?</p> <p>24 Q In the '866 patent, Column 15, claim 41.</p> <p>25 A Okay.</p>
<p style="text-align: right;">Page 55</p> <p>1 "Wherein each digital downconverter, of the plurality of 2 digital downconverters, is operable to generate a 3 digital channel output corresponding to each desired 4 channel of the plurality of desired channels."</p> <p>5 Do you see that?</p> <p>6 A Yes.</p> <p>7 Q Okay. Do you read claim 41 to require 8 downconversion of the desired channels but not the 9 undesired channels?</p> <p>10 MR. QUALEY: Objection to form.</p> <p>11 THE WITNESS: Can you reread that question, 12 please?</p> <p>13 BY MR. HENDIFAR:</p> <p>14 Q Of course.</p> <p>15 I am trying to ascertain what system does claim 16 41 require -- or requires. So let me -- let me rephrase 17 my question. One moment, please.</p> <p>18 Do you see where claim 41 requires an input 19 signal comprising a plurality of desired channels and a 20 plurality of undesired channels.</p> <p>21 Do you see that?</p> <p>22 A Are you reading claim 41B?</p> <p>23 Q Well, I'm reading claim 41. I don't recall how 24 you have numbered the various elements. I'm looking at 25 the claims here. So if you look at the '866 patent,</p>	<p style="text-align: right;">Page 57</p> <p>1 Q Do you have that?</p> <p>2 A I do, yes.</p> <p>3 Q Okay. Do you see that claim 41 on line 15 says 4 "Wherein the input signal comprises a plurality of 5 desired channels and the plurality of undesired 6 channels."</p> <p>7 Do you see that?</p> <p>8 A Yes.</p> <p>9 Q So the input signal contains both desired 10 channels and undesired channels, correct?</p> <p>11 A Yes.</p> <p>12 Q Okay. Do you see claim 41, starting on line 13 18, says: "A plurality of digital downconverters 14 coupled to the wideband ADC, wherein each digital 15 downconverter, of the plurality of digital 16 downconverters, is operable to generate a digital 17 channel output corresponding to each desired channel."</p> <p>18 Do you see that?</p> <p>19 A Yes.</p> <p>20 Q Okay. Is it fair to say that a system where 21 each digital downconverter -- strike that.</p> <p>22 Is it fair to say that a system where the 23 digital downconverters generate a digital channel output 24 corresponding to both desired and undesired channels 25 would be a different system that is claimed in claim 41?</p>

<p style="text-align: right;">Page 58</p> <p>1 MR. QUALEY: Objection to form.</p> <p>2 THE WITNESS: Can you break that up into parts</p> <p>3 for me?</p> <p>4 BY MR. HENDIFAR:</p> <p>5 Q Sure.</p> <p>6 Can you articulate specifically maybe what your</p> <p>7 confusion, ambiguity is so maybe I can more clearly</p> <p>8 address what your specific concern?</p> <p>9 A It was a really long question, and I would like</p> <p>10 to break it down into parts if possible.</p> <p>11 Q Okay.</p> <p>12 Do you see that claim 41 requires that</p> <p>13 downconverters generate a digital channel output</p> <p>14 corresponding to each desired channel?</p> <p>15 A It says: "A plurality of digital downconverter</p> <p>16 coupled to the wideband ADC, wherein each digital</p> <p>17 downconverter."</p> <p>18 Q Right. "Of the plurality of digital</p> <p>19 downconverters is operable to generate a digital channel</p> <p>20 output corresponding to each desired channel."</p> <p>21 So the question was: Do you see where claim 41</p> <p>22 requires that digital channel -- digital downconverters</p> <p>23 generate a digital channel output corresponding to each</p> <p>24 desired channel?</p> <p>25 Do you see that indication?</p>	<p style="text-align: right;">Page 60</p> <p>1 that the digital downconverter is operable to generate a</p> <p>2 digital channel output corresponding to each desired</p> <p>3 channel?</p> <p>4 A Right. And it doesn't say does not output any</p> <p>5 undesired channels.</p> <p>6 Q Okay. So it's your opinion that if a system</p> <p>7 digitally downconverts both desired and undesired</p> <p>8 channels, it is still covered by claim 41?</p> <p>9 A So the Zhang system is very flexible. It</p> <p>10 can --</p> <p>11 Q Sir?</p> <p>12 A Listen to me. Let me talk. Let me talk</p> <p>13 without interrupting me.</p> <p>14 Q Well --</p> <p>15 A The Zhang system discloses in 41C, it can</p> <p>16 output only -- it can output only the desired channel.</p> <p>17 MR. HENDIFAR: I move to strike.</p> <p>18 THE WITNESS: It can be a super set of that</p> <p>19 feature set.</p> <p>20 MR. HENDIFAR: I move to strike as</p> <p>21 nonresponsive.</p> <p>22 THE WITNESS: And I explained how Zhang's --</p> <p>23 MR. HENDIFAR: Move to strike as nonresponsive.</p> <p>24 THE WITNESS: I explained how Zhang's --</p> <p>25 BY MR. HENDIFAR:</p>
<p style="text-align: right;">Page 59</p> <p>1 A Yes.</p> <p>2 Q Okay. Now, if a system -- if in a system the</p> <p>3 digital downconverters were operable to generate a</p> <p>4 digital channel output that corresponded to both the</p> <p>5 desired and undesired channel, that would be a different</p> <p>6 system than one covered by claim 41, correct?</p> <p>7 MR. QUALEY: Objection to form.</p> <p>8 BY MR. HENDIFAR:</p> <p>9 Q Mr. Lett, have you been reviewing a document</p> <p>10 for the past few minutes?</p> <p>11 A Yes, I'm looking at some documents.</p> <p>12 Q What are you looking at specifically?</p> <p>13 A I'm looking at my declaration.</p> <p>14 Q Okay. So just let me know when you're ready so</p> <p>15 I can repeat the question.</p> <p>16 A I don't understand that it includes the word</p> <p>17 "only."</p> <p>18 Q But that was not my question. Let me state the</p> <p>19 question again and you can answer yes or no or however</p> <p>20 it is, but if you can answer the question.</p> <p>21 Do you see where claim 41 requires that the</p> <p>22 input signal comprises both desire and undesired</p> <p>23 channels?</p> <p>24 A I do.</p> <p>25 Q And do you also see where in claim 41 it states</p>	<p style="text-align: right;">Page 61</p> <p>1 Q You continue this --</p> <p>2 A -- discloses and renders obvious this element.</p> <p>3 Q You continue your evasive games, I will call</p> <p>4 the board. Okay? This is now the tenth time since</p> <p>5 yesterday you have refused to answer questions.</p> <p>6 MR. QUALEY: This is not productive.</p> <p>7 MR. HENDIFAR: Yes, it's not, I agree.</p> <p>8 THE WITNESS: If you won't let me talk, how can</p> <p>9 I answer your question?</p> <p>10 BY MR. HENDIFAR:</p> <p>11 Q Because you're not --</p> <p>12 A You keep interrupting me.</p> <p>13 Q Because you're not answering my --</p> <p>14 A Maybe call the board about you interrupting me</p> <p>15 constantly.</p> <p>16 Q You answer my questions; I will not interrupt</p> <p>17 you. Okay? It doesn't work. We've been here now for a</p> <p>18 second day in a deposition that should have been</p> <p>19 finished in one day, and the only reason we're here on a</p> <p>20 second day is when I ask you a question, instead of</p> <p>21 answering my question, you switch and read from an</p> <p>22 irrelevant portion of your declaration. Okay? I'm</p> <p>23 not --</p> <p>24 A I didn't read from the declaration that time.</p> <p>25 Q You've been reading from irrelevant portions of</p>

<p style="text-align: right;">Page 62</p> <p>1 declaration. I ask you about the '362 patent, you 2 discuss what Zhang says. I ask you about the '866 3 patent, you discuss what Zhang says. It doesn't work 4 like that. You have expressly refused to answer 5 questions or many questions you just -- basic questions, 6 you just say I don't know. 7 MR. QUALEY: Counsel, can we -- I just said, 8 Counsel, can we get back to the actual question? 9 MR. HENDIFAR: Yes. 10 BY MR. HENDIFAR: 11 Q So if I can get an answer, but I need to lay 12 the groundwork so I actually get an answer. 13 I'm not asking you what Zhang does. I'm trying 14 to understand. I'm not -- again, I know you have 15 memorized to say Zhang is flexible in response to every 16 question, but that's not a response to every question. 17 When I ask you about what a claim limitation 18 means, I don't care what Zhang says. It doesn't matter 19 that Zhang is flexible. It is not responsive for you to 20 go to a portion of your declaration to say, "Well, Zhang 21 discloses this." That's not responsive. Okay? 22 So I asked you a question, you're more than 23 welcome to consult your declaration, but -- as long as 24 your response is responsive to what I'm asking. My 25 question didn't mention Zhang, didn't reference Zhang.</p>	<p style="text-align: right;">Page 64</p> <p>1 My question is: In Figure 2 of the '866 2 patent, do you see digital downconverters in the digital 3 front end? 4 A I don't see those words, and I'm looking in the 5 '866 patent for the words digital downconverters and, 6 I'm sorry, I don't see that in the '866 patent. 7 Q Do you understand my question, Mr. Lett? 8 A I'm trying to. 9 Q Okay. Do you believe my question is if you see 10 the words digital downconverter? 11 A You're referring to an element called digital 12 downconverters and I'm trying to figure out what element 13 you're talking about. 14 Q I did not ask you if you see an element called 15 digital downconverters. I asked if you see digital 16 downconverters. 17 A I'm saying if you'll please identify to me in 18 this Figure 2 which of those components you mean is 19 digital downconverters, I can answer your question. 20 Q So, Mr. Lett, what do you understand your role 21 to be in this litigation? 22 A I rendered my opinion on how the prior art 23 references disclose and render obvious the claims. 24 Q Okay. And do you consider yourself to be an 25 independent expert in this litigation?</p>
<p style="text-align: right;">Page 63</p> <p>1 It didn't matter what Zhang says. Okay? 2 So going back to Figure 2 of the '866 patent. 3 And please let me know when you have it. 4 A I have it. 5 Q Okay. Do you see digital downconverters in the 6 digital front end of that system? 7 A Which section are you calling digital 8 downconverters? 9 Q I'm asking you a question. Do you see digital 10 downconverters in the digital front end of Figure 2 of 11 the '866 patent? 12 A I'm looking for those words. I don't see them 13 in that figure. Perhaps I'm missing it. 14 Q I did not ask you if you see words named 15 digital downconverters. I'm asking you in Figure 2 of 16 the '866 patent, do you see digital downconverters in 17 the digital front end? 18 A Perhaps you can point me in the '866 patent 19 where he defines digital downconverters. 20 Q I actually don't know where that might be. 21 A Perhaps I'm mistaken, but I don't think those 22 words appear in the '866 patent. 23 Q I actually don't know if they do or do not, but 24 my question was not if the words digital downconverter 25 appear in the '866 patent.</p>	<p style="text-align: right;">Page 65</p> <p>1 A Do you mean -- I work for myself. Is that what 2 you mean? 3 Q Okay. Do you believe your conclusions have to 4 be objective and not favoring one side or the other? 5 A Absolutely. 6 Q Okay. And do you understand that you're here 7 today to provide to the best of your ability support for 8 the opinions you've provided? 9 A Yes. 10 Q Now, do you understand that claim 41 requires 11 digital downconverters? 12 A I'm saying that I'm not sure that the spec of 13 the '866 defines the word digital downconverters. 14 Q That may be. I don't know if that's true or 15 not. I'm not disputing that. But that's not my 16 question. 17 Is it your opinion that there are no digital 18 downconverters in Figure 2 of the '866 patent? 19 A Can I please read from my declaration? 20 Q You can consult your declaration, but you need 21 to answer my question. So if your goal is just to read 22 somewhere from your declaration that doesn't actually 23 answer my question, that's not responsive. 24 A So I, in my declaration, rendered opinion about 25 digital downconverters and explained my opinions</p>

<p style="text-align: right;">Page 66</p> <p>1 therein.</p> <p>2 Q Okay. That -- is that -- do you believe that</p> <p>3 answers my question?</p> <p>4 A What was your question again?</p> <p>5 Q My question is: Do you believe there are</p> <p>6 digital downconverters in Figure 2 of the '866 patent?</p> <p>7 A I believe Zhang discloses digital</p> <p>8 downconverters --</p> <p>9 Q We're back to that issue.</p> <p>10 A -- that are representative of the elements of</p> <p>11 the patent.</p> <p>12 Q Mr. Lett, did my question ask what Zhang</p> <p>13 discloses?</p> <p>14 Mr. Lett, did my question ask what Zhang</p> <p>15 discloses?</p> <p>16 A No.</p> <p>17 Q Okay. So why did you believe it's appropriate</p> <p>18 for you to answer with what Zhang discloses?</p> <p>19 Why do you believe it's appropriate to respond</p> <p>20 to a question not about Zhang with what Zhang discloses?</p> <p>21 Do you have a response to my question?</p> <p>22 Mr. Lett, for the past few minutes, you've been</p> <p>23 reviewing documents that I can't identify because it's a</p> <p>24 remote deposition.</p> <p>25 Would you please advise what you're doing since</p>	<p style="text-align: right;">Page 68</p> <p>1 In your opinion, if in a system that digital</p> <p>2 downconverters generate a digital channel output</p> <p>3 containing both desired and undesired channels, in your</p> <p>4 opinion would that system be covered by claim 41?</p> <p>5 A I don't understand by -- what do you mean</p> <p>6 covered? Can you explain further what you mean by that?</p> <p>7 Q Sure. I'll rephrase my question.</p> <p>8 If in a reference that digital downconverters</p> <p>9 generate a digital output that contains both desired and</p> <p>10 undesired channels, in your opinion, would that</p> <p>11 reference disclose claim 41's limitation saying, quote,</p> <p>12 "wherein each digital downconverter, of the plurality of</p> <p>13 digital downconverters, is operable to generate a</p> <p>14 digital channel output corresponding to each desired</p> <p>15 channel," end quote?</p> <p>16 MR. QUALEY: Objection to form.</p> <p>17 THE WITNESS: So if it had the word "only" in</p> <p>18 that claim, I would say that it had to be a desired</p> <p>19 channel output and not an undesired channel output.</p> <p>20 But the same system could do both. The same</p> <p>21 system could output, if it wanted to, a desired channel</p> <p>22 and an undesired channel. But if you choose with that</p> <p>23 system to output only desired channels, it meets the</p> <p>24 claim in either way.</p> <p>25 ///</p>
<p style="text-align: right;">Page 67</p> <p>1 we have a question pending?</p> <p>2 A I'm looking at my '362 declaration. Can you</p> <p>3 give me a few minutes, please?</p> <p>4 Q Sure.</p> <p>5 A I'm sorry, the '866 declaration.</p> <p>6 Okay. What's your question?</p> <p>7 Q Do you see digital downconverters in Figure 2</p> <p>8 of the '866 patent?</p> <p>9 A Yes, I think so.</p> <p>10 Q Okay. Would you point me to where in Figure 2</p> <p>11 you see digital downconverters?</p> <p>12 A So I think each of the sections that have a</p> <p>13 mixer followed by a filter 260A is a digital</p> <p>14 downconverter.</p> <p>15 Q Thank you.</p> <p>16 And in Figure 2, each digital downconverter</p> <p>17 only provides desired channels, correct?</p> <p>18 A Well, that's what the '866 patent describes,</p> <p>19 yes.</p> <p>20 Q Thank you.</p> <p>21 Going back to claim 41 of the '866 patent on</p> <p>22 Column 15, if you would please. And please let me know</p> <p>23 when you're there.</p> <p>24 A Okay. I'm there.</p> <p>25 Q Thank you.</p>	<p style="text-align: right;">Page 69</p> <p>1 BY MR. HENDIFAR:</p> <p>2 Q When you say either way, you're saying it meets</p> <p>3 the claim whether it outputs both desired and undesired</p> <p>4 channels or outputs just the desired channels?</p> <p>5 A I'm saying there -- you can have a system that</p> <p>6 has the capability for outputting desired and undesired</p> <p>7 channels, and you can choose to just output desired</p> <p>8 channels. And because the word only is not in that</p> <p>9 claim, that system meets the claim element in my</p> <p>10 opinion.</p> <p>11 Q Okay. And thank you for that explanation. So</p> <p>12 let me then refine my question in response to your</p> <p>13 explanation.</p> <p>14 In claim 41, if a reference could only output</p> <p>15 both the desired and undesired channels, would that</p> <p>16 reference, in your opinion, disclose claim 41's</p> <p>17 limitation wherein each digital downconverter of the</p> <p>18 plurality of digital downconverters is operable to</p> <p>19 generate a digital channel output corresponding to each</p> <p>20 desired channel?</p> <p>21 MR. QUALEY: Objection to form.</p> <p>22 THE WITNESS: Can you read back that question</p> <p>23 exactly slowly?</p> <p>24 BY MR. HENDIFAR:</p> <p>25 Q Of course.</p>

<p style="text-align: right;">Page 70</p> <p>1 A Thank you.</p> <p>2 Q Of course.</p> <p>3 If a reference can be operable to only output</p> <p>4 both the desired and undesired channels, in your</p> <p>5 opinion, would that reference disclose the limitation of</p> <p>6 claim 41 saying, quote, "wherein each digital</p> <p>7 downconverters of the plurality of digital</p> <p>8 downconverters is operable to generate a digital channel</p> <p>9 output corresponding to each desired channel," end</p> <p>10 quote?</p> <p>11 MR. QUALEY: Objection to form.</p> <p>12 THE WITNESS: So this is a hypothetical system</p> <p>13 that I haven't thought about and I don't know the answer</p> <p>14 at this point to that question.</p> <p>15 BY MR. HENDIFAR:</p> <p>16 Q Now, same -- '866 patent, claim 27, if you</p> <p>17 would please go to that claim. That's on Column 14.</p> <p>18 Please let me know when you are there.</p> <p>19 A Claim 14, you said?</p> <p>20 Q Yeah -- no. Claim 27, Column 14 of the '866</p> <p>21 patent.</p> <p>22 A I'm going to look at my claim appendix if</p> <p>23 that's okay with you.</p> <p>24 Q Sure. I have no objection with you looking at</p> <p>25 any of your declarations you need. My issue was with</p>	<p style="text-align: right;">Page 72</p> <p>1 example?</p> <p>2 A No. I just -- I don't know. You know, you</p> <p>3 could select it, but not output it or provide it, I</p> <p>4 guess. I mean...</p> <p>5 Q Okay. What is the basis of your opinion that</p> <p>6 it is possible to select the channel without providing</p> <p>7 it?</p> <p>8 A It just seems common sense that I can select</p> <p>9 something without outputting it.</p> <p>10 Q Now, in the claim where it says concurrently</p> <p>11 select and provide, in that limitation, what</p> <p>12 specifically does concurrently modify?</p> <p>13 A It thinks that both of them are required,</p> <p>14 right, selecting and providing.</p> <p>15 Q Let me rephrase my question. Does concurrently</p> <p>16 modify selecting or providing or something else?</p> <p>17 A I mean, I'm not an attorney. Okay. And if</p> <p>18 you're trying to trick me, you know, so be it. But it</p> <p>19 just seems to me concurrently select and provide means</p> <p>20 that both it has to be selected and provided.</p> <p>21 Q I'm not trying to trick you. I'm trying to</p> <p>22 understand how you understand the claim means. So you</p> <p>23 provided an opinion that the claims are obvious,</p> <p>24 correct?</p> <p>25 A Yes.</p>
<p style="text-align: right;">Page 71</p> <p>1 you reading something from a declaration that is not</p> <p>2 responsive to my question.</p> <p>3 So please feel free to consult anything you</p> <p>4 need to consult in front of you.</p> <p>5 A Yeah, so I'm just reading the claim elements as</p> <p>6 shown in the claim listing appendix 11.</p> <p>7 Q Sure. Please let me know when --</p> <p>8 A If that's okay.</p> <p>9 Q Please. Of course. Please let me know when</p> <p>10 you're ready for me to ask my question.</p> <p>11 A Okay.</p> <p>12 Q Thank you.</p> <p>13 In claim 27, Column 14, line 17, do you see the</p> <p>14 limitation that says, quote, "wherein the DFE is</p> <p>15 configured to concurrently select and provide each of</p> <p>16 the plurality of desired channels."</p> <p>17 Do you see that limitation?</p> <p>18 A I do.</p> <p>19 Q How is selecting different from providing?</p> <p>20 A I think it's -- I'm not sure I know the</p> <p>21 difference.</p> <p>22 Q Okay. Is it possible to select a channel</p> <p>23 without providing it?</p> <p>24 A Yes, it is.</p> <p>25 Q Okay. How would that work? Can you give an</p>	<p style="text-align: right;">Page 73</p> <p>1 Q And to provide that opinion, you need to first</p> <p>2 understand what the claim means, correct?</p> <p>3 A Right.</p> <p>4 Q Okay. So I'm trying to ascertain what your</p> <p>5 understanding of the meaning of the claim is.</p> <p>6 Does that make sense?</p> <p>7 A Well, I think I understand what concurrently</p> <p>8 select and provide mean.</p> <p>9 Q Okay.</p> <p>10 A Is that what your question is?</p> <p>11 Q No. My question is -- you can, at least based</p> <p>12 on grammar, you may read this claim to require that the</p> <p>13 selecting and providing be concurrent or just the</p> <p>14 selecting be concurrent --</p> <p>15 A Concurrent with what?</p> <p>16 Q So that's my question. What does concurrent</p> <p>17 specifically modify? It's not a trick question. I'm</p> <p>18 trying to understand what has to be concurrent in claim</p> <p>19 27.</p> <p>20 A I mean, to me, it says concurrently select and</p> <p>21 provide. I don't see any other meanings other than both</p> <p>22 selecting and providing is required.</p> <p>23 Q Okay. So in your opinion, in claim 27, the</p> <p>24 selection and the provision of the channels has to be</p> <p>25 concurrent together?</p>

<p style="text-align: right;">Page 74</p> <p>1 A I think I answered, but yeah, I mean, both</p> <p>2 selecting and providing is required, according to</p> <p>3 reading this sentence fragment to me.</p> <p>4 Q Sure. And it may just be a miscommunication</p> <p>5 because I really -- I don't think I understood if you</p> <p>6 answered my question.</p> <p>7 There is no question that both selecting and</p> <p>8 providing are required by the claim. That's not the</p> <p>9 issue. The issue is: What is it that has to be</p> <p>10 concurrent? So I'm not disputing with you that the</p> <p>11 claim requires both selecting and providing, so let me</p> <p>12 rephrase my question maybe differently and then --</p> <p>13 A I mean, it says each of the plurality of</p> <p>14 desired channels.</p> <p>15 Q Okay. Is that what you believe concurrently</p> <p>16 refers to?</p> <p>17 A Selecting and providing each of the plurality</p> <p>18 of desired channels. So yeah, I mean, you have to</p> <p>19 concurrently select and provide each of the plurality of</p> <p>20 desired channels.</p> <p>21 Q If I select each of the plurality of desired</p> <p>22 channels at one step, and at a later time provide each</p> <p>23 of the plurality of desired channels, would that</p> <p>24 disclose claim 27?</p> <p>25 MR. QUALEY: Objection to form.</p>	<p style="text-align: right;">Page 76</p> <p>1 BY MR. HENDIFAR:</p> <p>2 Q Okay --</p> <p>3 A Perhaps you can say it in a way I can</p> <p>4 understand better what you're saying.</p> <p>5 Q Sure.</p> <p>6 Did you fully understand claim 27 before</p> <p>7 opining that it's obvious?</p> <p>8 A Yes.</p> <p>9 Q Okay. Did you fully understand the limitation</p> <p>10 that in claim 27, that said "wherein the DFE is</p> <p>11 configured to concurrently select and provide each of</p> <p>12 the plurality of desired channels without providing any</p> <p>13 of the plurality of undesired channels."</p> <p>14 Did you fully understand that limitation of</p> <p>15 claim 27?</p> <p>16 A Yes.</p> <p>17 Q Okay. And did you fully understand what the</p> <p>18 word concurrently means in that limitation?</p> <p>19 A At the same time.</p> <p>20 Q Okay. In claim 27, what is it that has to</p> <p>21 happen concurrently?</p> <p>22 A Selecting and providing each of the plurality</p> <p>23 of desired channels without providing any of the</p> <p>24 plurality of the undesired channels.</p> <p>25 Q So in your opinion, do the acts of selecting</p>
<p style="text-align: right;">Page 75</p> <p>1 THE WITNESS: Perhaps in another place it says</p> <p>2 something about the later -- you can't do it later. But</p> <p>3 to me in this claim element, it doesn't say anything</p> <p>4 about timing.</p> <p>5 BY MR. HENDIFAR:</p> <p>6 Q So what does concurrently say to you? Let</p> <p>7 me -- let me step back.</p> <p>8 What do you believe concurrently means?</p> <p>9 A Okay. At the same time.</p> <p>10 Q Okay. So I am trying to ascertain what has to</p> <p>11 happen at the same time in claim 27.</p> <p>12 Do you understand my question?</p> <p>13 A Okay. I think I'm understanding what you're</p> <p>14 getting at.</p> <p>15 Q Thank you. And it's not intended to trick you.</p> <p>16 I'm really just trying to understand how you understand</p> <p>17 the claim. It's not that complicated. So let me ask</p> <p>18 you -- maybe then start from scratch again now that you</p> <p>19 better understand my point.</p> <p>20 In claim 27, what does concurrently</p> <p>21 specifically modify?</p> <p>22 MR. QUALEY: Objection to form.</p> <p>23 THE WITNESS: I'm sorry, I'm not an attorney.</p> <p>24 I'm not familiar with, you know, the language that</p> <p>25 you're using here. I'm sorry, I don't know.</p>	<p style="text-align: right;">Page 77</p> <p>1 and providing have to happen concurrently in claim 27?</p> <p>2 A It seems to. Again, I'm not an attorney.</p> <p>3 Maybe there's some other meaning that I don't</p> <p>4 understand, but it seems to me that they both have to</p> <p>5 occur.</p> <p>6 Q Thank you.</p> <p>7 So in your opinion, if a reference selects the</p> <p>8 plurality of desired channels in one step, and then at a</p> <p>9 later time provides the plurality of desired channels,</p> <p>10 that wouldn't disclose claim 27?</p> <p>11 A Well, so the '866 patent processes the signals</p> <p>12 from left to right in Figure 2.</p> <p>13 Do you agree with me?</p> <p>14 Q Sure.</p> <p>15 A So the selecting is more left than the output,</p> <p>16 which is on the right. The selecting occurs in the</p> <p>17 digital front end. The outputting occurs on the line</p> <p>18 that's labeled serial to parallel data interface. So</p> <p>19 even though that's a short amount of time to get from</p> <p>20 that block to the -- to the output, it is discreetly</p> <p>21 different in time, very small.</p> <p>22 So the way I'm reading it is that, essentially,</p> <p>23 the flow of the signal is going through to the output,</p> <p>24 and -- and that signal goes from selecting to</p> <p>25 outputting, which is providing.</p>

<p style="text-align: right;">Page 78</p> <p>1 Q Okay. But the claim does require concurrently, 2 right?</p> <p>3 A Yeah, but the patent itself, the '866, it's not 4 absolutely concurrently at zero time, right. It's a 5 very small amount of time, admittedly, that is from 6 selecting to outputting.</p> <p>7 Q So is it your opinion that selecting and 8 providing based on the plane and order and meaning are 9 concurrent even if they're done sequentially, so long as 10 the time lapse between them is small? Is that what 11 you're saying?</p> <p>12 A I think so. And the -- I'm sorry, go ahead.</p> <p>13 MR. QUALEY: I just said objection to form.</p> <p>14 THE WITNESS: "Objection to form," he said, if 15 you didn't hear him.</p> <p>16 Okay. So when you first select a channel, 17 right, it doesn't come out right then, right. It comes 18 out a little bit after that, right. So you first select 19 a channel, then it starts streaming to the output, 20 right, one after the other.</p> <p>21 BY MR. HENDIFAR:</p> <p>22 Q Right.</p> <p>23 A After it's selected -- after it's selected, 24 right, it continues to stream, right. That's all I'm 25 saying.</p>	<p style="text-align: right;">Page 80</p> <p>1 providing -- let me strike that.</p> <p>2 What is the maximum time lapse between 3 selecting and providing for them to be concurrent in 4 claim 27?</p> <p>5 MR. QUALEY: Objection to form.</p> <p>6 THE WITNESS: I don't think I have an answer to 7 that question. I don't know.</p> <p>8 BY MR. HENDIFAR:</p> <p>9 Q Okay. If the acts of selecting and providing 10 in 27 are 30 seconds apart, would a POSITA understand 11 them to be concurrent?</p> <p>12 A It's hard to say. I don't know.</p> <p>13 Q Okay. Do you know the -- can I please refer to 14 Zhang Figure 2?</p> <p>15 A Okay.</p> <p>16 Q And please let me know when you have it.</p> <p>17 A Okay. I have it.</p> <p>18 Q Okay. In Figure 2 of Zhang, do you know what 19 is the time lapse from when the signal enters the 20 digital channel DeMux 230 to when channels D1 through Dm 21 are output?</p> <p>22 A No. Just like I don't know the time lapse on 23 the '866 patent when the channel is selected by the 24 digital downconverters until its output.</p> <p>25 Q Okay. Do you have any estimate?</p>
<p style="text-align: right;">Page 79</p> <p>1 Q Sure. Again, I don't --</p> <p>2 A And that's per the '866 patent.</p> <p>3 Q Okay.</p> <p>4 A And the Zhang reference.</p> <p>5 Q Sure. And I don't -- I'm not in the position 6 to dispute what you're saying. I'm really just here to 7 take in your views. So did I summarize your view 8 correctly that, first, concurrently requires the acts of 9 selecting and providing to be concurrent; is that 10 correct?</p> <p>11 A That's right. And the way I'm reading it is, 12 as I just described, it's -- when it first starts, it's 13 not exactly at the same time, but it's a very short 14 amount of time based on the propagation delay between 15 the circuits.</p> <p>16 Q And then in your view, even though concurrently 17 requires selecting and providing to be concurrent, a 18 POSITA would understand selecting and providing to be 19 concurrent even if they're done sequentially as long as 20 the time lapse between the two steps is minimal? Is 21 that what you opined just now?</p> <p>22 A Yeah, I think that's fair. It's exactly what 23 the '866 patent does as shown in Figure 2 and the Zhang 24 reference.</p> <p>25 Q Now, how much time lapse between selecting and</p>	<p style="text-align: right;">Page 81</p> <p>1 A It depends on the implementation. I don't 2 know.</p> <p>3 Q It could be two minutes apart?</p> <p>4 A I mean, you're talking about one of these 5 designs? Are you talking about Zhang or -- or the '866 6 patent? It could be anything. So, you know, my point 7 was that, you know, when it first starts, right, so you 8 select it, and then when it starts streaming the output, 9 there is a time lapse there, however how small or big, 10 right. After it's selected, it's streaming and it's 11 concurrently selecting and providing.</p> <p>12 Q Sure. And I appreciate that explanation.</p> <p>13 Now, in Zhang's Figure 2, so is it possible 14 that an implementation, the time lapse between when the 15 signal enters the channel DeMux 230 to when channels D1 16 through Dm are output, is it possible that the time 17 lapse may be five minutes?</p> <p>18 A It's probably not because it's implemented -- 19 this entire thing is implemented in a CMOS chip and the 20 propagation delay between modules would be very small.</p> <p>21 Q I see. So in Zhang, do you believe it is 22 possible for the channel DeMux 230 to demultiplex 23 channels C1 through Cn, and then at a later time, a user 24 selects a desired channel D1 or Dm?</p> <p>25 A No. The way it works -- and it's just like the</p>

<p style="text-align: right;">Page 82</p> <p>1 '866 patent is, the user selects a desired channel and a 2 desired channels are selected C1 through Cn based on 3 that selection. 4 Q I see. So in your view, in Zhang's Figure 2, 5 the digital channel DeMux 230 does not demultiplex any 6 of channel C1 through Cn until and unless a user or the 7 system has actually selected a desired channel D1 -- or 8 requested a desired channel D1? 9 MR. QUALEY: Objection to form. 10 THE WITNESS: I didn't think about that. What 11 I was considering was the case when someone selects a 12 channel, just like the '866 panel -- patent and the '362 13 and the '206 for that matter, when they select a 14 channel, the selected channel is output. 15 BY MR. HENDIFAR: 16 Q I see. So in your view, is it possible in 17 Zhang for Zhang's Figure 2 to have channels C1 through 18 Cn demultiplexed and demultiplexer 230, and then at a 19 later time, a user requests a channel D1 through Dm? 20 A I haven't thought about that, so I don't know 21 the answer to that question. 22 Q Okay. Now, may I please refer you to your 23 declaration for the '206 patent? 24 A If you like, we can continue on for one more 25 question, but I need a little short break. We can wait</p>	<p style="text-align: right;">Page 84</p> <p>1 correct? 2 A Hang on. I'm a little confused. Let me just 3 double-check. 4 So saying they disclosed the method of claim 1, 5 13, 25, 38, 51, 64 -- I can't remember what this is. 6 I'm confused. What's confusing me is it's 2, 14, 26, 7 39, 52, 65. 8 Q I mean, it's your declaration. 9 A I remember -- okay. I'm sorry, I remember what 10 this is. 11 Q I would help you, but it's your declaration. I 12 don't know what -- 13 A I just -- I'm sorry, it's been a while since I 14 read that section. So I -- okay. Now, what was your 15 question? 16 Q Sure. 17 The question is that you're opining that Zhang 18 in view of Jackson discloses or renders obvious claim 14 19 among other claims, correct? 20 A Right. 21 Q Which specific claim element do you believe 22 that Zhang is missing for which you are relying upon 23 Jackson? 24 A So -- so I'm relying on Zhang in view of 25 Jackson for the cable network connector, analog</p>
<p style="text-align: right;">Page 83</p> <p>1 until after this or do it now, whichever you prefer. 2 Q I have ten minutes left. Do you want to take a 3 break now and come back or do you -- 4 A Yeah, if you don't mind. I've had a lot of 5 iced tea while we've been talking. 6 Q Not a problem. Let's come back -- 7 MR. HENDIFAR: And, Counsel, I think because I 8 really only have about five to ten minutes left, we can 9 just skip the lunch break depending on what your 10 redirect and see how it goes for now? 11 THE WITNESS: Okay. Thank you. 12 MR. HENDIFAR: Come back seven minutes, at 13 25 minutes past the hour? 14 MR. QUALEY: Yeah. 15 MR. HENDIFAR: Thank you very much. 16 (Recess.) 17 BY MR. HENDIFAR: 18 Q So may I please refer you to your declaration 19 for the '206 patent, please? 20 A Okay. 21 Q Specifically starting on paragraph 212. And 22 please let me know when you're there. 23 A Okay. I'm there. 24 Q You opined that Zhang in view of Jackson 25 discloses the method of claim 14 among other claims,</p>	<p style="text-align: right;">Page 85</p> <p>1 amplifier, and analog filter because they explicitly 2 disclosed those elements. 3 Q The cable network connector and what? 4 A Cable network connector, analog amplifier, and 5 analog filter. 6 Q What is a cable network connector? 7 A Well, you can see a picture of it on that 8 Page 116, the brown. 9 Q I have, but what is it? 10 A It's where you take the coax cable and you 11 screw it into the set-top box to make a connection with 12 the cable network. 13 Q Is that an equivalent of a cable network 14 connector in a satellite system? 15 A Usually both have F connectors which we 16 normally use as an input connector. 17 Q And where would this cable network connector 18 go? Like, if I'm watching cable in my house, is it -- 19 would it be at the -- on the roof? Would it be right by 20 my set-top? Where would this go? 21 A Well, the connector is on the box itself. 22 That's what I'm talking about. 23 Q I see. 24 A The box that is Zhang's receiver, where it says 25 RF signal on Figure 2 of Zhang, the little dot there,</p>

<p style="text-align: right;">Page 86</p> <p>1 you know, although it's obvious that that is a --</p> <p>2 Q Understood?</p> <p>3 A -- cable network connector, I mean, Jackson</p> <p>4 explicitly discloses that.</p> <p>5 Q I appreciate that. Now, are there other ways</p> <p>6 of receiving cable RF input without a cable network</p> <p>7 connector?</p> <p>8 A I suppose you could receive it wirelessly.</p> <p>9 Q I see. So as long as it's wired, it has to be</p> <p>10 through a cable network connector?</p> <p>11 A But it says connector, so connector generally,</p> <p>12 a POSITA would understand to be a wired connection.</p> <p>13 Q I see. So let me -- and I appreciate that. So</p> <p>14 are there other ways, wired ways of receiving cable RF</p> <p>15 input without a cable network connector?</p> <p>16 A I mean, you could put whatever kind of</p> <p>17 connector you wanted on there. I suppose if you wanted</p> <p>18 to build an oddball system that wasn't compatible with</p> <p>19 all the cable systems and -- like, if Comcast came to</p> <p>20 your house and said, "I'm going to connect up your box."</p> <p>21 "Oh, you modified the connector to be something that we</p> <p>22 don't use," then he probably wouldn't connect you to the</p> <p>23 cable network.</p> <p>24 Q I see. So the purpose of the cable network</p> <p>25 connector in part is -- it provides a uniform connection</p>	<p style="text-align: right;">Page 88</p> <p>1 and to a POSITA that there would be an amplifier in</p> <p>2 there and an analog filter.</p> <p>3 Q Sure.</p> <p>4 A But Zhang, I think, just to make it really</p> <p>5 clear, Jackson modification of Zhang specifically</p> <p>6 discloses those elements.</p> <p>7 Q Sure. And I appreciate that, and I understand</p> <p>8 your view that it's obvious that Zhang would have an</p> <p>9 analog amplifier.</p> <p>10 Do you understand the distinction between a</p> <p>11 reference expressly disclosing something versus making</p> <p>12 it obvious?</p> <p>13 A I think I do, yes.</p> <p>14 Q So my question is: Is it your view that Zhang</p> <p>15 does not expressly disclose an analog amplifier as</p> <p>16 claimed in claim 14?</p> <p>17 A I'm not sure. I'll have to look. But I wanted</p> <p>18 to make it very clear in the combination it's disclosed.</p> <p>19 Q Okay. If Zhang disclosed it, why would you</p> <p>20 need the combination?</p> <p>21 A So in paragraph 217, I explain that, in my</p> <p>22 opinion, a POSITA would have been motivated to implement</p> <p>23 Zhang's converter red with Jackson's analog amplifier</p> <p>24 and analog filter to Zhang's frequency block</p> <p>25 downconverter. And Jackson teaches that the amplifiers</p>
<p style="text-align: right;">Page 87</p> <p>1 for all the different units set-top boxes?</p> <p>2 A Yeah. It communicates the input signal from</p> <p>3 the cable network connector.</p> <p>4 Q Got it.</p> <p>5 You mentioned that you also rely on Jackson for</p> <p>6 an analog amplifier.</p> <p>7 Do you recall that?</p> <p>8 A Yes.</p> <p>9 Q So in your opinion, Zhang does not expressly</p> <p>10 disclose an analog amplifier as claimed?</p> <p>11 A So if you look at Page 118 of that declaration,</p> <p>12 I show a diagram there where Zhang is block, which</p> <p>13 frequency block downconverters and bandpass filters.</p> <p>14 I'm showing with Jackson more details about</p> <p>15 what's inside that as disclosed by Jackson.</p> <p>16 Q Right. So in that figure, you're showing the</p> <p>17 combination of Jackson and Zhang, correct?</p> <p>18 A Correct.</p> <p>19 Q Okay. So my question is, specifically, in your</p> <p>20 view, Zhang alone doesn't explicitly disclose an analog</p> <p>21 amplifier as claimed, correct?</p> <p>22 A Well, I don't think I -- in the section of</p> <p>23 ground -- let's see. In ground A, I don't think I</p> <p>24 discussed claim 14, for example. I didn't -- I didn't</p> <p>25 put in my opinion, but it would be obvious to me that --</p>	<p style="text-align: right;">Page 89</p> <p>1 boost the power and enable automatic gain control of the</p> <p>2 RF signal, which a POSITA would have understood is</p> <p>3 beneficial for obtaining the highest possible</p> <p>4 performance.</p> <p>5 So we want to make sure that we're in the</p> <p>6 system that it has the highest possible performance, and</p> <p>7 that is taught by Jackson.</p> <p>8 Q Now -- and I appreciate that. But paragraph</p> <p>9 217 of your declaration discusses your view on why a</p> <p>10 POSITA would have combined Zhang and Jackson, correct?</p> <p>11 A The motivation that -- to combine them, yes.</p> <p>12 Q Correct. So -- but that was not really my</p> <p>13 question. I didn't ask what the motivation is.</p> <p>14 A Maybe I misunderstood.</p> <p>15 Q Sure.</p> <p>16 My question is: Is it your opinion that Zhang</p> <p>17 alone does not expressly disclose an analog amplifier as</p> <p>18 claimed in claim 14?</p> <p>19 A I didn't look at that and so I don't know, but</p> <p>20 I can look for it in the Zhang patent if you like.</p> <p>21 Q Okay. So is it your opinion that you didn't</p> <p>22 look into whether Zhang discloses an analog amplifier</p> <p>23 but nonetheless decided to combine it with Jackson?</p> <p>24 MR. QAULEY: Objection to form.</p> <p>25 THE WITNESS: So Zhang is talking about the</p>

<p style="text-align: right;">Page 90</p> <p>1 functionality of that block 210 rather than all the</p> <p>2 internal details about it. And so to make sure that all</p> <p>3 the internal details are understood, I brought in</p> <p>4 Jackson and -- because Jackson explicitly discloses the</p> <p>5 analog amplifier and the connector and the other we</p> <p>6 talked about. I forgot what the third one was.</p> <p>7 BY MR. HENDIFAR:</p> <p>8 Q Analog filter.</p> <p>9 A Thank you.</p> <p>10 Q And before you decided to combine Zhang with</p> <p>11 Jackson for claim 14, did you analyze Zhang to determine</p> <p>12 if Zhang alone discloses an analog amplifier?</p> <p>13 A I'm not sure if Zhang discloses explicitly an</p> <p>14 analog amplifier in that front end, but Zhang</p> <p>15 certainly -- or excuse me -- Jackson provides the</p> <p>16 details about doing that, and a POSITA would have</p> <p>17 understood that and wanted the better performance as</p> <p>18 described that -- as a motivation.</p> <p>19 Q Okay. Now, a better performance compared to</p> <p>20 what?</p> <p>21 A Highest possible performance.</p> <p>22 Q Right. Compared to what?</p> <p>23 A I mean, if you have a performance higher than</p> <p>24 that. I mean, highest possible. So in other words,</p> <p>25 optimize the system so that it has the best possible</p>	<p style="text-align: right;">Page 92</p> <p>1 highest possible performance.</p> <p>2 Do you recall that?</p> <p>3 A Yes.</p> <p>4 Q Okay. What -- I'm trying to understand. What</p> <p>5 is the basis of your view that the portion of Zhang's --</p> <p>6 I'm sorry, the portion of Jackson's circuitry you relied</p> <p>7 on gives the highest possible performance for</p> <p>8 implementing Zhang's block 210? I mean, that it</p> <p>9 compares to other ways or what -- what is the basis of</p> <p>10 that view?</p> <p>11 A So I quote Jackson -- or I cite Jackson</p> <p>12 paragraph 25, and the RF tuner comprises of low noise</p> <p>13 amplifier 17 to boost the power of the received signal.</p> <p>14 A POSITA would know that you need to boost the power of</p> <p>15 the received signal to achieve the highest possible</p> <p>16 performance.</p> <p>17 Q So in your opinion, Jackson's paragraph 25</p> <p>18 teaches the POSITA that the portion of Jackson you have</p> <p>19 taken out to implement in Zhang is the best possible way</p> <p>20 to implement Zhang's Box 210?</p> <p>21 A Well, you need to optimize to boost the</p> <p>22 received signal to achieve the optimal performance. So</p> <p>23 that is why that the LNA boosts the received signal and</p> <p>24 that's why I showed it that way.</p> <p>25 Q Okay. Now, on Page 116 of your declaration,</p>
<p style="text-align: right;">Page 91</p> <p>1 performance.</p> <p>2 Q I see. So are there ways to implement Zhang's</p> <p>3 downconverter block 210 other than through the way you</p> <p>4 have identified in Jackson?</p> <p>5 A There's many ways to implement any circuit. So</p> <p>6 one would certainly consider and see the benefits of</p> <p>7 using the details as taught by Jackson in the</p> <p>8 implementation of the block 210 of Zhang.</p> <p>9 Q So in your opinion, the implementation of</p> <p>10 Zhang's block 210 as you have combined with Jackson is</p> <p>11 the best possible way to implement that circuit?</p> <p>12 A Well, that's one of the well-known ways that</p> <p>13 was documented by Jackson, and a POSITA would understand</p> <p>14 that it gives you very good performance or the highest</p> <p>15 possible performance and he would certainly use that</p> <p>16 teaching.</p> <p>17 Q Sure. So you --</p> <p>18 A There might be other teachings with other</p> <p>19 methods, right. But what I opined on was this is --</p> <p>20 this is one example, right, of a teaching that would be</p> <p>21 applicable that discloses the three elements we've been</p> <p>22 talking about. And there's a reason that you might want</p> <p>23 to use Jackson's teachings on a modification of Zhang</p> <p>24 system.</p> <p>25 Q And you've referenced multiple times the</p>	<p style="text-align: right;">Page 93</p> <p>1 you produced Jackson's Figure 4B, the one that you</p> <p>2 pointed me to.</p> <p>3 Do you recall that?</p> <p>4 A What page again?</p> <p>5 Q 116, the same --</p> <p>6 A Yes.</p> <p>7 Q Yes. Figure 4B of Jackson, the one that you</p> <p>8 pointed me to.</p> <p>9 A Right.</p> <p>10 Q Okay. What is the function of the cable</p> <p>11 connector as shown in Figure 4B of Jackson?</p> <p>12 A 4B? I don't see a -- oh, Figure 4B. Okay.</p> <p>13 Hang on.</p> <p>14 So as I cite in paragraph 73, receive digital</p> <p>15 encoded signals through the connector as they enter the</p> <p>16 home.</p> <p>17 Q Okay.</p> <p>18 A Along cables. And so it's an input signal from</p> <p>19 the cable network connector.</p> <p>20 Q What is the output 8b of Figure 4B in Jackson?</p> <p>21 A I don't think I discussed that. I was talking</p> <p>22 about the claim elements, the input signal from the</p> <p>23 cable network connector. But I will look at that.</p> <p>24 So the input connector from the cable network</p> <p>25 as shown in the diagram on Page 118 goes to the LNA, and</p>

<p style="text-align: right;">Page 94</p> <p>1 that block includes an analog filter. That's from --</p> <p>2 that's from Jackson.</p> <p>3 Q Is cable connector 4B in Jackson for a wideband</p> <p>4 RF signal?</p> <p>5 A Well, I mean, an input from a cable network is</p> <p>6 generally wideband, yes. I mean, it has a lot of</p> <p>7 channels on it normally.</p> <p>8 Q Okay. Now, may I please refer you to paragraph</p> <p>9 31 of your declaration? The one that you have is fine</p> <p>10 for the '206 patent, the same.</p> <p>11 A Okay.</p> <p>12 Q Please let me know when you have it.</p> <p>13 A I do.</p> <p>14 Q Okay.</p> <p>15 A We're talking about '206, right?</p> <p>16 Q Sure. Paragraph 31.</p> <p>17 A Oh, I'm sorry, I was on Page 31. Okay. I'm at</p> <p>18 paragraph 31.</p> <p>19 Q Okay. Do you see that you have provided a</p> <p>20 definition for a POSITA?</p> <p>21 A Yes.</p> <p>22 Q Okay. And where did you get that definition?</p> <p>23 A It was a collaborative effort with myself and</p> <p>24 the attorneys.</p> <p>25 Q Okay. What is the basis for your belief that</p>	<p style="text-align: right;">Page 96</p> <p>1 POSITA understands what's being discussed and -- and</p> <p>2 knows, you know, kind of what's going on in the art.</p> <p>3 And similarly, the kind of people I worked with and I</p> <p>4 was I would say a POSITA at that time. But certainly, I</p> <p>5 had a lot more experience than that, but I put myself in</p> <p>6 the position of a POSITA when I rendered my opinion and</p> <p>7 I worked with such people and I kind of know the level</p> <p>8 of expertise that they had and that's how I rendered my</p> <p>9 opinion in this declaration as well as the other two.</p> <p>10 Q Now, in 2009, you were at Cisco, correct?</p> <p>11 A That's right.</p> <p>12 Q And what was the average education level of the</p> <p>13 engineers who worked at Cisco at that time?</p> <p>14 A I mean, it's hard to say. I had -- I had the</p> <p>15 full gamut. I had people that were -- in my</p> <p>16 organization, and I'm not talking about Cisco as a whole</p> <p>17 because I don't know Cisco as a whole -- but my</p> <p>18 organization, I had people that were, like, new grads</p> <p>19 and I had people that were -- and when I say new grads,</p> <p>20 generally a bachelor's degree in electrical engineering</p> <p>21 or computer engineering or something similar. I had</p> <p>22 people that had several years of experience, you know,</p> <p>23 one, two, three, all the way up to -- golly, some people</p> <p>24 probably had I'm guessing 30 years of experience, right.</p> <p>25 And then, also had people working for me that</p>
<p style="text-align: right;">Page 95</p> <p>1 in 2009, a person of ordinary skill would have, in</p> <p>2 addition to a bachelor degree, at least three to</p> <p>3 four years of experience specifically with digital</p> <p>4 signal processing and radio frequency tuning for</p> <p>5 satellite and cable communications?</p> <p>6 A It says and/or.</p> <p>7 Q And/or cable communications.</p> <p>8 A I'm sorry, go ahead and finish your question.</p> <p>9 I'm sorry, I interrupted.</p> <p>10 Q No worries.</p> <p>11 What is the basis of your opinion that a person</p> <p>12 with ordinary skill in 2009, in addition to bachelor</p> <p>13 degree, would have had at least three to four years of</p> <p>14 experience specifically in digital signal processing and</p> <p>15 radio frequency tuning systems?</p> <p>16 A So the technologies that are comprising the</p> <p>17 patents includes, in my opinion, digital signal</p> <p>18 processing and RF frequency tuning systems for cable or</p> <p>19 satellite -- and/or. And I have worked with a number of</p> <p>20 people in implementing and delivering products that use</p> <p>21 those skill sets. And also the people I worked with</p> <p>22 that I would consider a POSITA at least had a bachelor's</p> <p>23 degree, and I think a bachelor's degree in electrical</p> <p>24 engineering or similar discipline would be needed.</p> <p>25 And then also, just to make sure that the</p>	<p style="text-align: right;">Page 97</p> <p>1 had these skill sets, the ones I just mentioned. I also</p> <p>2 had people that had other skill sets too. But I'm</p> <p>3 thinking about the combination of all these skill sets</p> <p>4 and degree and experience when I came up with this</p> <p>5 definition.</p> <p>6 Q I see. Now, how would the capabilities of a</p> <p>7 POSITA be different if it had a bachelor degree in the</p> <p>8 field you mentioned, but instead of three to four years</p> <p>9 of experience in the fields you mention, it would only</p> <p>10 have two years of experience?</p> <p>11 A I mean, it's not an exact science, right. I</p> <p>12 think that, based on my experience, I'm thinking maybe a</p> <p>13 little more than two years would be needed, right. And</p> <p>14 that's why I put three to four because you -- when you</p> <p>15 come out of college, right, you learn a lot in your</p> <p>16 first few years of work, right. And so I kind of</p> <p>17 thought that the three to four years was kind of the</p> <p>18 minimum requirement in terms of experience.</p> <p>19 Q Okay. So --</p> <p>20 A But I put myself in the position of that</p> <p>21 window, three to four years, based on my knowledge of</p> <p>22 the people that I worked with.</p> <p>23 Q Right. So all of your opinions in your three</p> <p>24 declarations are from the perspective of a POSITA as you</p> <p>25 define in paragraph 31, correct?</p>

<p style="text-align: right;">Page 98</p> <p>1 A Well, I think I use the same definition in all 2 three. Do I need to check it or do you know? 3 Q No. You do. 4 A So the answer is yes. 5 Q Okay. So your opinions would not necessarily 6 hold true if the analysis were to be performed from the 7 perspective of somebody with a bachelor degree in 8 electrical engineering or similar discipline, but with 9 only two years of experience with digital signal 10 processing and radio frequency tuning, correct? 11 A I think -- you know, you might have a really 12 smart person that could get to the level of skill that 13 I'm thinking about in two years, but I think on average 14 you know, three to four years, you know, I think three 15 to four is about right. 16 Q Okay. We have no further questions for 17 Mr. Lett. 18 A Okay. Thank you. 19 MR. HENDIFAR: I think there may be redirect, 20 as much as I want -- how much of a break would you like, 21 Counsel? 22 MR. QUALEY: Just two minutes. 23 MR. HENDIFAR: Okay. Sure. 24 (Recess.) 25 MR. QUALEY: Petitioner's counsel has no</p>	<p style="text-align: right;">Page 100</p> <p>1 REPORTER'S CERTIFICATION 2 3 I, Deidre Young, RPR, a Certified Shorthand 4 Reporter in and for the State of California, do hereby 5 certify: 6 7 That the foregoing witness was by me duly sworn; 8 that the deposition was then taken remotely before me at 9 the time and place herein set forth; that the testimony 10 and proceedings were reported stenographically by me to 11 the best of my ability to discern comments via Zoom 12 transmission and later transcribed into typewriting 13 under my direction; that the foregoing is a true record 14 of the testimony and proceedings taken at that time. 15 16 IN WITNESS WHEREOF, I have subscribed my name this 17 12th day of DECEMBER, 2024. 18 19 <i>Deidre Young</i> 20 21 Deidre Young, RPR, CSR No. 11461 22 23 24 25</p>
<p style="text-align: right;">Page 99</p> <p>1 questions. 2 MR. HENDIFAR: And just as a stipulation, we 3 agreed already that the transcript -- the deposition for 4 yesterday and today is applicable to all three IPRs, 5 2024-00432, 435, and 438, and it will be used for all 6 three proceedings, correct? 7 MR. QUALEY: Correct. And that was the -- that 8 was the caption that I think I delivered to the court 9 reporter. 10 MR. HENDIFAR: Correct. All right thank you 11 very much. And thank you, Mr. Lett. 12 THE REPORTER: Mr. Qualey, would you like a 13 copy? 14 MR. QUALEY: Yes, but not by tomorrow. 15 THE REPORTER: Okay. 16 Just you, Mr. Hendifar, want it by tomorrow? 17 MR. HENDIFAR: Yes. 18 THE REPORTER: Okay. 19 20 (Whereupon, at the hour of 1:06 p.m., the 21 deposition of DAVID B. LETT - VOLUME II was 22 adjourned.) 23 24 ---oOo--- 25</p>	<p style="text-align: right;">Page 101</p> <p>1 DEPOSITION ERRATA SHEET 2 3 4 Our Assignment No. 1250019 5 Case Caption: COMCAST CABLE COMMUNICATIONS, LLC 6 vs. ENTROPIC COMMUNICATIONS, LLC 7 8 DECLARATION UNDER PENALTY OF PERJURY 9 10 I declare under penalty of perjury that I 11 have read the entire transcript of my Deposition taken 12 in the above captioned matter or the same has been read 13 to me, and the same is true and accurate, save and 14 except for changes and/or corrections, if any, as 15 indicated by me on the DEPOSITION ERRATA SHEET hereof, 16 with the understanding that I offer these changes as if 17 still under oath. 18 Signed on the ____ day of _____, 20____, 19 20 _____ 21 DAVID B. LETT - VOLUME II 22 23 24 25</p>

<p>1 DEPOSITION ERRATA SHEET</p> <p>2 Page No. _____ Line No. _____ Change to: _____</p> <p>3 _____</p> <p>4 Reason for change: _____</p> <p>5 Page No. _____ Line No. _____ Change to: _____</p> <p>6 _____</p> <p>7 Reason for change: _____</p> <p>8 Page No. _____ Line No. _____ Change to: _____</p> <p>9 _____</p> <p>10 Reason for change: _____</p> <p>11 Page No. _____ Line No. _____ Change to: _____</p> <p>12 _____</p> <p>13 Reason for change: _____</p> <p>14 Page No. _____ Line No. _____ Change to: _____</p> <p>15 _____</p> <p>16 Reason for change: _____</p> <p>17 Page No. _____ Line No. _____ Change to: _____</p> <p>18 _____</p> <p>19 Reason for change: _____</p> <p>20 Page No. _____ Line No. _____ Change to: _____</p> <p>21 _____</p> <p>22 Reason for change: _____</p> <p>23 _____</p> <p>24 SIGNATURE: _____ DATE _____</p> <p>25 DAVID B. LETT - VOLUME II</p>	<p>Page 102</p>
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