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Transcript of R. Jacob Baker, P.E., Ph.D.

Date: January 10, 2024

Case: Lenovo (United States) Inc., et al. -v- Theta IP, LLC (PTAB)

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WORLDWIDE COURT REPORTING & LITIGATION TECHNOLOGY

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5	7
1 before speaking.	1 I think only one case number was read.
2 I apologize in advance for any	2 MR. JOHANNINGMEIER: Oh, yeah. I mean,
3 technical-related interruptions. Thank you.	3 the -- it's our sort of agreement and
4 THE VIDEOGRAPHER: All right.	4 understanding that this deposition is going to
5 Everybody stand by for video, please.	5 cover both IPR2023-00697 and -00698, both of
6 This is the beginning of Media Number	6 which Dr. Baker is declared in with similar
7 One in the videotaped deposition of Dr. Jacob	7 declarations. So for efficiency's sake, we're
8 Baker in the matter of Lenovo (United States),	8 just doing one deposition.
9 Inc., and Motorola Mobility, LLC v. Theta IP,	9 MR. MELWANI: Thank you.
10 LLC in the United States Patent and Trademark	10 (Witness sworn.)
11 Office before the Patent Trial and Appeal Board	11 RUSSEL JACOB BAKER,
12 under the case number IPR2023-00697.	12 The witness herein, after having been
13 Today's date is January 10, 2024, and	13 first duly sworn to tell the truth, was
14 the time on the video monitor is 1303 Eastern	14 examined and testified as follows:
15 Standard Time. I'm Leyhbert Sharp, and I'm the	15 THE VIDEOGRAPHER: You may proceed.
16 videographer this morning -- in this case this	16 Thank you.
17 afternoon on behalf of Planet Depos.	17 EXAMINATION
18 All parties for this proceeding are	18 BY MR. JOHANNINGMEIER:
19 attending remotely. And I will ask for the	19 Q. All right. Well, good morning on the
20 attorneys to please voice-identify themselves	20 record, Dr. Baker. I guess we'll start the easy
21 and state whom they represent. Thank you.	21 way in case we ever need to use this video.
22 MR. JOHANNINGMEIER: Yeah. This is	22 Can you state your full name for the
6	8
1 Corey Johannningmeier of Bunsow De Mory for	1 record?
2 patent owner, Theta IP.	2 A. Good morning. My name is Russel,
3 MR. MELWANI: This is Dinesh Melwani of	3 R-U-S-S-E-L, Jacob, J-A-C-O-B, Baker, B-A-K-E-R.
4 the law firm Bookoff McAndrews. I'm counsel for	4 Q. Okay. And so, normally, I start with
5 the petitioners, Lenovo, Inc., and Motorola	5 the questions about being deposed before. I
6 Mobility, LLC.	6 know you've been deposed before because I've
7 MR. UHR: This is William Uhr from	7 been involved in at least one now.
8 Bookoff McAndrew, counsel for petitioners.	8 So how many times -- your CV has 92
9 MR. AHN: This is Sangwoo Ahn of	9 depositions. Do you know about how many times
10 Bookoff McAndrews. I'm counsel for petitioners.	10 you've been deposed before?
11 MR. MA: This is Jameson Ma, also of	11 MR. MELWANI: Objection. Relevance.
12 Bookoff McAndrews.	12 THE WITNESS: About 100.
13 THE VIDEOGRAPHER: Thank you. Our	13 BY MR. JOHANNINGMEIER:
14 court reporter today is Tamika Burnette,	14 Q. Okay. So I won't go through the rules
15 representing Planet Depos.	15 and waste of time with that.
16 Madam Court Reporter, would you mind	16 The one thing that I always say, even for
17 proceeding? Thank you.	17 experienced people, is to remind you that if
18 THE COURT REPORTER: Please raise your	18 your counsel has any privilege objections, we
19 right hand, Dr. Baker.	19 should all take them seriously. You know, feel
20 MR. MELWANI: One second.	20 free to stop and talk to them about that. Or if
21 Counsel, before we get started, do you	21 you have any questions about whether something
22 want to clarify that it covers two proceedings?	22 might be privileged, same instruction. I don't

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9 1 want to intrude on any privileged matters. 2 The flip side of that, though, is any 3 other objection other than privilege is not an 4 excuse to not answer, as you know. So that's 5 the only preliminaries that I think are 6 basically essential. 7 Now, I have -- I have access to a 8 database of IPRs, and I went on there and 9 counted them. I think that you've declared in 10 about 79 IPRs. 11 Does that sound about right? 12 MR. MELWANI: Objection. Relevance. 13 THE WITNESS: No. 14 BY MR. JOHANNINGMEIER: 15 Q. How many IPRs do you think you've 16 declared in? 17 MR. MELWANI: Same objection. 18 THE WITNESS: That have been filed, if 19 I had to guess, I would say about 200. 20 BY MR. JOHANNINGMEIER: 21 Q. Okay. Now, the vast majority of those 22 have been for petitioner, right?	11 1 Q. Okay. Good. Let's just go ahead and 2 get that out of the way. Do you want to read 3 those into the record in order to correct them? 4 A. Yes. 5 Q. Okay. 6 A. So for the 202 patent proceeding ending 7 in 698, in paragraph 11, on line 3, it says "as 8 a processor," and it should say "as a 9 professor." 10 Q. Okay. 11 A. On paragraph -- or in paragraph 12, 12 line 4, it currently says "I have authorized," 13 and it should say "I have authored." 14 Q. Okay. 15 A. Paragraph 73, line 1, it currently says 16 "neither best case nor worse base," and it 17 should say "neither best case nor worst case." 18 Q. Okay. 19 A. And the last one in that declaration 20 for the 202 patent proceeding -- for the 202 21 patent IPR is paragraph 73, line 11. It 22 currently says "on the neighboring channels
10 1 MR. MELWANI: Objection. Relevance. 2 THE WITNESS: I would think so, yes. 3 (Exhibits 1, 2, 3 and 4 marked for 4 identification.) 5 BY MR. JOHANNINGMEIER: 6 Q. Now, in -- oh, I forgot one other 7 preliminary matter, just for -- just to mention 8 exhibits. 9 So I'm going to -- I have premarked as 10 Exhibit 1 the Patent Number 825, and as 11 Exhibit 2, your declaration for the IPR related 12 to that patent. And as Exhibit 3, Patent Number 13 202, and Exhibit 4, your declaration with 14 respect to that. 15 So those should be available for you to 16 download in the chat. When we come to those and 17 talk to them, please go ahead and do that. 18 Do you have any other materials with you 19 or in your view right now? 20 A. I have a list of minor, non-substantive 21 typos that I found in reviewing my two 22 declarations.	12 1 normal or relative low." The "relative" should 2 be "relatively." 3 Q. Okay. And is there a list for the 4 other declaration as well, or are they the same? 5 A. Yes. There's a list for the other one. 6 Q. Okay. 7 A. For the 825 patent, paragraph 12, 8 line 4. 9 Q. Okay. 10 A. "I have authorized" should be "I have 11 authored." 12 Paragraph 35, line 3. 13 Q. Okay. 14 A. It should say "a relatively large 15 continuous supply" instead of "a relative large 16 continuous supply." 17 Q. Okay. 18 A. Paragraph 49, line 13. 19 Q. All right. 20 A. It currently says "desired an 21 interfering." It should say "desired and 22 interfering."

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13 1 Q. Okay. 2 A. Paragraph 59, line 11, currently says 3 "strength if satisfactory," and it should say 4 "strength is satisfactory." 5 Paragraph 65, line 1, "base" should be 6 "case." It should say "worst case," not "worst 7 base." 8 Same paragraph, line 11, where it says 9 "relative low," it should say "relatively low." 10 Q. Okay. 11 A. And then for paragraphs 88, 113, and 12 129, it currently says "worst-case power 13 dissipation," and it should say "best-case power 14 dissipation." And that was for paragraphs 88, 15 113, and 129. 16 And that's it. 17 Q. Okay. Great. Well, thank you for 18 that. That -- that's helpful. I mean, we -- I 19 would have given you all of those, I'm sure. 20 But -- it's clear from context. But it's good 21 to get it right and perfect. 22 All right. Now I want to go back to	15 1 that you file in IPRs, as it was in this one -- 2 and then looked for a time period. 3 And I came up with 31 instances of 4 declarations including "was born in Ogden, Utah 5 on October 5th, 1964" filed since the -- the 6 IPRs in this case were filed, so in the last ten 7 months. 8 Does that seem about right, that you 9 might have declared in 31 PTAB trials since you 10 filed the declarations in this case? 11 MR. MELWANI: Objection. Relevance. 12 THE WITNESS: That seems right. I did 13 a case -- or I did some work for a case 14 involving Samsung and Mojo Mobility, which had, 15 like, 16 IPRs. So I don't have any -- I don't 16 know if that's right or wrong, but it doesn't 17 seem like it -- it's unreasonable. 18 BY MR. JOHANNINGMEIER: 19 Q. Okay. Well, I wanted to ask you just 20 about a couple of them. And they are listed 21 here in this exhibit, but -- so the first one 22 I'll just ask about is -- and I just want to
14 1 declarations and just ask you some questions 2 that go to the subject matter. I'm going to go 3 ahead and put in an exhibit in the chat. This 4 will be Exhibit 5, and I'll put it up there. 5 (Exhibit 5 marked for identification.) 6 BY MR. JOHANNINGMEIER: 7 Q. Let me know if you see that. And then 8 we can either have it pulled up on the screen, 9 or if you -- if it's easier for you, you can 10 just download it and review it there. 11 A. I have -- 12 MR. MELWANI: Objection. Objection. I 13 just want to lodge the objections to the 14 exhibit. Relevance. Authentication. 15 THE WITNESS: I see it, and I have 16 downloaded it. 17 BY MR. JOHANNINGMEIER: 18 Q. Okay. Very well. So -- (Internet 19 connection failure.) 20 -- because I searched in the database for 21 a -- a line that seems unique from your CV -- 22 which presumably is attached to declarations	16 1 know about the subject matter. 2 IPR2024-00167, that was for petitioner 3 Freescale and NXP. Now, in my understanding, 4 that is about integrated circuit packaging at a 5 high level; is that -- is that correct? 6 MR. MELWANI: Objection. Relevance. 7 Outside of the scope. 8 THE WITNESS: I think so. That sounds 9 right. I don't remember specifically. 10 BY MR. JOHANNINGMEIER: 11 Q. And another one I wanted to ask about 12 that's on here is the -- the -- there's several 13 in here for BiTMICRO v. Kioxia. Now, those, 14 broadly, are about memory controllers, right? 15 MR. MELWANI: Objection. Relevance. 16 Scope. 17 THE WITNESS: I think they were about 18 flash memory. 19 BY MR. JOHANNINGMEIER: 20 Q. Mm-hmm. 21 A. I don't -- 22 Q. Flash memory controllers?

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17 1 A. But I'm not sure it was exactly the 2 controller in all instances. It probably had 3 something to do with the memory. Again, I don't 4 remember clearly. But Kioxia, which is who 5 hired me, makes memory chips. So the memory 6 controller may have been involved, but -- and 7 again, I don't remember. It's been quite some 8 time since I worked on those. I would guess 9 it's more related to how the memory is stored in 10 the flash memory. 11 Q. Well, we'll just -- 12 A. But, again, off the top, I don't 13 remember clearly. 14 Q. Okay. But -- so something related to 15 flash memory for sure, though, right? 16 MR. MELWANI: Objection. Scope. 17 Mischaracterizes. Relevance. 18 THE WITNESS: I think, in a general 19 sense, all of these are going to be related to 20 electronics or electro-optics. That's my field 21 of expertise. So flash memories and 22 electronics. So, yes, I would say that, since	19 1 MR. MELWANI: Objection. Scope. 2 Relevance. 3 THE WITNESS: Again, yes, all of my 4 IPRs and work are going to be electronics or 5 electro-optics and associated fields, like 6 packaging. That's my field of expertise. 7 BY MR. JOHANNINGMEIER: 8 Q. So just to do one more. There's one on 9 here, IPR2023-00778. That was for Nintendo, and 10 my understanding is that one was about LED 11 displays for video game controllers; is that 12 right? 13 MR. MELWANI: Objection. Scope. 14 Relevance. 15 THE WITNESS: I think that one is about 16 using a photodiode to detect ambient light 17 temperature or light intensity to adjust the 18 brightness of a display so the electronics 19 associated is measuring the ambient light and 20 then providing signals to the display to 21 indicate how bright the ambient light is. 22 I -- again, it's been a -- a little bit
18 1 Kioxia makes flash memory, that that's likely 2 the area that I did work in. 3 BY MR. JOHANNINGMEIER: 4 Q. Now, these ones you -- you mentioned 5 the ones for Samsung. An example would be 6 IPR2023-01124, and that was against Mojo 7 Mobility. Now, my understanding from looking at 8 it, at least that one, is that was about 9 wireless charging. Is that your understanding 10 as well or your memory as well? 11 MR. MELWANI: Objection. Scope. 12 Relevance. 13 THE WITNESS: Yes. I think those were 14 about the electronics for charging phones or 15 tablets or something. It's about power 16 delivery. 17 BY MR. JOHANNINGMEIER: 18 Q. And, now, there's some on here for a 19 company, Lennox Industries or Heatcraft, an 20 example number being 2023-00715. Now, those 21 were about, basically, connected thermostats, 22 right?	20 1 of time since I looked at -- into detail on 2 that. 3 BY MR. JOHANNINGMEIER: 4 Q. Now, including the IPRs we have here 5 today, we're talking about today, you have 6 declared within the last year in IPRs covering 7 thermostats, display optics, wireless charging, 8 flash memory, IC packaging, and RF wireless 9 circuits, right? 10 MR. MELWANI: Objection. Scope. 11 Relevance. 12 THE WITNESS: Again, all of the area I 13 work in is electronics and electro-optics 14 related. That's my field of expertise. 15 BY MR. JOHANNINGMEIER: 16 Q. So that's the -- that, then, is the 17 common thread for all those different sort of 18 subject matters? 19 MR. MELWANI: Objection. Scope. 20 Relevance. 21 THE WITNESS: I don't know if I would 22 agree it's a common thread. I would say the

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21 1 areas electrical engineering or electrical 2 engineering related, yes, that's -- I'm a 3 professor of electrical and computer 4 engineering. So that's my field of expertise. 5 BY MR. JOHANNINGMEIER: 6 Q. Right. But, I mean, does that -- that 7 doesn't automatically make you an expert in 8 every aspect of electrical engineering, though, 9 right? It's a very wide -- wide field, right? 10 MR. MELWANI: Objection. Scope. 11 Relevance. 12 THE WITNESS: I only will accept work 13 in areas that I feel I am an expert in. So any 14 of the areas that I wrote a declaration for was 15 an area that I felt I was an expert in. 16 BY MR. JOHANNINGMEIER: 17 Q. Well, let's go, then, to -- to this 18 case. Let's go into Exhibit 2, which is your 19 declaration, if you want to pull that up. I'll 20 do the same. 21 (Exhibit 2 marked for identification.) 22 BY MR. JOHANNINGMEIER:	23 1 March 2003, right? 2 A. (Witness examining document.) 3 Yes. 4 Q. So what we're analyzing with respect to 5 these issues that you're opining about is what a 6 person of ordinary skill in the art in March of 7 2003 would understand, right? 8 A. What they would have understood in 9 March of 2003, yes. 10 Q. Mm-hmm. Okay. Now, in March of 2003, 11 you were working at Micron, right? 12 A. I was actually -- oh, wait. I was 13 thinking of 1993. March of 2003, I was a 14 professor at Boise State. And I did consulting, 15 and I think Micron was one of the companies I 16 was doing consulting for. 17 Q. So you had already switched to 18 professor. But before that, you were at Micron 19 as an engineer, and, I'll say, a very 20 distinguished engineer, right? 21 A. No. I only worked at Micron -- I did 22 work as a full-time employee, but my main job
22 1 Q. And I want to ask you about -- let's 2 just go to the person of ordinary skill 3 paragraph. So starting at paragraph 27. 4 MR. MELWANI: Counsel, which 5 declaration are we looking at? 6 MR. JOHANNINGMEIER: Oh, it's the -- 7 what's -- Exhibit 2 is the declaration for the 8 825 patent, so I was going to kind of start with 9 that one and use that one and then go to the 10 other one as necessary. 11 MR. MELWANI: All right. And you mean 12 Dr. Baker's declaration, right? 13 MR. JOHANNINGMEIER: Yes. 14 MR. MELWANI: Terrific. 15 BY MR. JOHANNINGMEIER: 16 Q. Okay. So on page 13, starting at 17 paragraph 27, there's a section about the level 18 of ordinary skill in the art, right? 19 A. Yes. 20 Q. Okay. And so -- and in paragraph 31 21 here, you state the relevant time frame for the 22 person of ordinary skill in the art is	24 1 from '93 to present is as a professor. 2 Q. Well, I understand. I'm just -- I'm 3 trying to go back to the "you" that was in 2003. 4 And the "you" of -- in March of 2003, right, 5 was -- had started as a professor and had -- was 6 coming off of a stint working with Micron, 7 right? 8 I mean, I -- I've got your CV here, if we 9 need to -- if I'm wrong. 10 MR. MELWANI: Objection. Asked and 11 answered. Relevance. 12 THE WITNESS: I worked at Micron 13 starting in '94 until about 2008 -- 14 BY MR. JOHANNINGMEIER: 15 Q. Mm-hmm. 16 A. -- in various capacities. So, for 17 example, in the '94, '95 time frame, I worked 18 for Micron Display and Micron RF Communications, 19 working on displays and RFID tags. 20 I don't remember exactly what I was 21 working on in 2003. If I had to guess, I would 22 say it was probably DRAM related or computer

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25 1 memory related. 2 Q. Now, in paragraph 30, that's where you 3 state your opinion about the knowledge of a 4 person of ordinary skill. And you say that they 5 would have had a bachelor's degree in electrical 6 engineering, electronics engineering, or the 7 equivalent, and two or more years of experience 8 in wireless communication devices, including 9 transceivers and circuitry thereon, right? 10 A. Yes. 11 Q. Okay. So as of March '23, you 12 obviously had a bachelor's degree in electrical 13 engineering, right? 14 A. Yes. 15 MR. MELWANI: Objection. Relevance. 16 BY MR. JOHANNINGMEIER: 17 Q. As of March 2003, do you believe you 18 had two or more years' experience in wireless 19 communication devices, including transceivers 20 and circuitry thereon? 21 MR. MELWANI: Objection. Relevance. 22 THE WITNESS: Yes.	27 1 mature, and so people were looking at ways of 2 digitizing the -- the transmission path for RF 3 communications. 4 In '94, I helped out -- and I don't 5 even know if I put it on my resume -- with the 6 CMOS aspect of the RF communications paths for 7 the RF communications with Micron Communications 8 for trying to implement RFID tags, for example. 9 And I worked on and off with that for -- 10 probably until that company folded. And the 11 company Micron reinvested in just the memory 12 technology aspect of the CMOS business. 13 BY MR. JOHANNINGMEIER: 14 Q. Well, and so -- just so you understand, 15 I'm not attempting to -- a lot of what you just 16 said wasn't -- wasn't reflected, or I could not 17 find, in your CV. So I wanted to just get your 18 understanding of the basis. You don't state in 19 your declaration that you are or were a person 20 of ordinary skill. 21 So I guess the question is: Do you 22 believe that you would have been a person of
26 1 BY MR. JOHANNINGMEIER: 2 Q. Okay. And what is the basis for that 3 belief? Is there something on your CV that you 4 can point to, or just what -- what is the basis 5 for that belief? 6 MR. MELWANI: Objection. Relevance. 7 THE WITNESS: For example, when I 8 worked at Lawrence Livermore National Lab in 9 1993, I worked on impulse radar designs, which 10 are wireless designs for transmitting and 11 sending out pulses and looking at the 12 reflections. 13 I worked on low-noise amplifier designs 14 and associated electronics used in RF 15 transmitter lines and transmitters and 16 receivers. I even teach this in my classes. 17 I also worked -- though it may have 18 been a year or two after that -- on the 19 digitization of the IQ channels in RF 20 communications. I did that for a few years 21 after the normal heterodyne type receivers. 22 That kind of technology kind of get -- got	28 1 ordinary skill at the time? 2 MR. MELWANI: Objection. Relevance. 3 THE WITNESS: I would say I was not a 4 person of ordinary skill. I would be a person 5 of extraordinary skill at the time of these 6 patents. 7 BY MR. JOHANNINGMEIER: 8 Q. Okay. 9 A. Because I had significant experience in 10 the electronics associated with RF communication 11 channels. 12 Q. And when you say that, you mean, like, 13 for instance, op-amps and circuits like that? 14 MR. MELWANI: Objection. Relevance. 15 THE WITNESS: I mean, the chips I 16 worked on, there were power supplies because 17 they were battery powered. But more along the 18 lines of the interface with the antenna, the 19 low-noise amplifiers, impedance matching, the 20 mixing, and trying to lower the power 21 dissipation for receiving signals and then 22 retransmitting them out on the loop antennas.

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29 1 For -- for example, the RFID tags. 2 The impulse radar work I worked on was 3 not really hetero- -- heterodyne like, you know, 4 normal mixer. It was more of a time-domain 5 application where you had a broadband 6 amplifier -- but it was still low noise -- that 7 would amplify and look at particular positions 8 of return pulse -- pulses and amplitudes. 9 Yeah. I can talk about this at length 10 because I -- I have a dozen or so student theses 11 I've had related to this work that -- I've had 12 students try to find simple but useful ways of 13 decoding things in time rather than just simply 14 in frequency. 15 BY MR. JOHANNINGMEIER: 16 Q. That -- that student work that you 17 supervise, does that go all the way back into 18 2003? Or what time frame would that have been 19 in? 20 MR. MELWANI: Objection. Relevance. 21 THE WITNESS: I think that it -- maybe 22 some of it would go back before 2003. But one I	31 1 in preparation for this deposition was Lenovo's 2 counsel. 3 BY MR. JOHANNINGMEIER: 4 Q. Right. So, like, you didn't talk to 5 anybody -- any Lenovo engineers, for instance, 6 right? You wouldn't have any reason to do that? 7 A. Not in preparation for this deposition, 8 no. 9 Q. Right. And you haven't talked to any 10 of the prior art authors of any of the papers 11 you've cited, or have you? Have you talked to 12 any of the prior art authors or inventors in 13 preparation -- 14 MR. MELWANI: Objection -- 15 BY MR. JOHANNINGMEIER: 16 Q. -- for this deposition? 17 MR. MELWANI: Objection. Form. 18 THE WITNESS: Not that I can recall, 19 no. 20 BY MR. JOHANNINGMEIER: 21 Q. Now, do -- I mean, do you have any 22 staff or assistants that help you with your
30 1 was just thinking of or the technology I was 2 just thinking of was more recent, maybe ten 3 years ago. They kind of blend together after a 4 while. 5 BY MR. JOHANNINGMEIER: 6 Q. All right. Let me go back and ask just 7 some more general questions just about the 8 declaration just to sort of close a couple of 9 things off. The -- well, let's start with this 10 deposition, actually. Let's go all the way back 11 and do that. 12 Did you meet with anyone to prepare prior 13 to this deposition? And -- and when? 14 A. In that list, Lenovo's attorneys, which 15 are present on this call. And I met with them 16 yesterday and the day before yesterday. 17 Q. Okay. Now, did you talk to anyone 18 other than Lenovo's outside counsel in 19 preparation for this deposition? 20 MR. MELWANI: Objection. Form. 21 THE WITNESS: If I understand what 22 you're asking, no. The only people I talked to	32 1 expert work, or are you still doing it just all 2 on your own? 3 MR. MELWANI: Objection. Relevance. 4 Form. 5 THE WITNESS: I just do it on my own. 6 I have no help. 7 BY MR. JOHANNINGMEIER: 8 Q. All right. And did you review 9 documents to prepare for the deposition? 10 A. Yes. 11 Q. Presumably your declarations, right? 12 A. Yes. 13 Q. What -- any other documents that you 14 reviewed? What other documents did you review 15 to prepare for this declaration? 16 A. The documents cited in my declaration. 17 Q. Oh, sorry. And I think I might have 18 misspoke. 19 What other documents did you review in 20 preparing for this deposition? Sorry. 21 A. The documents cited in my declarations. 22 Q. In preparing, did you review any

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33 1 documents that you did not consider when you 2 were drafting the declaration? Anything new? 3 A. No, I don't think so. 4 Q. And so I take it none of your opinions 5 in the declaration have changed, right? 6 A. My opinions are the same. Correct. 7 Q. About how many hours have you worked on 8 these cases for Motorola and Lenovo? 9 MR. MELWANI: Objection. Relevance. 10 THE WITNESS: I -- I could guess, but I 11 don't know. 12 BY MR. JOHANNINGMEIER: 13 Q. What's your best guess? I won't hold 14 you to it. 15 MR. MELWANI: Objection. Relevance. 16 Speculation. 17 THE WITNESS: If I had to guess, I 18 would say around 100. 19 BY MR. JOHANNINGMEIER: 20 Q. Okay. Now, that -- so you filed 21 declarations in three IPRs, right, for Motorola 22 and Lenovo, right? And we're here today to talk	35 1 And that's a guess, because it could have been 2 longer. 3 BY MR. JOHANNINGMEIER: 4 Q. Do you know -- do you remember when you 5 began working on the declarations, which were 6 then filed in -- I think it was March 7th of 7 2023? 8 MR. MELWANI: Objection. Relevance. 9 THE WITNESS: I don't recall. I would 10 imagine it was, say, two, three months before 11 they were filed. But I -- I honestly don't 12 remember. 13 BY MR. JOHANNINGMEIER: 14 Q. Is that -- would you say that's typical 15 for IPR declarations? 16 MR. MELWANI: Objection. Relevance. 17 BY MR. JOHANNINGMEIER: 18 Q. Would you agree? 19 MR. MELWANI: Dr. Baker, I just want to 20 make sure the court reporter got the objection. 21 Ms. Burnette, did you get the objection 22 there?
34 1 about two of them? 2 A. Yes. 3 Q. Are you currently doing work on this 4 case other than IPR work for Motorola and 5 Lenovo? 6 MR. MELWANI: Objection. Relevance. 7 THE WITNESS: No. 8 BY MR. JOHANNINGMEIER: 9 Q. And so that 100 hours -- of that 10 100 hours, how many hours would you say you 11 spent working on actually reviewing the 12 declaration before it was signed? 13 MR. MELWANI: Objection. Relevance. 14 THE WITNESS: Well, to begin with, I 15 don't know it was 100 hours. It could have been 16 70 -- (Internet connection failure.) 17 I didn't just review and sign them. I 18 actually worked on them. And the majority of 19 that time -- let's say it was 100 hours -- would 20 have been working on the declarations. And if I 21 had to guess, I would say 10 to 20 hours was 22 looking at prior art and looking at the patents.	36 1 THE COURT REPORTER: Yes, sir. I'm 2 getting all of your objections. 3 MR. MELWANI: Great. Thank you. 4 THE COURT REPORTER: You're welcome. 5 THE WITNESS: I don't know what you 6 mean by "typical." I mean, maybe most often, 7 it's two to three months. Sometimes it's 8 considerably longer. 9 BY MR. JOHANNINGMEIER: 10 Q. Okay. Well, because the reason I 11 asked, actually, is just because, in doing my 12 research into other declarations that you found, 13 I -- I located 12 IPR declarations that you 14 filed in the month of March 2023. 15 And so I was just trying to sort of get 16 my mind around where you had time to do all of 17 those if it was taking you 100 hours per. 18 MR. MELWANI: Objection. 19 Mischaracterizes. 20 THE WITNESS: I -- I don't know what 21 the question is. 22 BY MR. JOHANNINGMEIER:

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37 1 Q. Well, I mean, I can put up another 2 exhibit. But, I mean, does -- are you willing 3 to -- well, would you agree that you filed 4 approximately 12 IPRs in -- in March of 2023, of 5 which three were in this case? 6 MR. MELWANI: Objection. 7 Mischaracterizes. Relevance. Outside of the 8 scope of Dr. Baker's declaration. 9 THE WITNESS: I -- I don't have any 10 reason to disagree. I do know that you can 11 probably point to the month I worked on the Mojo 12 Mobility patents with Samsung. I don't remember 13 the number that were -- and that may be included 14 in what you're talking to me about. 15 But there was so much overlap in those 16 IPRs that it really -- counting them the same 17 as, you know, IPR that there -- I worked on that 18 there's no overlap really isn't fair. 19 Further, IPR work, at least for me, 20 comes in -- in streaks. I'll do a bunch of it; 21 then I'll have months where I do little to no 22 IPR work. And then the depositions also come	39 1 BY MR. JOHANNINGMEIER: 2 Q. Sir, are you able to see the -- what I 3 just put in as Exhibit 6? 4 A. Yes. 5 Q. Okay. So these are, again, all 6 declarations that had that line about your birth 7 date from the CV. And it looks like there's 8 three in the Kioxia case, three in the Theta 9 case, several -- one, two, three, four, five -- 10 in the Rosen case, and one in the Nintendo case, 11 right? And those are all declarations that you 12 filed, right? 13 MR. MELWANI: Objection. Relevance. 14 Outside of the scope. 15 THE WITNESS: Yes. 16 BY MR. JOHANNINGMEIER: 17 Q. Okay. So that -- would you say that 18 was an abnormally busy month for IPR filings for 19 you? 20 MR. MELWANI: Objection. Relevance. 21 Scope. 22 THE WITNESS: I don't recall. I can't
38 1 bunched up where there'll be months -- it's 2 probably been three, four months since I've been 3 deposed, but now, in January, I'll probably have 4 four depositions. 5 So everything -- I don't think trying 6 to characterize or point at one specific example 7 is really representative of the work. 8 But, I mean, I don't know if I've 9 answered your question because I don't know what 10 the question is. 11 BY MR. JOHANNINGMEIER: 12 Q. Well, just to -- just to make it more 13 fair, let's just -- I put in -- in the chat 14 Exhibit 6, where I've got just a listing of the 15 12 that I'm talking about. And go ahead and let 16 me know when you've downloaded that. 17 (Exhibit 6 marked for identification.) 18 MR. MELWANI: Objection. Relevance. 19 Scope. Authentication. Hearsay. 20 And those objections are to the 21 Exhibit 6 that patent owner counsel has just 22 introduced.	40 1 answer. 2 I do know when there's a bunch of 3 patents that are related and overlapping -- 4 like, for example, if I remember correctly, the 5 Lennox patents were -- that the amount of work 6 that I do drops, because when I do work for one 7 patent, it's similar or it can be used with the 8 other patents. 9 So I just -- I don't know how to answer 10 that. If I said, "Yes, that was a busy month," 11 then you could pull up the month where I 12 submitted the Mojo Mobility patents, which are 13 very much overlapping, and point to, "Well, 14 wasn't that month even busier?" 15 I just don't know how to answer any of 16 these questions because it's really subjective 17 on what the -- the technical content of the 18 patents are and, you know, how in-depth the 19 claims are or how detailed the claims are, how 20 many grounds there are, what I'm asked to do. I 21 mean, I just can't give any definitive answers 22 on any of this.

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41 1 BY MR. JOHANNINGMEIER: 2 Q. So I guess -- I mean, the reason I'm 3 asking this is just -- it's going to process, 4 and -- as you -- you have figured out. And, you 5 know, you've -- you -- you said that you don't 6 just review and sign. 7 So, you know, what I'm trying to get at 8 is: How much time and what -- what of these 9 declarations is your original work versus things 10 that were copied from other declarations because 11 it's -- like your CV or qualifications and 12 things which were received from counsel? 13 So let's just go through a declaration, 14 and let me ask you a couple of questions about 15 that. So let's go back to Exhibit 2, which is 16 the 825 declaration. 17 A. Okay. 18 Q. Now, just to be -- you know, just to 19 have it clear on the record, what I've marked as 20 Exhibit 2 is a copy of your declaration in IPR 21 number -- which one is it? It's IPR2023-00697, 22 right?	43 1 A. (Witness complying.) 2 Q. Are you there? 3 A. Yes. 4 Q. Okay. This is a list of the materials 5 that you considered for the declaration, right? 6 A. Yes. And the other -- if there's 7 something missing in that paragraph, then it 8 will be -- and I cited it elsewhere in my 9 declaration. And I would have considered where 10 I cited the other document. 11 Q. Okay. And so I noticed that one thing 12 that I don't see on here is the actual petition. 13 So my question is: Did you review the petition 14 that counsel filed before signing your 15 declaration? 16 A. I don't even think I've reviewed the 17 petition to date. So, no, I have not. 18 Q. Okay. And so, then, I assume the 19 answer to the next question, which is going to 20 be: Did you help draft the petition in any way? 21 MR. MELWANI: Objection. Relevance. 22 Scope.
42 1 A. (Witness examining document.) 2 Q. With respect to the 825 patent? 3 A. Yes. 4 Q. Okay. And so on page 90 of the PDF -- 5 I'm sorry. Page -- page 90 of the declaration, 6 page 96 of the PDF, that's your signature there, 7 right? 8 A. Yes. On PDF page 96, my signature is 9 seen. 10 Q. And you said you signed it on 11 March 7th, 2023, right? 12 A. Yes. 13 Q. Did you state your opinions in this 14 proceeding? 15 A. Yes. Other than the typos I mentioned 16 at the beginning of this deposition. 17 Q. Does it identify all of the bases for 18 those opinions? 19 A. Yes. 20 Q. Now going up to paragraph 17, which 21 starts on paragraph -- it starts on your page 6 22 or 7, PDF page 12.	44 1 THE WITNESS: I didn't help draft the 2 petition directly, but I would imagine that 3 maybe my opinions were used in the petition and 4 copied from the petition -- or copied from my 5 declaration. But I don't know. I wasn't 6 involved with the drafting of the petition. 7 BY MR. JOHANNINGMEIER: 8 Q. Okay. Now, did you write every word in 9 this declaration yourself? 10 MR. MELWANI: Objection. Relevance. 11 THE WITNESS: I asked for help, for 12 example, on the legal sections. I'm not an 13 attorney. I guess the takeaway is that the -- I 14 made sure that the declarations that I signed in 15 these proceedings represented my opinions. 16 BY MR. JOHANNINGMEIER: 17 Q. Of course. So there were some 18 sections, like, for example, the legal opinion 19 section, that were drafted by counsel and then 20 you reviewed and ultimately adopted or 21 understood, right? 22 MR. MELWANI: Objection.

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45 1 Mischaracterizes. Relevance. 2 THE WITNESS: I had help drafting the 3 legal-matter-related words in my declaration, 4 yes. 5 BY MR. JOHANNINGMEIER: 6 Q. And, in fact, you say as much. You say 7 in paragraph 20 that your understanding of the 8 relevant legal principles is based on 9 information provided to you by counsel. And, of 10 course, that's -- that's normal, right? 11 MR. MELWANI: Objection. Relevance. 12 Scope. 13 THE WITNESS: I would think it's normal 14 unless the expert had or was qualified to opine 15 on the law. 16 BY MR. JOHANNINGMEIER: 17 Q. Now, are there any other sections that 18 you had help from counsel in drafting? 19 MR. MELWANI: Objection. Relevance -- 20 BY MR. JOHANNINGMEIER: 21 Q. The first draft? 22 MR. MELWANI: Objection. Relevance.	47 1 technical background and education and 2 experience. 3 BY MR. JOHANNINGMEIER: 4 Q. So if you had -- if counsel had 5 suggested something to you that you disagreed 6 with, you would have edited that, right, or 7 taken it out, or -- right? 8 A. I would have considered it. If I ended 9 up disagreeing with it, it would not have made 10 it into my declaration. 11 Q. Now, you said that you don't know if 12 you've read the petition in this case. Have you 13 read Theta's preliminary response in this case? 14 MR. MELWANI: Objection. 15 Mischaracterizes. 16 THE WITNESS: I don't think I said I 17 didn't know. I said I didn't read the petition 18 before I signed. I didn't look at the petition 19 before I signed my declaration. 20 And I did not, and I was not asked to, 21 read the document. Was it -- did you mention it 22 was the patent owner's preliminary response? Is
46 1 Scope. 2 THE WITNESS: I -- I -- maybe. I don't 3 know. I -- the takeaway is, again, I made sure 4 that the opinions in my declaration were true 5 and honest and that they reflected my opinions 6 on the matters in these two proceedings. 7 BY MR. JOHANNINGMEIER: 8 Q. Let's go to paragraph 83. 9 A. (Witness complying.) 10 Q. Starting on page 46 of your 11 declaration, page 52 of the PDF. Let me know 12 when you're there. 13 A. I'm there. 14 Q. Okay. So paragraph 83 is part of the 15 substantive opinion. My question is: Did 16 counsel help in the drafting this paragraph? 17 MR. MELWANI: Objection. Relevance. 18 THE WITNESS: I don't recall. Again, I 19 worked with counsel on my declaration, but I 20 didn't take or have any opinions that were 21 counsel's opinions and not my own. Everything 22 that's in this declaration is my opinion from my	48 1 that the document you're referring to? 2 BY MR. JOHANNINGMEIER: 3 Q. Yeah. So -- so Theta filed a response 4 after receiving the petition and your 5 declaration, right. And, you know, it's one of 6 the papers in the proceeding. 7 I'm just asking you whether counsel or 8 anyone else showed it to you or -- I'm just 9 asking you, straight up, did you read Theta's 10 patent owner preliminary response in this case? 11 MR. MELWANI: Objection. Relevance. 12 Outside of the scope of Dr. Baker's declaration. 13 THE WITNESS: Not that I recall. 14 BY MR. JOHANNINGMEIER: 15 Q. Okay. Do you know when you would have 16 drafted or edited paragraph 83? 17 MR. MELWANI: Objection. Relevance. 18 THE WITNESS: I don't want to be 19 flippant, but I would have worked on 20 paragraph 83 and all the other material in my 21 declaration prior to signing it. 22 BY MR. JOHANNINGMEIER:

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49 1 Q. Right. I'm guess what I'm asking is, 2 if you remember, was this a last-minute rush, or 3 was this something that you drafted well before 4 it was due? Do you remember? Were there -- do 5 you remember the circumstances of when this was 6 drafted? 7 MR. MELWANI: Objection. Relevance. 8 THE WITNESS: I -- the only thing I can 9 remember is I didn't feel rushed in working on 10 this -- these matters. I didn't feel there was 11 a time constraint or that I was being rushed to 12 sign something in a hurry. I felt there was 13 plenty of time to work on my declaration. 14 MR. MELWANI: Counsel, we've been going 15 about an hour. Do you have many more questions 16 in this line, or can we take a quick five-minute 17 break? 18 MR. JOHANNINGMEIER: Well, I mean, I 19 can -- yeah, a break's fine. I mean, that's 20 fine. 21 MR. MELWANI: Okay. 22 THE VIDEOGRAPHER: Stand by, please.	51 1 Q. Okay. Well, he has an opinion that we 2 found. But I just wanted to know if you read 3 it, because then I'd have some more questions. 4 And since you haven't, I don't. 5 So let's go on to a different subject and 6 actually go to Exhibit 1, which is the 825 7 patent. So I'm going to ask you some questions 8 about Figures 2A and 2-B. Let me know when 9 you've got that up. 10 (Exhibit 1 marked for identification.) 11 THE WITNESS: (Witness complying.) 12 MR. MELWANI: What figures were those? 13 MR. JOHANNINGMEIER: 2A and 2-B. 14 They're on the same page. 15 MR. MELWANI: Got it. Thank you. 16 BY MR. JOHANNINGMEIER: 17 Q. It's page 5 of the exhibit. 18 A. I have it up. 19 Q. Okay. So these are examples of an 20 input spectrum, right? Or these are examples of 21 input spectra, right? 22 A. (Witness examining document.)
50 1 We are going off the record. The time is 1400. 2 (Off the record.) 3 THE VIDEOGRAPHER: We are back on the 4 record. The time is 1410. 5 BY MR. JOHANNINGMEIER: 6 Q. Okay. Welcome back. I just have one 7 more set of questions in the, you know, "did you 8 look at" line that we were on. 9 With our preliminary response, Theta 10 filed an expert declaration. Did you review the 11 expert declaration that Theta filed in response 12 to yours? 13 MR. MELWANI: Objection. Form. 14 Relevance. 15 THE WITNESS: I don't recall doing 16 that, no. 17 BY MR. JOHANNINGMEIER: 18 Q. Okay. Do you know Professor Larry 19 Larson at Brown? 20 MR. MELWANI: Objection. Relevance. 21 THE WITNESS: No. 22 BY MR. JOHANNINGMEIER:	52 1 I think there's -- 2A and 2-B examples 2 of desired and interfering signals and noise 3 that may be received in a circuit in a wireless 4 receiver, yes. 5 Q. And at column 6, lines 4 to 6, the 6 patent refers to these as examples of input 7 spectrum, right? 8 A. What lines? 9 Q. Four to 6. 10 A. (Witness examining document.) 11 Yes. 12 Q. Okay. Going back to Figure 2A and -B. 13 Now, these are showing a particular desired 14 signal at a particular frequency, right? 15 A. (Witness examining document.) 16 Q. For example, the bar labeled 206? 17 A. It's showing desired signal occupying a 18 range of frequencies, yes. 19 Q. And then it's showing two different 20 interferers occupying different ranges of 21 frequencies, right? 22 A. (Witness examining document.)

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53 1 Yes. In Figure 2A, for example, 206 is 2 the desired signal spectrum, and the interferers 3 are labeled 208 and 210. And they have a 4 corresponding spectrum, which is indicated by 5 the rectangles that are labeled 208 and 210. 6 Q. So looking at Figure 2A, these desired 7 signal spectra and interferer signal spectra 8 would be occupying the same time window, right? 9 They're occurring at the same time, right? 10 A. Not exactly. The -- a sinusoid and the 11 measure of frequency, you have to look at a time 12 range. 13 Q. Mm-hmm. 14 A. So you can't just pick one instant in 15 time and tell anything about the spectral 16 content or frequency content of a -- 17 Q. I understand. You have to have one 18 period of the -- the sine wave, or potentially 19 more, right? 20 A. Or one frequency within the spectrum. 21 If one were to go to a different frequency, say 22 a -- a smaller frequency, then that time frame	55 1 measured at one time. 2 Q. Well, to be clear, you inserted the 3 word "measure" into my question. What I'm 4 asking you is -- is: What is this diagram 5 showing? What is it meant to show? 6 And my understanding of this diagram is 7 it is meant to show a desired signal at a 8 particular frequency range and an interference 9 -- interferer -- one or more interferer signals 10 at a particular frequency range that are 11 occurring together in a signal spectrum, right? 12 That is what this is trying to communicate. Or 13 am I wrong? 14 MR. MELWANI: Objection. Form. 15 Mischaracterizes. 16 THE WITNESS: I think I agree with what 17 you're saying. I guess I had a problem with 18 saying that the spectrums were occurring all at 19 the exact same time, because there's so many 20 different reasons why that -- I mean, unless 21 it's like, "Oh, well, I'm looking at the 22 spectrum over this 30 seconds, and this is what
54 1 would -- just to look at one period would be 2 longer. 3 Q. I guess my question, just to restate 4 it -- and I'm just trying to see if we can come 5 to an understanding of what signal spectra show. 6 A -- a signal spectrum is going to show signal 7 components within the same time window, right? 8 Components of a signal within a time, right? 9 MR. MELWANI: Objection. Speculation. 10 Outside the scope. 11 THE WITNESS: No. That's not the way 12 it works when measuring those signals. 13 BY MR. JOHANNINGMEIER: 14 Q. I -- go ahead. Sorry. 15 A. I mean, they're not all measured at 16 exactly the same time unless the extent of time 17 is how long it takes the instrument to measure 18 it. There's a local oscillator and a spectrum 19 analyzer that sweeps its value to measure values 20 at different points in time and then displays it 21 as a plot here, which is a spectral plot. So it 22 really isn't accurate to say that it's all	56 1 it kind of, on average, looks like." 2 But, I mean, just saying "at one time" 3 just isn't technically correct, or correct on 4 any other level, other than if you broaden that 5 time to be a range. 6 BY MR. JOHANNINGMEIER: 7 Q. Right. And I think -- we don't have 8 realtime, as counsel pointed out, but I think if 9 we go back to my original question, I asked 10 about a time window. And maybe I didn't speak 11 it correctly, but -- so let me just try again. 12 What this diagram is attempting to show 13 is frequency and desired and interferer 14 components of a spectrum within some time 15 window, right? 16 MR. MELWANI: Objection. Form. 17 THE WITNESS: If I understand what you 18 mean by "time window," yes. It would be like 19 right now I'm looking at it versus later today 20 or tomorrow. 21 BY MR. JOHANNINGMEIER: 22 Q. Mm-hmm. Right. Well, like, for

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57 1 instance, if I have a desired signal of 2 amplitude X right now, and then I measure an 3 interferer signal of amplitude Y in a minute, 4 all right, that interferer signal of amplitude Y 5 is not part of the same spectrum, right? 6 MR. MELWANI: Objection. Calls for 7 speculation. Form. 8 THE WITNESS: I'm not exactly sure I'm 9 following you. If you measure a desired signal 10 right now, there still may be an undesired 11 signal in the spectrum you just aren't looking 12 at. 13 BY MR. JOHANNINGMEIER: 14 Q. Right. And -- 15 A. And then it may go away. And then in a 16 minute, it may show up again. 17 Q. Right. They're -- they're varying over 18 time. A spectrum has components at various 19 frequencies, and each of those frequency 20 components can vary over time, right? 21 MR. MELWANI: Objection. Speculation. 22 Form.	59 1 that a radio receiver receives is going to have 2 a desired component and undesired components in 3 it. I think that's what it's trying to show. 4 BY MR. JOHANNINGMEIER: 5 Q. Right. Okay. All right. So I just -- 6 so if -- if I say "components of a spectrum," 7 then it is -- you'll understand we're -- well, I 8 understand that we're talking about something 9 like Figure 2A where the components shown there 10 would be a desired signal of a particular 11 amplitude and, you know, two interferers of 12 other amplitudes, right? 13 MR. MELWANI: Objection. Form. 14 Mischaracterizes. 15 THE WITNESS: I mean, we're being 16 really loose here. Is there some specific 17 context in my declaration we're talking about 18 that I'm just not following? Because, I mean, 19 all that Figures 2A and 2-B are trying to 20 represent is the received spectrum has a desired 21 range of frequencies and undesired ranges of 22 frequencies that are called interferers.
58 1 THE WITNESS: I mean, if you're 2 transmitting information, presumably the 3 information is changing over time. However, if 4 you're transmitting a carrier and things are 5 stationary, then the carrier may not be changing 6 over time. It may be fixed. 7 So, I mean, these -- I -- I need 8 specifics, because you can transmit something 9 that doesn't, ideally, change with nothing else 10 changing. But you can also transmit information 11 that is changing over time. 12 BY MR. JOHANNINGMEIER: 13 Q. Well, getting back into these figures 14 of the patent, Figure 2A could be, for instance, 15 showing a spectrum at a measured -- you know, 16 within the limits of the measurement window at 17 some time, right, with a desired and two 18 interferer components, right? 19 MR. MELWANI: Objection. Speculation. 20 Form. 21 THE WITNESS: Figure 2A is trying -- 22 and 2-B are trying to represent that a spectrum	60 1 BY MR. JOHANNINGMEIER: 2 Q. Right. Well, what I'm getting at is -- 3 now, these -- these spectrums, you know, it's 4 frequency -- it's showing signal strength at 5 frequency, right? And it's showing discrete 6 components. And there's no time on here. 7 So this is why I was trying to understand 8 -- get to see if we have a common understanding 9 of how time factors into this, right. When you 10 say "a spectrum that's received," it is received 11 over time, right? 12 A. Right. 13 Q. And individual components can change 14 over time, right? 15 MR. MELWANI: Objection. Form. 16 Speculation. 17 THE WITNESS: In some particular 18 instance, the spectrum can change, yes. In 19 most, I would say, not all. If we're just 20 transmitting the carrier, then, in that case, it 21 wouldn't change if everything else -- or change 22 much if everything is stationary.

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61 1 BY MR. JOHANNINGMEIER: 2 Q. Now, what is your understanding of what 3 "interferer" means in the Tsividis patents that 4 we're talking about here? 5 And if you'd like, I'm going to go to 6 Exhibit 2. Your paragraph 79 of your 7 declaration is where I'm going next. So we can 8 just go there, if you'd like. 9 A. Okay. I'm there. 10 Q. So here at the end of -- in the middle 11 of this paragraph, the end of page 44, you say: 12 "Thus, the signal on the neighboring channel in 13 Rauhala corresponds to the interferer signal in 14 the 825 patent." 15 Right? So at least a signal on a 16 neighboring channel that interferes with the 17 desired channel could be an interferer in the 18 context of the 825 patent in your understanding, 19 right? 20 MR. MELWANI: Objection. Form. Calls 21 for speculation. 22 THE WITNESS: Yes. An adjacent	63 1 doesn't interfere with it. Signals don't time 2 travel, right? 3 MR. MELWANI: Objection. Form. Calls 4 for speculation. 5 THE WITNESS: You're literally asking 6 me if, in Figure 2A of the 825 patent, for 7 example, if the interferers are not present, 8 will they interfere with the desired signal? 9 And the answer is no. 10 BY MR. JOHANNINGMEIER: 11 Q. Right. Because of the -- so -- and, 12 you know, this isn't a silly question, and this 13 is the reason why. Well, I mean, I think -- 14 now, so a neighboring channel only interferes 15 with the desired signal when it has some 16 amplitude to interfere with the desired signal, 17 right? 18 MR. MELWANI: Objection. Form. 19 Mischaracterizes. Speculation. 20 THE WITNESS: Well, I mean, if there's 21 an amplitude, there's a signal. If there's no 22 amplitude, there's no signal. So if there's no
62 1 channel, one that you're not interested in, 2 would be an interferer with the channel that 3 you're interested in. 4 BY MR. JOHANNINGMEIER: 5 Q. So if we're -- going back to Figure 2, 6 if we imagine that the desired signal is at a 7 particular frequency and that the frequency of 8 the interferer is on a different channel, that 9 would be consistent with what you're talking 10 about, right? 11 MR. MELWANI: Objection. Calls for 12 speculation. Form. 13 THE WITNESS: Yes. The interferers 14 would be signaled in the spectrum outside of the 15 desired signal spectrum as seen in Figure 2A and 16 talked about in Rauhala. 17 BY MR. JOHANNINGMEIER: 18 Q. Now, an interferer, though, that 19 doesn't appear until later in time cannot 20 interfere with the desired signal, right? A 21 signal on a neighboring channel that occurs two 22 seconds after the desired signal of interest	64 1 amplitude or no signal in an interferer, it 2 doesn't interfere with the desired signal. 3 And, again, we're back to the situation 4 in Figure Exhibit 2A of the 825 where you're 5 asking me: If there's no interferers, do they 6 interfere with the desired signal? If there's 7 no 208 and 210, will they interfere with the 206 8 in Figure 2A? And the answer is no. 9 BY MR. JOHANNINGMEIER: 10 Q. Right. What I'm actually asking you -- 11 and, you know, maybe poorly and indirectly -- is 12 whether or not the interferers, 208 and 210, 13 have to be present at the same time as the 14 desired signal, 206, in order to be interferers 15 with 206? 16 MR. MELWANI: Objection. Form. Calls 17 for speculation. 18 THE WITNESS: You have to be using the 19 receiver to receive a desired signal, and there 20 has to be interferers present in order to -- for 21 the interferers to interfere with the desired 22 signal.

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65 1 If we're talking about turning off the 2 receiver and not looking at a desired signal or 3 just not even transmitting a desired signal, 4 then it doesn't matter if the interferers are 5 there or not. 6 BY MR. JOHANNINGMEIER: 7 Q. Do the interferers have to be present 8 at the same time as the desired signal in order 9 to interfere with the desired signal? 10 MR. MELWANI: Objection. Asked and 11 answered. Same objections as prior. 12 THE WITNESS: I think I've answered 13 that already. But just to keep it short and 14 incorporate my previous answers, yes. There has 15 to be -- if the interferers are present, they 16 can interfere at the same time with the desired 17 signal. 18 BY MR. JOHANNINGMEIER: 19 Q. Now, I actually have some questions 20 that relate to a discussion of this -- I'm going 21 to go ahead and introduce the next exhibit. I 22 guess we're up to 7. And I'm going to put it in	67 1 know when you're there. And now going to the 2 bottom, there's a Section 8.1.2, Power Spectral 3 Density. 4 MR. MELWANI: Page 215 of the file or 5 of the book? 6 MR. JOHANNINGMEIER: It's actually both 7 in this case, but I just typed "215" into my 8 Acrobat Reader, the page number, and I got 9 there. But it's -- it's also 215 in the book. 10 MR. MELWANI: Yeah. For me, it's 215 11 on the book and 250, I think, of the PDF. 12 MR. JOHANNINGMEIER: Okay. Sorry. 13 MR. MELWANI: Yeah. 215 -- 14 MR. JOHANNINGMEIER: 215 of the book, 15 Chapter 8, Section 8.1.2. 16 BY MR. JOHANNINGMEIER: 17 Q. Let me know when we're all there. 18 A. I'm there. 19 Q. Okay. Now, in this paragraph, this is 20 a chapter -- this is part of a chapter called 21 Electrical Noise, right? 22 MR. MELWANI: Objection.
66 1 the chat. Hold on. 2 (Exhibit 7 marked for identification.) 3 BY MR. JOHANNINGMEIER: 4 Q. It might take a minute to upload. 5 Okay. So I've just uploaded to the chat a copy 6 that I downloaded legally of your book, Third 7 Edition: CMOS: Circuit Design, Layout, and 8 Simulation. 9 Let me know when you can call it up and 10 look at it. 11 MR. MELWANI: I'm going to object to 12 the Exhibit 7 that counsel has introduced on the 13 grounds of relevance, hearsay, authentication, 14 beyond the scope. 15 THE WITNESS: I'm there. 16 BY MR. JOHANNINGMEIER: 17 Q. Okay. Now, I just want to go back 18 to -- well, let's start at page -- PDF page 215. 19 And in particular, this is a copy of one of your 20 books, right, on CMOS circuit design? 21 A. Yes. 22 Q. So let's go to page 215, and let me	68 1 Mischaracterizes. 2 THE WITNESS: Chapter 8 is Electrical 3 Noise: An Overview, yes. 4 BY MR. JOHANNINGMEIER: 5 Q. Right. And so what I wanted to start 6 with, at the bottom here, there's a sentence, 7 and I'll just read it: "Figure 8.3b shows the 8 spectrum of a signal containing two sine waves 9 and a DC component with arbitrary amplitudes 10 using lines and dots." 11 Right? And then on the next page is the 12 figure it's talking about. 13 A. (Witness examining document.) 14 Q. Do you see that? 15 A. Yes. 16 Q. So this line plot in -- on the left 17 side of the Figure 8.3b looks very similar to 18 Figures 2A and -B and others in the Tsividis 19 patent, right? It shows amplitudes of various 20 components of an input signal spectrum, right? 21 MR. MELWANI: Objection. 22 Mischaracterizes.

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69 1 THE WITNESS: No. It's not the same. 2 It doesn't look the same. In Figure 8.3b, we're 3 plotting a DC signal and two sine waves. 4 In the 835 patent -- or 825 patent, for 5 the 2A, the reason a rectangle was used instead 6 of a line is that the rectangle represents a 7 range of lines, if you will, or a range of 8 frequencies that could occur. 9 I also notice or want to point out 10 that, even though the amplitudes of the 11 interferers and the desired signals are shown as 12 a flat horizontal line at the top of the 13 rectangle -- Box 206, 208, or 210 -- it's 14 understood by a person -- or it would have been 15 understood, and it currently is understood -- 16 that those amplitudes are varying, and that's 17 just a representation. 18 BY MR. JOHANNINGMEIER: 19 Q. Well, yeah. And, actually, you say 20 something -- you say that in the previous 21 paragraph at the bottom of page 215, right? 22 It's understood that we are comparing a	71 1 discrete Fourier transform of an analog wave 2 form as a way to look at spectrums, right? 3 MR. MELWANI: Objection. 4 Mischaracterizes. Relevance. Beyond the scope. 5 THE WITNESS: Well, I compare it to 6 using a spectrum analyzer, which I've 7 abbreviated as SA. 8 And, again, in the spectrums, what is 9 happening is there's a sweeping of time. When 10 you measure the signal in one part of the 11 spectrum, it occurs at a different time than 12 measuring the noise in a different part of the 13 spectrum. You are basically changing the 14 measurement over time to get measurements of the 15 signal at one point in time and measurements of 16 the undesired signal and the other components of 17 a spectrum at other points in time. 18 And I depict that with the varying 19 frequency of the spectrum analyzer seen in 20 Figure 8.4. 21 BY MR. JOHANNINGMEIER: 22 Q. Mm-hmm.
70 1 spectrum with spectral components that are, or 2 may be, changing. 3 Right? 4 MR. MELWANI: Objection. 5 Mischaracterizes. 6 THE WITNESS: Yes. But, I mean, the 7 point of my previous answer was that lines 8 representing single sinusoids shouldn't be 9 confused or compared to spectrums that represent 10 a range -- an infinite range of sinusoids, as 11 shown in Figure 2A. 12 That's like pointing to the interferers 13 and saying, "Oh, at one time, the amplitude of 14 the interferer is smaller, but at another time 15 it's larger." But you can't capture that unless 16 you're comparing the amplitude of the desired 17 signal to the amplitude of the interferers at 18 exactly the same instant. That's just 19 technically wrong on so many levels. 20 BY MR. JOHANNINGMEIER: 21 Q. Now, going down to page 218, at the 22 bottom you talked about how you can use a	72 1 A. It shows that you're sweeping a local 2 oscillator and then measuring the output power. 3 And so you would understand that at some point, 4 say at one millisecond, you measure a desired 5 signal. And then, say, at two milliseconds -- 6 just putting in arbitrary numbers -- you measure 7 the undesired signals at that time frame. 8 Q. So you can use a spectrum analyzer to 9 pick out spectral components of interest, right? 10 MR. MELWANI: Objection. Beyond the 11 scope. 12 BY MR. JOHANNINGMEIER: 13 Q. And measure them? 14 MR. MELWANI: Objection. Beyond the 15 scope. 16 THE WITNESS: Yes. The spectrum 17 analyzer can be used to measure the signal in a 18 spectrum. 19 BY MR. JOHANNINGMEIER: 20 Q. And what you're saying in 218 at the 21 bottom is that you can also get to that same 22 place using a discrete Fourier transform to

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73 1 measure spectral components with a DFT 2 calculation, right? 3 MR. MELWANI: Objection. 4 Mischaracterizes. Outside of the scope of 5 Dr. Baker's declaration. 6 THE WITNESS: Yes. The input of the 7 discrete Fourier transform time domain is the 8 time domain signal. And so you take that time 9 domain signal and you run the discrete Fourier 10 transform on the time domain signal, and the 11 output of the discrete Fourier transform is the 12 spectral components like what you see in the 13 output of a spectrum analyzer. 14 That's what that paragraph is -- at the 15 bottom of page 218 is teaching the reader. 16 BY MR. JOHANNINGMEIER: 17 Q. Okay. So while we're in this book, I'm 18 just going to go ahead and save time by asking a 19 couple other questions that are from this book. 20 Let's go to page 256. 21 A. (Witness complying.) 22 Okay.	75 1 THE WITNESS: Yes. RS is resistance of 2 the source. 3 BY MR. JOHANNINGMEIER: 4 Q. Okay. Here, at least, you're referring 5 to that as a resistance, right? 6 A. If it has -- if it's just the real part 7 of impedance, then it's a resistance, yes. 8 Q. Okay. Because then, right below 9 Figure 8.42, you have a section called Complex 10 Input Impedance where you talk about 11 generalizing to an input impedance with a, for 12 instance, capacitive component, right? 13 MR. MELWANI: Objection. Relevance. 14 Scope. Mischaracterizes. 15 THE WITNESS: Yes. By adding the word 16 "complex" -- which is unfortunate when teaching 17 students, because they tend to think it's 18 complex -- it means there's a -- the impedance 19 is not just the real or resistive component, but 20 it also has the complex component of capacitance 21 for inductance. 22 BY MR. JOHANNINGMEIER:
74 1 Q. All right. So this is a discussion 2 about input-referred noise sources. And what I 3 wanted to, I guess, point out and then get your 4 reaction to here is: So there is a reference 5 here to RS, calling it a resistance or, then at 6 the bottom of page, a real input resistance, 7 right? 8 MR. MELWANI: Objection. 9 Mischaracterizes. Relevance. Outside of the 10 scope. 11 BY MR. JOHANNINGMEIER: 12 Q. It's called a source resistance. Do 13 you see that? 14 A. (Witness examining document.) 15 I think that's right. I'm looking for 16 where it says that. 17 Q. In the third line, it says "source 18 resistance," right? And my understanding is 19 that's referring to what's shown in the Figure 20 8.42 as RS; is that right? 21 MR. MELWANI: Objection. Outside the 22 scope. Relevance.	76 1 Q. So you'd agree, then, that someone 2 might use "resistance" when they're referring to 3 a simple resistor and "impedance" when referring 4 to a complex input circuit with imaginary 5 components? 6 MR. MELWANI: Objection. 7 Speculation -- Objection. Speculation. 8 Mischaracterizes. 9 THE WITNESS: I mean, if it's a 10 resistor, they would refer to it as a 11 resistance. If it's reactance, they would -- 12 from an inductor or capacitor, they would refer 13 to it as reactance. 14 If you're talking about things that 15 impede the flow of current -- that would be a 16 resistor or reactance or the sum of the two -- 17 then it's called an impedance. 18 BY MR. JOHANNINGMEIER: 19 Q. Mm-hmm. Now, this source resistance 20 here, that would be a resistance that was 21 exposed to, like, an A/C input signal, right? 22 MR. MELWANI: Objection. Relevance.

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77 1 Outside of the scope. Mischaracterizes. 2 THE WITNESS: Not necessarily. You 3 could be sensing a D/C input voltage, and the 4 source is a D/C. But there's noise, which has 5 an A/C component that's added in the circuit. 6 BY MR. JOHANNINGMEIER: 7 Q. So are you referring to this as a 8 resistance because it's looking at a -- because 9 it is carrying a D/C current? 10 MR. MELWANI: Objection. Same 11 objections as earlier. 12 THE WITNESS: I'm referring to it as a 13 resistance because it's a resistor. It's the 14 real part of the impedance. It doesn't have a 15 reactive part of the impedance. The reactive 16 part of the impedance is zero. 17 BY MR. JOHANNINGMEIER: 18 Q. Would you -- and you -- okay. If it 19 was carrying alternating current, you would 20 still refer to it as a resistor, right? 21 MR. MELWANI: Objection. Speculation. 22 Outside of the scope.	79 1 MR. MELWANI: Objection. Relevance. 2 Scope. 3 THE WITNESS: Yes. 4 BY MR. JOHANNINGMEIER: 5 Q. Do you have any opinions about -- good 6 or bad about whether or not Professor Tsivdis 7 is a talented and competent engineer and 8 teacher? 9 MR. MELWANI: Objection. Scope. 10 Relevance. 11 THE WITNESS: In my opinion, he is a 12 technical -- he is good technically and 13 competent, and he is a good engineer. 14 I don't think that that has any bearing 15 on the fact that somebody else had already 16 patented, as I discussed in my declarations, the 17 ideas in this patent. 18 BY MR. JOHANNINGMEIER: 19 Q. All right. I was just asking just to 20 sort of close it out whether you had anything, 21 you know, to say about Professor Tsivdis, is 22 all. So it's not a -- you made your point.
78 1 THE WITNESS: If there's no imaginary 2 part of the impedance -- it's just resistive -- 3 then I would still refer to a resistor. The 4 only way I would refer to it as complex 5 impedance is if it had both the real and the -- 6 or at least the imaginary part due to the 7 reactance of a capacitor or an inductor. 8 BY MR. JOHANNINGMEIER: 9 Q. Okay. Now, another thing I wanted to 10 ask about this book, and it's just -- well, it's 11 just sort of something that was actually raised 12 by this book. 13 Do you know Professor Tsivdis, the 14 inventor on these patents? 15 MR. MELWANI: Objection. Relevance. 16 Outside of the scope. 17 THE WITNESS: I've met him, yes. 18 BY MR. JOHANNINGMEIER: 19 Q. I just noticed because I -- there's 20 about maybe five or six cites to his books and 21 articles in your book. So I take it you've read 22 a fair amount of his work in this field, right?	80 1 Have you ever taken any classes from him 2 or sat in on any of his courses? 3 MR. MELWANI: Objection. Outside of 4 the scope. Relevance. Form. 5 THE WITNESS: No. 6 BY MR. JOHANNINGMEIER: 7 Q. Now, going back to your declaration, 8 Exhibit 2 -- you can set this book aside for 9 now. I want to go to a paragraph we talked 10 about already, but -- paragraph 83. 11 A. (Witness complying.) 12 Q. Let me know when you're there. 13 A. I'm there. 14 Q. Okay. Now, this paragraph discloses 15 your opinion about the alleged disclosure in 16 Rauhala of this element D here, right? 17 A. Paragraph 83 starts my discussion of 18 how Rauhala -- R-A-U-H-A-L-A -- teaches the 19 settlement, yes. 20 Q. Now, you agree that Rauhala discloses 21 only one detector, DET, right? Just one, right? 22 MR. MELWANI: Objection.

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1 Mischaracterizes. 2 THE WITNESS: I mean, I don't know if I 3 agree with that. I think in Figure 4, for 4 example, there's a block called DET in Rauhala. 5 In -- let me pull it up. Did you post the 6 Rauhala reference? 7 BY MR. JOHANNINGMEIER: 8 Q. Let's go ahead and do that. Give me a 9 sec. I will do it. 10 Okay. This is going to be Exhibit 8. 11 (Exhibit 8 marked for identification.) 12 BY MR. JOHANNINGMEIER: 13 Q. It should be appearing shortly. Do you 14 have it now? 15 A. I just downloaded it. I'm opening it. 16 All right. Would you mind reasking the 17 question? 18 Q. Yeah. You would agree -- well, strike 19 that. 20 Would you agree that Rauhala discloses 21 one detector? As you say here in paragraph 83, 22 a detector, DET?	81 83 1 seen in, for example, Figure 4 of Rauhala on 2 page 9 of the PDF, where there's two signals, 3 RSS and RSSN. 4 And I also note that in these block 5 diagrams of Rauhala, they regularly use one wire 6 in the block diagram to represent more than one 7 wire in the actual implementation. An example 8 being Figure 6, for example, which is an 9 amplifier. But in the block diagrams, they show 10 one wire going in and one wire going out. But 11 in Figure 6, they showed two. 12 Q. Now, you -- none of that is in 13 paragraph 83. You agree with me on that, right? 14 You don't cite Figure 4, you don't mention two 15 wires, and you don't say anything else about the 16 detector other than what I read, right? 17 A. (Witness examining document.) 18 I -- what's in paragraph 83 is what I 19 disclosed in my declaration, yes. 20 Q. This is your opinion and -- and the 21 basis for your opinion about disclosure. 22 Now I have another question, actually,
82 1 A. (Witness examining document.) 2 I would agree that Rauhala discloses a 3 detector. I don't agree that it discloses only 4 one, because the detector may be detecting 5 different things. 6 Q. Well, okay. So it is -- but even in 7 that answer, you said "the" detector, right? 8 You say in this paragraph that there is a 9 detector that can provide an indication about 10 either the receive channel signal strength, RSS, 11 or the signal strength of any signal on the 12 reception band, right? 13 A. Yes. But, I mean, just to be clear, 14 there is a block called DET, which is a detector 15 block. And then that detector block is going to 16 have circuitry. 17 And what I was getting at inside is 18 they may be able to design the detector block so 19 that it detects the desired signal at a specific 20 frequency range and the undesired signal at 21 range of frequencies outside the desired natural 22 range. So it would generate two signals, as	84 1 because in your response just now, you said they 2 may design it to do -- to detect two things, 3 essentially. 4 What's your basis for saying that they 5 might be able to design it in that way? 6 MR. MELWANI: Objection. Form. 7 THE WITNESS: Rauhala teaches that in 8 Figure 4. RSS and RSSN are coming out of the 9 detector. And I did cite what RSS and RSSN are 10 doing in paragraph 83. 11 BY MR. JOHANNINGMEIER: 12 Q. Paragraph 83. You said that it can 13 provide an indication about one or the other. I 14 mean, that's -- the word's there. "Or" is the 15 word, right? 16 MR. MELWANI: Objection. Form. 17 Mischaracterizes. 18 THE WITNESS: The word "or" is in the 19 sentence that I quoted from Rauhala. It says: 20 "...an indication about either the received 21 channel strength -- channel signal strength, 22 RSS, or the strength of any signal on the

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85 1 reception band, such as RSSN, which stands for 2 the signal strength of the neighboring channel." 3 Yes. It uses "or." 4 BY MR. JOHANNINGMEIER: 5 Q. Mm-hmm. But you are now suggesting 6 that you believe that detector could be designed 7 to detect both? 8 MR. MELWANI: Objection. 9 Mischaracterizes. Form. 10 THE WITNESS: I'm not changing my 11 testimony from my declaration. They can be 12 designed to determine RSS or RSSN. But, I mean, 13 I think it's reasonable that if you can design 14 one -- or you can design the detector to detect 15 one or the other, you can also design it to 16 detect both. They are detecting both. 17 BY MR. JOHANNINGMEIER: 18 Q. Well, okay. So there again, you said, 19 "I think it's reasonable that you could." 20 We are talking here about anticipation, 21 right? This is -- this is an opinion about 22 whether Rauhala anticipates the element, right?	87 1 A. Yes, I see those words. 2 Q. So Rauhala is teaching that if you tune 3 the receiver to a channel, you can detect the 4 RSS on that channel, right? 5 MR. MELWANI: Objection. Form. 6 Mischaracterizes. Legal conclusion. 7 THE WITNESS: Yes. But the detector in 8 all cases is still detecting the same range of 9 frequencies. The way you adjust the channel is 10 with the local oscillator and the mixer, and 11 when you've adjusted the channel, you move that 12 channel down to the same frequencies in every 13 single example that the detector sees. So the 14 detector is not changing anything at any time. 15 It's still looking at a range of frequencies. 16 It's called heterodyning. 17 BY MR. JOHANNINGMEIER: 18 Q. Right. If you -- if you retune the 19 circuit by, as you say, changing the -- the 20 upstream components, it would then be tuned to a 21 different channel, and it would detect on, for 22 instance, a neighboring channel, right?
86 1 A. Right. Maybe I'm mis- -- 2 MR. MELWANI: Objection. Legal -- 3 objection. Legal conclusion. 4 THE WITNESS: Maybe I'm 5 misunderstanding "argument." Because I'm 6 thinking of this like an OR gate, where the 7 output of the OR gate is a 1 with a 1 input on 8 one input or 1 with another input. 9 But it's also one of both inputs. Both 10 inputs, "and," are high. You know, both Input 1 11 and Input 2 are high. So I'm -- I may be 12 missing something fundamental, because my 13 understanding is pretty simplistic. 14 BY MR. JOHANNINGMEIER: 15 Q. Well, can you look at paragraph 13 of 16 Rauhala, which is now Exhibit 8? 17 A. (Witness complying.) 18 Q. Paragraph 13 says that "Detector DET 19 provides information about the signal strength, 20 RSS, on the channel to which the receiver is 21 tuned." 22 Right? Do you see that?	88 1 MR. MELWANI: Objection. Calls for 2 speculation. 3 THE WITNESS: No. No components are 4 changed. Every component is the same. The only 5 thing that's changed is the local oscillator or 6 oscillator frequency that's mixed with the -- an 7 input of the receiver. 8 MR. JOHANNINGMEIER: I'm sorry -- 9 THE WITNESS: And then what it sees in 10 the detector is -- in every case, independent of 11 the channel you're on -- the same range of 12 frequencies, which the detector will understand 13 to be a component of desired and a component of 14 undesired. 15 BY MR. JOHANNINGMEIER: 16 Q. What's inside the box labeled DET in 17 the figures in Rauhala? 18 MR. MELWANI: Objection. Form. 19 THE WITNESS: Circuitry that will 20 detect the received signal strength or the 21 signal strength of the interferers. 22 BY MR. JOHANNINGMEIER:

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89 1 Q. Right. But what circuitry? 2 MR. MELWANI: Objection. Form. 3 THE WITNESS: I don't think that's 4 taught in Rauhala. 5 BY MR. JOHANNINGMEIER: 6 Q. Right. So it could be a threshold 7 comparator? 8 A. Objection. 9 MR. MELWANI: Objection. Speculation. 10 THE WITNESS: I don't think a threshold 11 comparator by itself would be a continuous 12 indication of the received signal strength. It 13 would just be a "is the signal above or below 14 some value." 15 BY MR. JOHANNINGMEIER: 16 Q. Well, Rauhala doesn't say that it 17 produces a continuous indication of the signal 18 strength. It says that it produces an 19 indication about the received channel signal 20 strength. All right. So it could be -- the 21 indication could be that it's above threshold X, 22 right?	91 1 BY MR. JOHANNINGMEIER: 2 Q. -- right? It just mentions what its 3 function is at a very high level, right? 4 MR. MELWANI: Objection. 5 Mischaracterizes. 6 THE WITNESS: Rauhala doesn't teach the 7 details of what's in the detector. But it does 8 teach that it provides an indication of the 9 received signal strength and the signal strength 10 of the noise or interferers, including the 11 adjacent channel. 12 BY MR. JOHANNINGMEIER: 13 Q. Assuming you retune to the adjacent 14 channel, right? 15 MR. MELWANI: Objection. 16 Mischaracterizes. 17 THE WITNESS: No. I already went over 18 that. The detector itself will always get the 19 same range of frequencies as a desired frequency 20 spectrum and always the same frequencies as the 21 undesired frequency spectrum, because to change 22 channels is done earlier, in the receiver, using
90 1 MR. MELWANI: Objection. Speculation. 2 Mischaracterizes. 3 THE WITNESS: It has to have some more 4 indication than one value, based upon the 5 teachings of Rauhala. If you look at the 6 tables, for example. 7 THE VIDEOGRAPHER: Excuse me. We have 8 around seven more minutes before I have to 9 change medias. Thank you. 10 BY MR. JOHANNINGMEIER: 11 Q. Okay. Well, I guess I'll -- let me 12 just try to -- to close this out. Then we'll 13 take a break. Well, let me just get to a 14 stopping point. Then we'll take a break. 15 The point is, I guess -- and it goes to 16 your counsel's objection -- is that you would 17 only be speculating as to whether or not there 18 is a -- one or more threshold detectors or any 19 other kind of circuit, because, as you said, 20 Rauhala doesn't teach what's inside that box -- 21 MR. MELWANI: Objection. 22 Mischaracterizes.	92 1 the mixers. 2 BY MR. JOHANNINGMEIER: 3 Q. I understand. But the -- paragraph 13 4 says that the detector "provides information 5 about the signal strength on the channel to 6 which the receiver is tuned." 7 So there is no disclosure in this 8 reference of measuring a signal strength other 9 than on the channel to which the receiver is 10 tuned, right? 11 MR. MELWANI: Objection. 12 Mischaracterizes. 13 THE WITNESS: I think what you're 14 literally asking is: Is the received signal 15 strength the desired range of frequencies that 16 you want to receive? And the answer is yes. 17 BY MR. JOHANNINGMEIER: 18 Q. No, that's not what I'm asking. But 19 we're going to need to take a break. So let's 20 take a -- well, what time is it? Well, we can 21 either push through or -- well, let's go off the 22 record so we're not using up tape.

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93 1 THE VIDEOGRAPHER: Thank you, counsel. 2 We are going off the record. The time is 1504. 3 And we are off the record now. Thank you. 4 (Off the record.) 5 THE VIDEOGRAPHER: Everybody, stand by. 6 Here begins the Media Number Two. Back on the 7 record. The time is 1521. Thank you. 8 BY MR. JOHANNINGMEIER: 9 Q. Welcome back. 10 A. Thank you. 11 Q. Now, before we took a break, we were 12 talking about Rauhala's detector, and I just 13 wanted to sort of make sure I understood the -- 14 the answers you gave us to some of my inquiries 15 about the detector and, your know, relative to 16 your declaration. 17 Now, paragraph 83 in your declaration is 18 the only paragraph where you discuss the circuit 19 for determining and the circuit for determining 20 elements of the -- of claim -- (Indistinct.) 21 MR. MELWANI: Objection. 22 Mischaracterizes.	95 1 discussed on how a spectrum analyzer detects the 2 signal strengths of a spectrum at the same time. 3 But keep in mind all the discussion I made 4 earlier that you can't -- if you just look at 5 one specific instance in time, you can't 6 determine a frequency, because a frequency is 7 determined by the period of the sine waves. 8 So -- but, I mean, to answer your question, yes. 9 Q. Well, let's just be clear. When I say 10 at "the same time," I don't mean instantaneously 11 simultaneous. I mean without, for instance, 12 retuning, okay, or incurring some other 13 reconfiguration delay. 14 Is it your opinion that the detector in 15 Rauhala can detect both channels without 16 retuning? 17 MR. MELWANI: Objection. Form. 18 THE WITNESS: The way you worded, 19 that's about detectible channels. There's only 20 one desired channel. And then after the 21 received signal propagates through the mixers 22 and the filters, the other channels are
94 1 THE COURT REPORTER: And I don't know 2 if you got lower or not, but I'm having a 3 little -- just a little trouble hearing you. So 4 if you could speak up, please, just a little 5 bit. Thank you. 6 MR. JOHANNINGMEIER: I was probably 7 turning away. My apologies. 8 BY MR. JOHANNINGMEIER: 9 Q. So let's go to -- let me just rephrase 10 that one, because I don't think that was a very 11 good question. Let's go to paragraph 83. 12 A. (Witness complying.) 13 Q. In the last sentence of that paragraph, 14 where, again, you say that there is namely a 15 detector, DET, that determines the received 16 channel signal strength, denoted RSS, and the 17 neighboring channel signal strength, denoted 18 RSSN. 19 Is it your opinion that the detector can 20 detect both of those signal strengths at the 21 same time? 22 A. Yes. In the context of what we	96 1 undesired, and they're attenuated. 2 But, yes, the detector can detect the 3 received signal strength of the desired channel, 4 RSS, and the received signal strength of the 5 interfering channels and noise, RSSN, at the 6 same time. 7 BY MR. JOHANNINGMEIER: 8 Q. All right. 9 A. We can go back up in one instance and 10 look at the block diagram of a spectrum analyzer 11 and look at how that operates. 12 Q. Well, are you suggesting that Rauhala 13 discloses a spectrum analyzer? 14 MR. MELWANI: Objection. 15 Mischaracterizes. 16 THE WITNESS: To the extent that -- the 17 detector portion of the spectrum analyzer, yes. 18 You can look at the spectrum and determine what 19 the received signals -- (Internet connection 20 failure.) 21 -- and power over a bandwidth. You can 22 look at the other portions of the spectrum and

97 1 measure the power in the signal over the 2 unwanted spectrum and divide the two numbers. 3 BY MR. JOHANNINGMEIER: 4 Q. I understand that this is a thing that 5 can be done. But the question here is: What 6 does Rauhala disclose or teach? All right. 7 So does Rauhala disclose or teach any of 8 what you just said? In fact, it does not, 9 right? 10 MR. MELWANI: Objection. 11 Mischaracterizes. Form. 12 THE WITNESS: You are asking me how it 13 could be done. I'm not saying Rauhala discloses 14 or teaches the details of the detector. I'm 15 simply literally parroting back what Rauhala 16 says, which is it can determine the signal 17 strength of the desired channel and the signal 18 strength of the neighboring channels, which 19 would be the noise and it calls RSSN. 20 But I don't know what or how Rauhala -- 21 what method they're going to use to do that. I 22 simply know that that's what -- that detecting	99 1 Q. So I want to switch to Exhibit 4, which 2 is your declaration -- well, let's just call up 3 Exhibit 4. 4 (Exhibit 4 marked for identification.) 5 MR. MELWANI: Is what you're referring 6 to, Exhibit 4, Dr. Baker's declaration marked as 7 1002 in the IPR for the 202 patent? 8 MR. JOHANNINGMEIER: Yes. The 202 9 patent declaration. 10 MR. MELWANI: Okay. 11 THE WITNESS: I have it. 12 BY MR. JOHANNINGMEIER: 13 Q. Okay. So is what's been marked as 14 Exhibit 4, does this look to be a copy of your 15 declaration in IPR2023-00678? 16 A. Yes. 17 Q. Okay. And I have to do some of the 18 basic questions again just for completeness' 19 sake. 20 Does this declaration accurately capture 21 your opinions in that proceeding? 22 A. Yes.
98 1 both the desired and the undesired is what 2 Rauhala teaches and is seen in Figure 4. 3 BY MR. JOHANNINGMEIER: 4 Q. Would you agree with me that Rauhala 5 teaches that the detector can detect some 6 indication about the signal strength on the 7 channel to which the receiver is tuned? 8 MR. MELWANI: Objection. Asked and 9 answered. Form. Mischaracterizes. 10 THE WITNESS: Yes. Rauhala teaches 11 determining a value, RSS, which corresponds to 12 the received channel signal strength. 13 BY MR. JOHANNINGMEIER: 14 Q. Well, I want to ask you about another 15 portion. 16 MR. MELWANI: Counsel, it's hard to 17 hear you. I'm not sure... 18 MR. JOHANNINGMEIER: Yeah. Okay. 19 Apologies. I'm switching to a different 20 question. It's still about the same reference. 21 I just need to... 22 BY MR. JOHANNINGMEIER:	100 1 Q. And does this declaration provide all 2 of the bases for those opinions? 3 A. Yes. 4 Q. Other than the typos that you 5 identified earlier, there's nothing about this 6 declaration that you think needs changing or 7 revising since it was originally filed, right? 8 A. Yes. 9 Q. Now let's go to paragraph 120. 10 A. Did you say 120? 11 Q. Yes. 120 on your paragraph -- your 12 page 63, PDF page 70. 13 A. I'm there. 14 Q. Okay. Now, this is a paragraph that's 15 part of your opinion about the -- comparing the 16 strength of the desired signal relative to the 17 strength of the interferer signal element of 18 Claim 7, right? 19 A. Yes. 20 Q. Now -- and in this paragraph you state 21 the opinion that Rauhala discloses calculation 22 by Unit 53 of the signal-to-noise ratio, right?

101 1 MR. MELWANI: Objection. 2 Mischaracterizes. 3 THE WITNESS: Not exactly. I write in 4 paragraph 120: "A person of ordinary skill in 5 the art would have understood that calculation 6 by Unit 53 of the signal-to-noise ratio is a 7 comparison of the strength of the desired signal 8 relative to the strength of the interferer 9 signal." It's a ratio. It's the signal over 10 the noise or signal divided by noise. 11 BY MR. JOHANNINGMEIER: 12 Q. Okay. So that's the claim comparison 13 that you are pointing to, right? Or, sorry, 14 that is the comparison that you are pointing to 15 as allegedly disclosing the claim element, 16 right? 17 MR. MELWANI: Objection. Legal 18 conclusion. 19 THE WITNESS: I'm -- my opinion is 20 Rauhala teaches the -- comparing the signal 21 strength to the strength of the interfering 22 signal. And I do point to the signal-to-noise	103 1 BY MR. JOHANNINGMEIER: 2 Q. All right. Well, so none of what you 3 just said about Figure 4 is in your declaration, 4 right? You just volunteered that now, right? 5 MR. MELWANI: Objection. 6 Mischaracterizes. 7 THE WITNESS: I don't know if I'd say 8 none of it is in my declaration. I would say 9 none of it is within -- the part I said that's 10 in paragraph 120 is in paragraph 120. 11 BY MR. JOHANNINGMEIER: 12 Q. Yeah. Well, in this entire 13 Section 7.9, starting at 117 through 120, you 14 don't mention Figure 4. You've done that for 15 the first time as you sit here today, right? 16 MR. MELWANI: Objection. 17 Mischaracterizes. 18 THE WITNESS: Yes. 19 BY MR. JOHANNINGMEIER: 20 Q. Okay. Now, the RSS -- and hopefully, 21 you've reproduced and annotated a copy of 22 Figure 5 at 119 here, so I'll just refer to that
102 1 ratio as that comparison. 2 BY MR. JOHANNINGMEIER: 3 Q. You don't point to anything else in 4 this paragraph as that comparison, right? 5 MR. MELWANI: Objection. 6 Mischaracterizes. 7 THE WITNESS: In that paragraph, the 8 only thing I point to as being a comparison of 9 signal-to-noise ratio is what's labeled 10 signal-to-noise ratio or the bit error rate, 11 BER, in Figure 5. 12 Of course, in Figure 4, you also have 13 the received signal strength and the signal of 14 the interfering signals. That would be RSS and 15 RSSN, respectively. And those go into the -- 16 the control unit, 42. And that's disclosed in 17 the tables. They're compared to do certain 18 things. 19 But to answer your question, the only 20 place in paragraph 120 that I point to as 21 meeting the claim limitation is the 22 signal-to-noise ratio coming out of 53.	104 1 instead of going back to Rauhala. You're free 2 to go back to Rauhala if you want. 3 RSS is not an input to Box 53, right? 4 A. The RSS wire coming out of the DET 5 block does not go to Block 53. Correct. 6 Q. How are you suggesting -- well, you 7 weren't suggesting any way in which Block 53 8 could do anything with the RSS, right? 9 MR. MELWANI: Objection. 10 Mischaracterizes. 11 THE WITNESS: Well, Block 53 will 12 calculate the signal strength, just not the 13 parameter RSS that is output by the detector. 14 But the detector isn't connected -- its output 15 that's labeled "RSS" isn't connected to 53, no. 16 BY MR. JOHANNINGMEIER: 17 Q. Rauhala doesn't say anything about how 18 Unit 53 works, right? 19 A. I mean, other than the disclosure in 20 the figure -- in Figure 5 that it generates the 21 bit error rate or signal-to-noise ratio, I don't 22 recall having the details of what's in 53.

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105 1 Q. Now, in this section, you say: A 2 POSITA would thus have understood that 3 calculation by Unit 53 of the signal-to-noise 4 ratio is the comparison. 5 Right? 6 MR. MELWANI: Objection. 7 Mischaracterizes. 8 THE WITNESS: It's a comparison of the 9 strength of the desired signal to the strength 10 of the interferer signal, yes. 11 BY MR. JOHANNINGMEIER: 12 Q. Now, would a POSITA have understood 13 that from black Box 53 and the letters SNR? 14 A. Because they can look and see that the 15 output of 53 is the signal-to-noise ratio, which 16 is the desired signal divided by -- the strength 17 of the desired signal divided by the strength of 18 the interferer signal. I mean, it literally 19 says "SNR" on it. 20 Q. So in your opinion -- well, let me ask 21 you this: Did you consider whether there were 22 ways to calculate signal-to-noise ratio that do	107 1 BY MR. JOHANNINGMEIER: 2 Q. Did you think about whether there were 3 any other ways to calculate signal-to-noise 4 ratio that didn't involve directly comparing the 5 strength of the desired signal relative to the 6 strength of the interferer signal? 7 MR. MELWANI: Objection. Speculation. 8 Scope. 9 THE WITNESS: I don't recall thinking 10 much about that particular aspect, other than it 11 was very clear that Rauhala teaches this claim 12 element. 13 BY MR. JOHANNINGMEIER: 14 Q. Now, this is an anticipation opinion, 15 right? You're saying that this -- this element 16 is anticipated by the disclosures in Rauhala, 17 right? This is not an obviousness opinion, 18 right? 19 MR. MELWANI: Objection. Legal 20 conclusion. 21 THE WITNESS: I wasn't asked to do an 22 obviousness analysis or an anticipation
106 1 not involve directly comparing those two signal 2 components? 3 MR. MELWANI: Objection. Speculation. 4 Beyond the scope. 5 THE WITNESS: Well, I mean, the bit 6 error rate, which tells you the number of bad 7 bits out of the number of good bits, is the -- a 8 representation of the signal-to-noise ratio, as 9 indicated there in Figure 5. 10 BY MR. JOHANNINGMEIER: 11 Q. So it's possible for receiver circuits 12 to use various error rates to calculate or 13 estimate a signal-to-noise ratio, right? 14 MR. MELWANI: Objection. Speculation. 15 Beyond the scope. 16 THE WITNESS: In Figure 5, they show 17 bit error rate and put in parentheses that 18 that's the signal-to-noise ratio. And, yes, you 19 can use -- or you can compare the signal 20 strength of the desired signal relative to the 21 signal strength of the interferer signal using 22 bit error ratio.	108 1 analysis, or, from what I know, a 102 or a 103. 2 I was simply asked to look at the claim 3 elements and interpret what would be known by a 4 person of ordinary skill in the art back in -- I 5 think it was in the neighborhood of -- was it 6 this one? -- March 2003, and look at that person 7 or what they would understand and -- and 8 determine if -- if the references that I picked 9 would teach the elements. 10 BY MR. JOHANNINGMEIER: 11 Q. Okay. Now, in paragraph 21, you have 12 a -- this is your legal conclusion section. So 13 this is the section where you explain your 14 understanding of the legal principles as 15 provided to you by counsel; right? 16 A. It's not a legal conclusion section. 17 It's the -- what I understand are the legal 18 standards for patentability. 19 Q. Oh, sorry. Did I say legal 20 conclusions? I misspoke. So this is -- this is 21 the legal standards section, right, of your -- 22 of your opinion -- of your declaration?

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109 1 A. Yes. 2 MR. MELWANI: Mischaracterizes. 3 BY MR. JOHANNINGMEIER: 4 Q. And you have a paragraph here, 5 paragraph 21, where you state that you have been 6 informed and understand that for a claim to be 7 invalid as anticipated, "every limitation of the 8 claim must be found in a single prior art 9 reference, either expressly or inherently," 10 right? 11 A. That was what was explained to me for 12 anticipation, yes. 13 Q. So in order for this comparing element 14 to be anticipated, it has to be found, either 15 expressly or inherently, in the reference you're 16 pointing to, which is Rauhala, right? 17 MR. MELWANI: Objection. Calls for 18 legal conclusion. 19 THE WITNESS: Again, I didn't offer any 20 legal opinions. I -- my opinion is that Rauhala 21 teaches what is taught in that claim element. 22 But, I mean, from there on, whether it's obvious	111 1 person of ordinary skill in the art. And the 2 lawyers can figure it out from there. 3 BY MR. JOHANNINGMEIER: 4 Q. Okay. So you looked at whether the 5 element would be anticipated or obvious based on 6 the disclosures, right? 7 MR. MELWANI: Objection. Calls for a 8 legal conclusion. 9 THE WITNESS: Right. I looked to see 10 if a POSITA would have looked at what I cited as 11 teaching the particular element. And when I 12 think the -- the POSITA did, I wrote about it. 13 And I wrote how they would perceive that that 14 element was taught by the prior art. 15 BY MR. JOHANNINGMEIER: 16 Q. So in paragraph 120 and the surrounding 17 section, are you saying that a POSITA would find 18 the element anticipated, or a POSITA would find 19 the element obvious? 20 MR. MELWANI: Objection. Calls for a 21 legal conclusion. 22 THE WITNESS: My understanding is
110 1 or anticipating, I -- I don't make any -- any -- 2 I don't provide any opinions on that. I simply 3 indicated that Rauhala teaches that claim 4 element. 5 BY MR. JOHANNINGMEIER: 6 Q. Well, wait. But now I'm confused, 7 because in paragraph 82 of your declaration, you 8 say: "The following sections provide my opinion 9 that claims 7 through 11, 13, and 19 through 21 10 of the 202 patent are invalid as anticipated or 11 rendered obvious by the prior art." 12 Right? So do you or do you not have an 13 opinion that Claim 7 is invalid? 14 MR. MELWANI: Objection. Calls for a 15 legal conclusion. 16 THE WITNESS: My understanding is that 17 a claim is only invalid if it's anticipated or 18 obvious. There may be some other way it's 19 invalid, and I -- I don't know. I'm not an 20 attorney. 21 But I don't know -- I basically just 22 looked at if it's anticipated or obvious to a	112 1 anticipation and obvious are legal standards, 2 and my opinion is that Rauhala teaches this 3 claim element. So I don't have an opinion on 4 anticipation or obviousness other than Rauhala 5 teaches what is taught here in this element. 6 BY MR. JOHANNINGMEIER: 7 Q. Okay. Well, "teaches" is a word that 8 sometimes is used for anticipation. All right. 9 But as we looked in -- in your legal standard 10 section, anticipation can be explicitly 11 disclosed or inherently disclosed. 12 Do you have a -- do you know the legal 13 standard for what constitutes inherent 14 disclosure? 15 MR. MELWANI: Objection. Relevance. 16 THE WITNESS: Yes. 17 BY MR. JOHANNINGMEIER: 18 Q. Okay. What is the legal standard for 19 what constitutes inherent disclosure, in your 20 understanding? 21 MR. MELWANI: Objection. Calls for a 22 legal conclusion.

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113 1 THE WITNESS: It has to be there. 2 BY MR. JOHANNINGMEIER: 3 Q. When you say "it has to be there," you 4 mean it -- it -- there's no possible -- there's 5 no possibility that it isn't there? 6 MR. MELWANI: Objection. 7 Mischaracterizes. Calls for legal conclusion. 8 THE WITNESS: My understanding -- and 9 again, I'm not an attorney -- is if something is 10 inherent, then that something has to be there. 11 BY MR. JOHANNINGMEIER: 12 Q. Mm-hmm. So if there's -- if there's 13 another way to do something than the claimed 14 way, you can't say that there's inherent 15 disclosure, right? 16 MR. MELWANI: Objection. Calls for 17 legal conclusion. Beyond the scope of 18 Dr. Baker's declaration. 19 THE WITNESS: I'm not sure I'm 20 following. I -- my analysis was to see if 21 Rauhala taught this claim element, and Rauhala 22 does. I don't think there's any inherency or	115 1 signal strength of the desired signal relative 2 to the strength of the interferer signal. 3 Because there's no other way that SNR 4 could possibly disclose comparing the strength 5 of one signal to another signal unless comparing 6 the strength of the -- one signal to another 7 signal was the only way to do SNR, right? 8 MR. MELWANI: Objection. 9 Mischaracterizes. 10 THE WITNESS: I'm not sure I'm 11 following. I don't know why you're introducing 12 the word "only" into -- into anything. 13 The claim requires a comparison of the 14 signal strength of the desired signal to the 15 signal strength of the interferer signal, and 16 that's literally what the SNR does. So I don't 17 know why you're trying to talk about some other 18 way of doing it. 19 BY MR. JOHANNINGMEIER: 20 Q. Well, SNR is a -- is a mathematical 21 concept, right? It's not a thing that does 22 anything, right? It is a -- a -- a ratio,
114 1 any other legal -- legal hand-waving. I mean, 2 Rauhala just teaches it. It's disclosed. 3 The claim requires comparing the 4 strength of the desired signal relative to the 5 strength of the interferer signal. And I can go 6 to Rauhala Figure 5, and I can point to the 7 output of Block 53, and I can say, "There. That 8 is teaching what this claim element is 9 requiring." 10 Now, I don't know where inherency is 11 relevant. I don't know -- you know, I'm not 12 writing legal opinions in this declaration. I'm 13 simply pointing to what a person of ordinary 14 skill in the art would have understood back in, 15 I think it was, 2003 when they look at that 16 claim element in light of the specification and 17 then they look at Rauhala. 18 BY MR. JOHANNINGMEIER: 19 Q. Well, what I -- what I take you to be 20 saying in this paragraph is that by disclosing 21 signal-to-noise ratio or SNR, that that is 22 somehow necessarily teaching comparing the	116 1 right? 2 A. It's a comparison. The bigger the 3 signal strength, the bigger relative to the 4 noise, the bigger SNR. 5 Q. Right. 6 A. It literally is what is done in -- what 7 is claimed here in 7.9. 8 Q. Right. But just a minute ago, you said 9 you've had -- or you agreed that you could 10 derive the SNR from error rate measures, as an 11 example, right? 12 MR. MELWANI: Objection. 13 Mischaracterizes. 14 THE WITNESS: I don't know if I'd say 15 "derive." I would say the signal-to-noise ratio 16 is determined from the bit error rate. But you 17 could determine the -- the received signal 18 strength, which could be a voltage, and use that 19 in the signal-to-noise ratio. 20 So I'm not really following the line of 21 what's going on. 22 BY MR. JOHANNINGMEIER:

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117 1 Q. Well -- 2 A. I mean, there's intermediate values in 3 determining a comparison. 4 Q. So you could determine the 5 signal-to-noise ratio from the bit error rate, 6 right? 7 MR. MELWANI: Objection. Form. 8 THE WITNESS: Well, I would say bit 9 error rate is the signal-to-noise ratio. I 10 mean, they literally put "BER," in parentheses, 11 "SNR" on the figure. 12 BY MR. JOHANNINGMEIER: 13 Q. Well, in your understanding of circuits 14 more broadly, right, are there ways to derive 15 signal-to-noise ratios using, for instance, 16 error measures? 17 MR. MELWANI: Objection. Beyond the 18 scope. Calls for speculation. 19 THE WITNESS: If you're asking me if 20 there's other ways to meet this claim element, 21 maybe. I wasn't asked or I didn't look at other 22 ways to meet the claim element.	119 1 output SNR? 2 MR. MELWANI: Objection. Asked and 3 answered. Form. 4 THE WITNESS: If I were to remove what 5 is taught in the figures -- for example, SNR and 6 BER -- and there was just a wire going from 53 7 to 52, I could not look at Figure 5 and indicate 8 that the -- 53, sorry -- indicate that 53 is 9 doing the claimed element. 10 BY MR. JOHANNINGMEIER: 11 Q. So -- 12 A. I mean -- (Internet connection 13 failure.) 14 -- doing it. It's literally providing 15 an SNR. 16 Q. Could you compute the SNR using fast 17 Fourier transforms? 18 MR. MELWANI: Objection. Calls for 19 speculation. Beyond the scope. 20 THE WITNESS: I didn't write about 21 that. But I think it's reasonable that if one 22 were to have a spectrum, one were to know where
118 1 I looked at Rauhala and asked: Would a 2 person of ordinary skill in the art understand 3 Rauhala teaches this claim element? And the 4 answer is yes. And that's what I wrote about 5 and highlighted in Figure 5. 6 BY MR. JOHANNINGMEIER: 7 Q. Right. But the claim element, to be 8 clear, is comparing two signals, right? Or two 9 spectral components, right? 10 A. The claim element is comparing the 11 strength of the desired signal relative to the 12 strength of the interferer signal. And to do 13 that, one would need to measure the signals. 14 And we would use, for example, Block 53 to 15 measure the signal and the noise in the received 16 signal, SB. And that would output the 17 signal-to-noise ratio, or the bit error rate if 18 you want to call it that. 19 Q. But you don't have any basis to 20 conclude, because this is -- Unit 53 is 21 literally a box with nothing in it, that Unit 53 22 is actually doing that comparison in order to	120 1 the desired signal was and the undesired signal 2 was, that, taking the fast Fourier transform of 3 the spectrum and then moving the values 4 appropriately, one could calculate the desired 5 signal strength and the undesired signal 6 strength. 7 BY MR. JOHANNINGMEIER: 8 Q. Could you -- could one determine the 9 signal-to-noise ratio by taking power 10 measurements across a wideband and measurements 11 across a narrowband around the frequency of 12 interest and then calculating from that, 13 subtracting? 14 MR. MELWANI: Objection. Form. Calls 15 for speculation. 16 THE WITNESS: And I didn't write about 17 the specific methods of implementing Block 53 or 18 the detector in the earlier line of questioning. 19 But, yes, there are all kinds of ways to 20 determine the signal power and the strength of 21 the interferer signal. 22 BY MR. JOHANNINGMEIER:

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121 1 Q. Mm-hmm. And there are ways to do that 2 that don't involve directly comparing them, 3 right, at least in theory? 4 MR. MELWANI: Objection. Calls for 5 speculation. 6 THE WITNESS: I don't see how you can 7 not compare the signal strength of the desired 8 signal with the signal strength of the 9 interferer signal without -- in a 10 signal-to-noise ratio without doing the 11 comparison. It's dividing one by the other to 12 get a number of which one's bigger or smaller to 13 indicate the comparison. 14 I -- I'm not following -- I mean, I 15 don't think it's reasonable to -- to point to 16 SNR and say that that doesn't do what's claimed. 17 BY MR. JOHANNINGMEIER: 18 Q. Well, we're kind of going around in 19 circles, I guess. But I guess the -- you know, 20 the SNR is the output of what you're saying is 21 the comparison, right? 22 MR. MELWANI: Objection. Asked and	123 1 flicker noise, thermal noise, different origins 2 of noise sources. 3 But noise in all instances is an 4 unwanted signal outside the desired signal 5 spectrum, or even, in some cases, within, if the 6 signal is too small. 7 BY MR. JOHANNINGMEIER: 8 Q. But you wouldn't have -- well, you 9 don't state any opinion about whether or not 10 noise in all instances is an interferer signal, 11 right? 12 MR. MELWANI: Objection. 13 Mischaracterizes. Form. 14 THE WITNESS: I may be missing 15 something, because the 202 patent will talk 16 about interfering signals and noise; Rauhala 17 talks about noise and interfering signals. In 18 all instances, it's understood, or at least a 19 person of ordinary skill in the art would have 20 understood, that noise is undesired signal 21 content. 22 BY MR. JOHANNINGMEIER:
122 1 answered. 2 THE WITNESS: The SNR is the 3 comparison. And it compares the -- does -- or 4 generates the number that's the comparison by 5 comparing the desired signal strength to the 6 undesired signal strength. I mean, that's what 7 signal-to-noise ratio is. 8 BY MR. JOHANNINGMEIER: 9 Q. What does Rauhala mean by "noise"? 10 MR. MELWANI: Objection. Form. Calls 11 for a legal conclusion. 12 THE WITNESS: The noise or interfering 13 signal in Rauhala is the spectral content 14 outside the desired spectrum. 15 BY MR. JOHANNINGMEIER: 16 Q. Okay. Now, there are, in RF circuits, 17 many different kinds and sources of noise, 18 right? 19 MR. MELWANI: Objection. Calls for 20 speculation. Outside of the scope. 21 THE WITNESS: If I understand what 22 you're talking about, there's shot noise,	124 1 Q. Well, but, I mean, you don't say that 2 in your declaration, right? 3 MR. MELWANI: Objection. 4 Mischaracterizes. 5 THE WITNESS: Paragraph 34, for 6 example, I talk about a radio receiver having 7 a -- or improving the quality of a signal by 8 reducing the noise. I think that it's 9 understood that noise is unwanted, then, if 10 you're going to reduce it or eliminate it. 11 BY MR. JOHANNINGMEIER: 12 Q. In paragraph 2 of Rauhala, it refers 13 repeatedly to noise and interference, right? 14 A. Yes. And then it characterizes RSSN as 15 the combination of the noise and interference. 16 Q. Right. But RSS isn't an input to Block 17 Number 53, right? 18 MR. MELWANI: Objection. 19 Mischaracterizes. 20 THE WITNESS: That question doesn't 21 make sense. RSSN is -- or RSS is a indication 22 or a measurement result. And as we've already

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125 1 talked about, RSS -- or RSSN, if we look at 2 another figure -- are not connected to inputs of 3 53. But the signal that generates RSS and RSSN 4 is the same signal that's input into 53 to 5 generate the signal-to-noise ratio. 6 BY MR. JOHANNINGMEIER: 7 Q. Rauhala could be meaning to describe a 8 calculation of the signal versus the thermal 9 noise, for instance, right? 10 MR. MELWANI: Objection. 11 Specification -- speculation. Sorry. 12 THE WITNESS: I don't think that's a 13 reasonable thought or conclusion. The issue is 14 when you're designing the radio, you don't care 15 -- I mean, you might care when you're -- you're 16 looking at a specific noise component, but 17 there's no way to separate out the thermal noise 18 from the shot noise from the interference from 19 any other noise. It's just noise. It's outside 20 the desired signal spectrum. 21 BY MR. JOHANNINGMEIER: 22 Q. Well --	127 1 to do a noise measurement" doesn't make any 2 sense, because you have the desired signal and 3 what you are measuring for noise. You have to 4 separate them out. 5 BY MR. JOHANNINGMEIER: 6 Q. Well, I mean, I guess the point of all 7 of this is that there's a lot of different 8 things that Rauhala could be talking about. 9 There's a lot of potential things that "noise" 10 could mean and include or not include, and you 11 don't have any opinions about any of that in 12 your declaration, right? 13 MR. MELWANI: Objection. Mis- -- 14 BY MR. JOHANNINGMEIER: 15 Q. You actually said, what is the 16 interferer signal? You haven't differentiated 17 that from the noise, and you haven't described 18 the calculation or whatever is going on in Box 19 53, right? 20 MR. MELWANI: Objection. 21 Mischaracterizes. Asked and answered. 22 THE WITNESS: I mean, just as a matter
126 1 A. That's the art of the -- 2 Q. If there's no way to separate out the 3 noise, then there's no way to -- or separate out 4 the interference from the other noise, then you 5 can't possibly be doing a comparison of the 6 interferer signal, right? 7 MR. MELWANI: Objection. 8 Mischaracterizes. Calls for a legal conclusion. 9 BY MR. JOHANNINGMEIER: 10 Q. -- strength of the interferer signal? 11 MR. MELWANI: I renew my objections. 12 THE WITNESS: That's not right. I 13 mean, you -- as you talked about earlier -- use 14 a filter to filter out the spectrums of -- 15 filter the spectrum so that only the desired 16 signal goes to one direction, and then the -- 17 use a complementary filter to filter out, for 18 example, a spectrum of the noise -- (Internet 19 connection failure.) 20 -- area. 21 But trying to -- trying to put them -- 22 trying to mix those together and say, "I'm going	128 1 of common sense, a person of ordinary skill in 2 the art would understand that noise is an 3 interferer signal, no matter what its origin is, 4 and that what is taught in Rauhala is comparing 5 the signal to the interferer or to the noise by 6 taking the ratio and doing that comparison of 7 the number. If there's a large signal relative 8 to the noise, then the number is big. And if 9 the signal is comparable to the noise, the 10 number is smaller. 11 BY MR. JOHANNINGMEIER: 12 Q. Have you ever heard of something called 13 SINR in wireless RF? 14 MR. MELWANI: Objection. Calls for 15 speculation. Relevance. Beyond the scope. 16 THE WITNESS: If it's what I'm thinking 17 of, it's also got a term called SINAD. It's a 18 particular measurement for a single tone. That 19 particular type of characterization, if it's 20 what I'm remembering -- and I don't know for 21 sure, this is from memory -- is more for 22 designing components rather than relevant to --

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129 1 to the components in an actual transceiver where 2 they operate over a wider frequency spectrum. 3 BY MR. JOHANNINGMEIER: 4 Q. I -- I should have been clearer. I 5 mean, so there is something in RF -- in wireless 6 RF communication that's commonly referred to as 7 a signal-to-noise ratio, SNR, right? 8 MR. MELWANI: Objection. 9 Mischaracterizes. Calls for speculation. 10 Beyond the scope. 11 THE WITNESS: SNR, signal-to-noise 12 ratio, yes. 13 BY MR. JOHANNINGMEIER: 14 Q. Yeah. And there is something called 15 signal to interference plus noise ratio, SINR, 16 right? And to be fair, I just Wikipediaed it 17 because I couldn't remember. 18 But Wikipedia says: SINR is commonly 19 used in wireless communication as a way to 20 measure the quality of wireless connections. 21 And it talks about how it has an 22 interference term plus a noise term.	131 1 example. But there are other ones for noise, 2 such as quantization noise in data converters. 3 BY MR. JOHANNINGMEIER: 4 Q. So there are a lot of different 5 signal-to-something ratios that are used by 6 people of ordinary skill in RF communication, 7 right? 8 MR. MELWANI: Objection. Beyond the 9 scope. Mischaracterizes. Form. 10 THE WITNESS: I would say that if 11 somebody wants to define other measurement 12 capabilities, they can. I don't think -- I 13 don't feel they have any bearing on my opinions. 14 I don't think any reasonable person 15 would argue that noise isn't an interferer or 16 that a measurement of spectrum outside of the 17 desired spectrum and reporting as RSSN, as 18 Rauhala teaches, wouldn't include the adjacent 19 channels or interfering channels. 20 I feel very confident in my opinion 21 that Rauhala teaches this claimed element. 22 BY MR. JOHANNINGMEIER:
130 1 Does any of that ring a bell? 2 MR. MELWANI: Objection. Beyond the 3 scope to the extent that counsel is introducing 4 a purported Wikipedia page. Relevance. 5 Hearsay. Authentication. 6 Counsel, are you going to enter that 7 into the record? 8 MR. JOHANNINGMEIER: No. I'm just -- I 9 mean, I'm just asking questions about his 10 knowledge of -- of ratios used in wireless RF 11 communication. And I happen to know of one 12 called signal to interference plus noise ratio, 13 SINR, which I just checked myself using 14 Wikipedia on. 15 But my question remains the same. Are 16 you aware of a ratio called signal to 17 interference plus noise that includes an 18 interference term and a noise term? 19 MR. MELWANI: Same objections. 20 THE WITNESS: I know about other 21 ratios, yes. I don't recall clearly writing 22 about that one in my mixed signal book, for	132 1 Q. Well, I guess the reason I'm getting at 2 this is just, you know, we have Rauhala talking 3 about noise and interference and then having an 4 acronym, SNR. And neither you nor, honestly, I 5 or anyone else knows exactly what that means 6 because there's any multiple number of things it 7 could mean. 8 And so I guess, you know, Rauhala could 9 have meant the ratio of the signal to the total 10 noise power, right? 11 MR. MELWANI: Objection. 12 Mischaracterizes. Form. 13 THE WITNESS: So if we look at PDF 14 page 70 of my declaration and we look at the 15 annotated Figure 5, that received signal, Sb, 16 will have two components. It'll have the 17 desired spectrum, and it'll have the spectrum of 18 the noise and interferers. 19 What is shown there is 53 taking and 20 measuring the signal and the noise and comparing 21 them and the ratio. If we go to the previous 22 page and we look at Figure 4, annotated, what

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133 1 the detector is doing is it's looking at the 2 received signal, Sb, and it's measuring the 3 received signal and the received signal with 4 noise, which has to be the noise and interferer 5 and anything that's outside the desired signal. 6 So trying to say that Rauhala is 7 teaching something different in measuring the 8 noise separate from the interferers or that 9 they're somehow separated, that just isn't the 10 case. Because you can literally see that it's 11 looking at the received signal and it's 12 separating out the desired signal, or RSS, and 13 the received signal with the noise and 14 interference, RSSN. 15 BY MR. JOHANNINGMEIER: 16 Q. Well, Figure 4 doesn't include the 17 block that you're saying does the comparison, 18 right? Just -- 19 A. Figure 4 does not include 53. But in 20 both figures, they represent the output of the 21 receiver after the down conversions and mixing, 22 after the filters to separate out or remove	135 1 BY MR. JOHANNINGMEIER: 2 Q. But it doesn't say that in Rauhala, 3 though, right? 4 MR. MELWANI: Objection. 5 Mischaracterizes. Calls for legal conclusion. 6 Form. 7 THE WITNESS: I think it shows it in 8 figures 4 -- or Figure 5, anyway. 9 BY MR. JOHANNINGMEIER: 10 Q. Figure 5 shows, in your opinion, that 11 the interferer is the -- strike that. 12 So just to be clear about your opinion, 13 in Rauhala Figure 5, in the S -- it says SNR, 14 right? What are you saying is the signal, the 15 S? What is "S"? 16 MR. MELWANI: Objection. Asked and 17 answered. Form. 18 THE WITNESS: The desired signal the 19 receiver is supposed to receive. And the 20 interferer signal is everything else. It's what 21 the receiver shouldn't -- doesn't want to 22 receive or doesn't need to receive.
134 1 image components and interference. They 2 represent the received signal as Sb. 3 In Figure 5, 53 is measuring the 4 interfering signal and comparing it to the 5 strength of the desired signal, and it's 6 annotating that with the term SNR. 7 Q. So the only -- the only potential 8 disclosure in here that you're pointing to is 9 the letters SNR, which is why I've been asking 10 you questions about what N is, right? Because 11 your opinion only works if "N" is equivalent to 12 "interferer signal," right? 13 MR. MELWANI: Objection. 14 Mischaracterizes. 15 THE WITNESS: Maybe all my previous 16 answer wasn't understood. Interference signal 17 and the noise signal in the blocks Figure 4 and 18 Figure 5 are the same. They're the unwanted 19 signal that's outside of the desired signal 20 spectrum. That's the measure of power that 21 we're measuring and providing in the 22 signal-to-noise. That's the interferer.	136 1 BY MR. JOHANNINGMEIER: 2 Q. Okay. So you're saying, then, that 3 the -- the N in SNR is everything else besides 4 the desired signal, right? 5 A. Yes. 6 Q. So you -- your understanding of 7 interferer signal is that it is everything but 8 the desired signal? 9 A. Yes. 10 Q. Okay. Now, going back to the 825 11 patent -- well, let's do the 202 patent, since 12 we're on the 202. Exhibit 3. 13 (Exhibit 3 marked for identification.) 14 BY MR. JOHANNINGMEIER: 15 Q. And I want to look again at this 16 figure, 2A. So let me know when you're there. 17 A. (Witness complying.) 18 MR. MELWANI: Counsel, did you want to 19 take a break before starting your line of 20 questioning on a new exhibit? 21 MR. JOHANNINGMEIER: Well, it's -- no, 22 it's the same line. I'll -- I'll -- I'll be

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137 1 quick. I just... 2 BY MR. JOHANNINGMEIER: 3 Q. Are we there? 4 A. Yes. 5 Q. Okay. So Figure 2B, what, in your 6 understanding, is the desired signal in Figure 7 2B? 8 A. (Witness examining document.) 9 A spectrum that's labeled 206 and 10 labeled "desired signal." 11 Q. Right. And so in Figure 2B, that would 12 be 256, right? 13 A. Oh, in 2B, yes. 256. 14 Q. Well, we can do either one, actually. 15 You see the -- well, okay. My next question is: 16 What is your understanding of what is the 17 interferer signal in Figure 2A? 18 A. The interferers are labeled as 208 and 19 19 210. 20 Q. About -- you see where there's a dotted 21 line, N? 22 A. Yes.	139 1 was the interfering signal. 2 And now we're looking here at the figures 3 in the patent. And so is it also your opinion 4 that this patent is describing everything that's 5 not the desired signal is the interferer signal? 6 MR. MELWANI: Objection. 7 Mischaracterizes. 8 THE WITNESS: Yes. 9 MR. MELWANI: Form. 10 THE WITNESS: Yes. And that's why I 11 pointed to column 3, line 19. It literally says 12 that: "Interfering signals and noise." 13 BY MR. JOHANNINGMEIER: 14 Q. Mm-hmm. Well -- 15 A. Anything outside the desired signal 16 spectrum is an interfering signal made up of 17 adjacent channel, noise, and inherent noise in 18 the receiver. 19 Q. Well, actually, what -- you're quoting 20 at line 19 and 20? 21 A. I'm quoting: "Figures 2A and 2B 22 illustrate examples of desired and interfering
138 1 Q. Do you understand that that's 2 representing a noise floor, below which there is 3 some amount of noise? 4 MR. MELWANI: Objection. 5 Mischaracterizes. 6 THE WITNESS: Yes. 7 BY MR. JOHANNINGMEIER: 8 Q. Okay. So in your understanding, is the 9 noise integrated under the dotted line, N, part 10 of the interfering signal? 11 MR. MELWANI: Objection. Form -- 12 objection. Form. 13 THE WITNESS: The interfering signals 14 are the signals that are labeled "interfering" 15 and the noise. If we go take a look at the 16 figure description in column 3, roughly line 19, 17 it literally says -- excuse me -- "interfering 18 signals and noise." 19 BY MR. JOHANNINGMEIER: 20 Q. Well, I'm just trying to understand. 21 Because when we looked at Rauhala, that you said 22 that everything that's not the desired signal	140 1 signals and noise that may be received." 2 Q. Okay. When I read that, I see three 3 things. But I -- I'm not trying to interpret 4 the patent here. I'm asking you about your 5 interpretation. 6 Is it desired and interfering signal -- 7 well, it doesn't say "desired signals and 8 interfering signals and noise." It says 9 "desired and interfering signals and noise," 10 right? 11 A. Yes, it does say that. 12 Q. Okay. Well, so this is -- I guess 13 we're not going to resolve this dispute today, 14 because we don't have a plain construction of 15 what "noise" means. 16 But I mean, just to be clear, you don't 17 have any interpretation in your declaration 18 about what is or isn't -- whether or not noise 19 is included in interfering signals in the 20 claims, right? 21 MR. MELWANI: Objection. Calls for 22 legal conclusion. Mischaracterizes.

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141 1 THE WITNESS: My interpretation is 2 consistent with the patent: That the 3 interfering signals are the signals outside the 4 desired signal spectrum, and they're measured 5 and compared. But -- 6 BY MR. JOHANNINGMEIER: 7 Q. Well, I guess what I'm asking is if you 8 have an opinion that when Claim 7 says 9 "interfering signals," it means -- well, when it 10 says -- sorry. When Claim 7 says "the 11 interfering signal," that it's referring to 12 everything that's not the desired signal. That 13 opinion is not stated anywhere in your 14 declaration, right? 15 MR. MELWANI: Objection. 16 Mischaracterizes. 17 Counsel, your question cut off 18 Dr. Baker's last reply. Would you like him to 19 finish? 20 MR. JOHANNINGMEIER: I -- I don't care, 21 honestly. 22 BY MR. JOHANNINGMEIER:	143 1 Mischaracterizes. Calls for a legal conclusion. 2 THE WITNESS: I'm not sure about the 3 claim construction or -- and I'm not trying to 4 offer legal conclusions. I'm simply reading the 5 words of the claim element, looking at what they 6 mean in light of the specification, and 7 providing an analysis, as I've written in 8 paragraphs 117 through 120. 9 The desired signal, a person would 10 understand, is the signal that someone wants. 11 And the interferer signal would be the signal 12 that is unwanted. And providing the 13 signal-to-noise ratio does what that claim is 14 saying. It's comparing the desired signal to 15 the -- the strength of the interferer signals or 16 the undesired signal. 17 BY MR. JOHANNINGMEIER: 18 Q. So are you -- 19 A. I don't think it's reasonable to say 20 that "Well, oh, you can have a desired signal, 21 and you can have an undesired signal, but 22 there's this third signal that you really don't
142 1 Q. But yes. I don't mean to interrupt you 2 if you were going to say more. 3 A. I mean, the claim literally says 4 "comparing the strength of the desired signal," 5 which would mean a spectrum of signals, "to the 6 strength of the interferer signal," which 7 literally means the undesired signal. 8 And my interpretation and what I've 9 written there is consistent with what a person 10 of ordinary skill in the art would understand 11 those words to mean: That the signal-to-noise 12 ratio that Rauhala talks about teaches this 13 element. 14 Q. Well, and the reason I'm not letting 15 this go is because that sounds to me an awful 16 lot like a claim construction opinion. You're 17 saying that a person of ordinary skill in the 18 art would understand the words "the interferer 19 signal" to mean everything that's not the 20 desired signal. All right. Is that what you're 21 saying? 22 MR. MELWANI: Objection.	144 1 care about." 2 I mean, I don't -- I hadn't really 3 thought about that, but that, just sitting here 4 right now, doesn't seem reasonable. 5 Q. Well, I'm -- I'm not attempting to have 6 or win or lose an argument about what is 7 reasonable. I'm trying to figure out just the 8 basis of your opinion. 9 So when you did your analysis that you 10 mentioned in 117 to 120, did you apply the 11 understanding that the "interferer signal" means 12 the undesired signal spectrum? 13 MR. MELWANI: Objection. Form. 14 Mischaracterizes. Calls for a legal conclusion. 15 Asked and answered. 16 THE WITNESS: So if we go back to the 17 202 patent and look at Figure 2A, you can see 18 the interferers are adjacent channels labeled 19 208 and 210. You see the noise in the spectrum 20 is labeled N. 21 So the interfering signal would be the 22 signal outside of the -- outside of the desired

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145 1 signal. And I don't think it's reasonable, and 2 I don't think this is what the 202 patent 3 teaches is that when you measure that signal, 4 that if the noise floor, N, is above the 5 interferers, 208 and 210, that we don't need to 6 apply what this patent teaches in how to adjust 7 the bias currents. It clearly doesn't teach 8 that. 9 It teaches that you look at the 10 interferers, which is the signal outside of the 11 desired spectrum, and you use that to make your 12 adjustment on how much you want to increase the 13 gain in the signal path to boost the desired 14 signal. 15 So I think my analysis is rock solid, 16 and I think what I've done there in my 17 declaration is solid as well: That the Rauhala 18 reference, by disclosing the calculation or the 19 comparison of the signal-to-noise ratio, teaches 20 comparing the strength of the desired signal to 21 the strength of the interfering signal. 22 And when we get done with this, can we	147 1 and that is measuring the spectrum outside the 2 desired signal as the interfering signal. And 3 that's what you have to do in the -- to 4 determine the desired signal strength relative 5 to the interfering signal. Because, as I gave 6 an example, the interfering signal could be 7 dominated by the inherent noise, and the 8 adjacent channels could be lower. 9 But my analysis is consistent with -- 10 and interpretation is consistent with what the 11 202 patent teaches: That the desired signal is 12 the signal, and the noise is the spectrum 13 outside the desired signal. 14 BY MR. JOHANNINGMEIER: 15 Q. Well, the -- the interferer signal is 16 the spectrum outside the desired signal. That's 17 what -- that's what you applied, right? 18 A. Yes. 19 MR. MELWANI: Objection. Mis- -- 20 objection. Mischaracterizes. 21 MR. JOHANNINGMEIER: All right. Well, 22 so -- we can take a break. I believe I'm done
146 1 get a break? 2 BY MR. JOHANNINGMEIER: 3 Q. Yes. So let me just try to cut to the 4 chase, because I'm not attempting to -- you 5 know, I understand that you might believe -- 6 that you believe that your declaration is rock 7 solid. I'm literally just trying to find out 8 what understanding you applied to your 9 declaration. 10 So when you did your declaration, did you 11 apply the understanding that the -- that you 12 just described, that the interferer signal means 13 everything that's not the desired signal? And 14 it's just yes or no. 15 MR. MELWANI: Objection -- 16 BY MR. JOHANNINGMEIER: 17 Q. Did you apply that understanding when 18 you did the declaration? 19 MR. MELWANI: Objection. Asked and 20 answered. Mischaracterizes. 21 THE WITNESS: I applied my 22 understanding of what the 202 patent teaches,	148 1 except for some follow-ups. So ten minutes. 2 THE VIDEOGRAPHER: Stand by, please. 3 We are going off the record. The time is 1633. 4 Thank you. 5 (Off the record.) 6 THE VIDEOGRAPHER: Stand by, please. 7 We are back on the record. The time is 1644. 8 Thank you. 9 MR. JOHANNINGMEIER: Well, Dr. Baker, I 10 don't have any further questions at this point. 11 If your counsel decides to ask you any, I might 12 have more. But from now on, it won't be my 13 fault that you're here. So I'll pass the 14 witness. 15 MR. MELWANI: Can we take a 15-minute 16 recess to determine if we'll have any redirect, 17 please? 18 MR. JOHANNINGMEIER: Okay. Well -- all 19 right. Well, I'm going to ask him if you 20 talked. But, you know, that's fine. You can. 21 All right. 22 MR. MELWANI: I'm sorry, I didn't get

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149 1 that. 2 MR. JOHANNINGMEIER: Yeah -- no. It -- 3 it -- it -- it's fine. Go ahead. I mean, 4 15 minutes is fine. 5 MR. MELWANI: Okay. Thank you. 6 THE VIDEOGRAPHER: Going off the 7 record. The time is 1645. 8 (Off the record.) 9 THE VIDEOGRAPHER: Stand by, please. 10 Back on the record. 1659. Thank you. 11 MR. MELWANI: We don't have any 12 redirect. I believe this concludes the 13 Dr. Baker cross-examination. 14 THE VIDEOGRAPHER: All right. If 15 there's no more questions, then I will close the 16 deposition. Stand by, please. 17 This marks the end of the videotaped 18 deposition of Dr. Baker. We are going off the 19 record, and the time is 1700. 20 Thank you. And we are off the record 21 now. 22 THE COURT REPORTER: Mr. Melwani, do	151 1 CERTIFICATE OF REPORTER 2 3 I, TAMIKA M. BURNETTE, Certified Reporter 4 and Notary Public within and for the State of 5 Georgia do hereby certify: 6 That R. JACOB BAKER, P.E., PH.D., the 7 witness whose deposition is hereinbefore set forth, 8 was duly sworn by me before the commencement of such 9 deposition and that such deposition was taken before 10 me and is a true record of the testimony given by such 11 witness. 12 I further certify that the adverse party, 13 Petitioners, was represented by counsel at the 14 deposition. 15 I further certify that the deposition of 16 R. JACOB BAKER, P.E., PH.D., occurred remotely via 17 Zoom videoconference Wednesday, January 10, 2024 18 commencing at 1:01 p.m to 5:00 p.m. 19 I further certify that I am not related to 20 any of the parties to this action by blood or 21 marriage, I am not employed by or an attorney to any 22 of the parties to this action, and that I am in no way
150 1 you need the transcript? 2 MR. MELWANI: Yeah, I'd like to get a 3 transcript. 4 THE COURT REPORTER: Thank you. 5 (Proceedings concluded at 5:00 p.m. 6 Eastern time.) 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22	152 1 interested, financially or otherwise, in the outcome 2 of this matter. 3 IN WITNESS WHEREOF, I have hereunto set my 4 hand this 24th day of January, 2024. 5 <i>Tamika Burnette</i> 6 _____ 7 TAMIKA M. BURNETTE 8 CERTIFIED COURT REPORTER, RPR, CSR-2870 9 NOTARY PUBLIC IN AND FOR THE GEORGIA 10 11 12 13 14 15 16 17 18 19 20 21 22

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