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Transcript of Dr. R. Jacob Baker, Volume 2

Date: April 18, 2025

Case: Vicor Corporation -v- Delta Electronics, Inc. (PTAB)

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Transcript of Dr. R. Jacob Baker, Volume 2
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80 1 UNITED STATES PATENT AND TRADEMARK OFFICE 2 BEFORE THE PATENT TRIAL AND APPEAL BOARD 3 4 VICOR CORPORATION,) 5 PETITIONER,) PTAB CASE NO. 6 VS.) IPR2024-00705 7 DELTA ELECTRONICS, INC.,) U.S. PATENT NO. 8 PATENT OWNER.) 9,819,263 9 -----) 10 11 VOLUME II 12 REMOTE DEPOSITION OF 13 DR. R. JACOB BAKER 14 FRIDAY, APRIL 18, 2025 15 16 17 18 19 20 21 22 23 24 STENOGRAPHIC REPORTER: CHRISTA YAN, CSR NO. 14316, RPR 25 -----	82 1 INDEX OF EXAMINATIONS 2 PAGE 3 MR. BOMBACH 83 4 5 6 --oOo-- 7 8 9 Witness's Changes or Corrections 122 10 Reporter's Certificate 124 11 12 13 --oOo-- 14 15 E X H I B I T S 16 EXHIBIT FOR IDENTIFICATION PAGE 17 No Exhibits Marked. 18 19 20 21 22 23 --oOo-- 24 25
81 1 APPEARANCES: 2 FOR PETITIONER: 3 FISH & RICHARDSON P.C. 4 BY: STEVEN KATZ, ATTORNEY-AT-LAW 5 Times Square Tower, 20th Floor 6 New York, New York 10036 7 (212) 765-5070 8 FOR PATENT OWNER: 9 PERKINS COIE, LLP 10 BY: MIGUEL BOMBACH, ATTORNEY-AT-LAW 11 11452 El Camino Real, Suite 300 12 San Diego, California 92130 13 (858) 720-5700 14 15 16 17 18 19 20 21 22 23 24 25 11 ALSO PRESENT REMOTELY: 12 MCKENZIE CHEN 13 14 15 16 --oOo-- 17 18 19 20 21 22 23 24 25	83 1 BE IT REMEMBERED that on FRIDAY, the 18TH DAY OF 2 APRIL, 2025, at the hour of 6:03 A.M., Pacific Standard 3 Time, of said day, before me remotely, CHRISTA YAN, a 4 Certified Shorthand Reporter, State of California, 5 remotely appeared DR. R. JACOB BAKER, who was examined as 6 a witness in said cause; that said transcript format was 7 prepared in accordance with California Code of Regulations 8 Section 2473. 9 --oOo-- 10 DR. R. JACOB BAKER, 11 the Witness, called on behalf of the Patent Owner, being 12 duly sworn to state the truth, the whole truth, and 13 nothing but the truth, testified on oath as follows: 14 MR. BOMBACH: And I'll announce myself for the record, 15 Miguel Bombach and McKenzie Chen on behalf of patent 16 owner, Delta Electronics. We're from Perkins Coie. 17 I don't know if you -- 18 MR. KATZ: Yeah, sure. Yeah, this is Steven Katz with 19 Fish & Richardson, representing Vicor, the defendant in 20 this case -- oh, I'm sorry, got that confused, the 21 petitioner in this proceeding. Correction, the petitioner 22 in this proceeding. 23 EXAMINATION 24 BY MR. BOMBACH: 25 Q Good morning, Dr. Baker.

84 1 A Good morning. 2 Q You were deposed previously in this matter, 3 right? 4 A Yes. 5 Q Is there anything with respect to your 6 educational background and CV that you'd previously 7 provided that you would want to update or supplement? 8 A Not that I can think of. 9 Q Okay. I'm going to be upload into the chat box, 10 which has been premarked, is Exhibit 1015. If you could 11 please download that, let me know. Take a quick spin 12 through it and let me know when you get it. 13 A I don't have a Zoom link or access to a chat box. 14 Do you want to send me -- or I can just download that 15 exhibit from the -- (simultaneous cross-talk) -- 16 MR. KATZ: Well, 1015 is your supplemental 17 declaration. So... 18 THE WITNESS: I have that on my computer. 19 BY MR. BOMBACH: 20 Q Okay. And do you have a clean copy on your 21 computer? 22 A Give me a second. I'll look. 23 Q And I don't know, maybe we could go off the 24 record for this. 25 A It will only take a second.	86 1 THE STENOGRAPHIC REPORTER: So was 1015 also 2 previously marked? 3 MR. BOMBACH: Yes. 4 THE STENOGRAPHIC REPORTER: Thank you for clarifying. 5 MR. BOMBACH: No, thank you for clarifying that I was 6 saying the wrong word. 7 BY MR. BOMBACH: 8 Q All right. You have Exhibit 1001 open? 9 A Yes. 10 Q And is that similarly a clean version without any 11 of your notes? 12 A Yes. 13 Q Okay. And at any time if you need additional 14 documentation to answer any of my questions, please 15 request it. 16 A Okay. 17 Q And if you need to refer to any documents to 18 fully answer questions, please refer to them. 19 A Yes. 20 Q And at any time, if you don't understand anything 21 I'm asking, please ask me to reask the question. 22 A Okay. 23 Q Is there anything today that would prevent you 24 from providing truthful testimony? 25 A No.
85 1 Q All right. Well, let's just go off the record 2 for a second. 3 (Recess taken.) 4 BY MR. BOMBACH: 5 Q Dr. Baker, you have Exhibit 1015 open on your 6 computer from this proceeding, correct? 7 A Yes. 8 Q And is Exhibit 1015 a clean copy without any of 9 your markings on it? 10 A Yes. 11 Q If you could quickly take a look at Exhibit 1015 12 and verify whether or not this is your declaration, 13 whether or not you had signed it. 14 A Yes, this is my declaration. Yes, that is my 15 signature on PDF page 46 of the declaration. 16 Q All right. And at the same time, can you please 17 open Exhibit 1001 which is the '263 patent. 18 THE STENOGRAPHIC REPORTER: Are we marking that as 19 well? 20 MR. BOMBACH: No. It's been premarked, and Dr. Baker 21 has it on his end. So we'll refer to his copies. 22 THE STENOGRAPHIC REPORTER: Okay. I'm just wondering 23 if we're actively marking any exhibits in this depo. Do 24 you mean previously marked? 25 MR. BOMBACH: Yes, previously marked.	87 1 Q Okay. Let's go to Exhibit 1015. 2 And I'm going to ask you questions with respect 3 to 4, 5, 6, 7, 8, 9. That section, 10. Let me know when 4 you have it open. 5 A I don't understand what you're saying. 6 Q Oh, can you please turn to page, the sections of 7 page 5, 6, 7, and 8 of your declaration. If you could 8 please turn to actually specifically page 7. 9 A I'm on PDF page and document page 7 of my 10 supplemental declaration, Exhibit 1015. 11 Q You provided those figures; is that correct? 12 A Yes. 13 Q Did you put them together, or were they put 14 together by someone else? 15 A I don't believe I put those together. I believe 16 I asked counsel to help me with that. 17 Q Okay. As I understand the topmost picture, the 18 blue portion is component, the gray portion is carrier, 19 and the other bottom blue portion is another component; is 20 that correct? 21 A Yes. 22 Q Is it your understanding -- all right. Is it 23 your understanding that -- or is it your opinion -- strike 24 that. 25 Is it your opinion that a device that has a top

88 1 component that comprises 1 percent of the total height of 2 the device and then another bottom component that 3 comprises 1 percent of the total height of the device 4 wherein the middle portion is 99 percent of the height of 5 the device. 6 Is that within your understanding and 7 construction of Limitation 1F? 8 A Did you mean to say 98 percent instead of 9 99 percent? 10 Q Yes, 98 percent. Thank you for correcting that. 11 A I discussed this in paragraph 4 of my 12 declaration. Yes. That would be -- fall under the range 13 of what the patent describes as a tight symmetry. 14 Q Okay. And that would fall within your 15 interpretation of Limitation 1F, correct or rather -- 16 strike that. 17 I'll reask. Your interpretation of Limitation 1F 18 would encompass the situation where the top component is 19 1 percent of the height, the middle carrier is 98 percent 20 of the height of the device, and the bottom component is 21 the other 1 percent height of the device, correct? 22 A Again, yes. As taught and as I discussed in 23 paragraph 4, that would fall within the language of what's 24 claimed. 25 Q Okay. And with reference to the figure on the	90 1 THE WITNESS: Yes. 2 THE STENOGRAPHIC REPORTER: Thank you. 3 BY MR. BOMBACH: 4 Q If you could please open the '263 patent. 5 A I have it open. 6 Q And if you could read the -- just to acquaint 7 yourself, the Column 5, 3 to 22, just very quickly to 8 acquaint yourself and read to yourself in your head. 9 Just let me know when you have completed that. 10 A You're talking about the text that starts, In one 11 embodiment? 12 Q Yeah, line -- oh, sorry. One second. 13 Yeah, 43 to 59. 14 A So the text that starts, In another embodiment? 15 Q Yes, please. Just to acquaint yourself. 16 A Okay. 17 Q In 5, 43 to 50, what is your understanding of 18 that first section? 19 A I guess just what it says. In this embodiment, 20 the connection parts P1 and P2 may be directly bonded with 21 the first electronic component, C1 through an adhesive. 22 And then the components may be on both sides of the board 23 may be symmetrical with respect to the carrier PCB. 24 Q Okay. And then the following sentence refers to 25 the PCB and that its strain distribution can be
89 1 top of page 7 of Exhibit 1015, this figure assumes a 2 carrier which is larger than any one component, right? 3 A Yes. The image on the top of page 7, the carrier 4 is thicker than the thickness of the components on either 5 side of the carrier. 6 Q Okay. Does the '263 patent disclose a carrier 7 that is larger than a component -- strike that. 8 Does the '263 patent disclose a carrier that has 9 a larger height than that of one of its components? 10 A I don't recall right off the top of my head the 11 '263 talking about the thickness of the carriers relative 12 to the components in that manner. In other words, saying 13 that the board or carrier's thickness was thicker than 14 some of the components. 15 I think it could be. I mean, you have components 16 that are going to be really thin like some of those 17 resistors, but then on the other hand, you might have 18 components that are thick like a capacitor might be much 19 thicker if it's like an electrolytic capacitor. But I 20 don't have an answer. I don't recall that the patent said 21 specifically one way or another, but I don't think it 22 would be unreasonable to have a component thinner than the 23 board or thicker. 24 THE STENOGRAPHIC REPORTER: I'm sorry, Doctor, you 25 said board, b-o-a-r-d, right?	91 1 benefitted, correct? 2 THE STENOGRAPHIC REPORTER: You said strain, Counsel? 3 S-t-r-a-i-n? 4 MR. BOMBACH: Yeah. 5 THE WITNESS: The sentence says: As such, the resource 6 of the carrier PCB can be quite utilized and the uniform 7 strain distribution of throughout the converter can be 8 benefitted. 9 BY MR. BOMBACH: 10 Q And then you see in Column 5, 53 through 59, does 11 that section mention the PCB or the carrier? 12 A I discuss this text in paragraph 4 of my 13 declaration. But, I mean, when you reference -- when the 14 patent is referencing a further embodiment with the 15 definition of the symmetry above, it's including the 16 carrier and the components. So I would say yes. Although 17 not the word carrier or PCB is not in the words in 18 Column 5, lines 53 through 57, it's certainly referenced 19 because of the discussion of the text right above it. 20 Q And you said in further embodiment, and that's 21 referenced in Column 5, 53. What is your understanding of 22 a patent when it says, In a further embodiment? 23 A It kind of sounds like a legal question, but my 24 understanding is in a further embodiment means as an 25 another example.

92 1 Q And arriving at your interpretation of 1F, did 2 you attempt to capture every single embodiment disclosed 3 in the '263 patent? 4 A I'm not sure I understand the question, but I 5 didn't exclude any embodiments. The construction I used, 6 the meaning of what that term is teaching is consistent 7 with all of the embodiments, I believe. 8 Q With respect to paragraph 4 through 10, I note 9 that you did not reference the claim language itself. Is 10 there a reason for that? 11 A The claim language or the claim, the one-third to 12 two-thirds is where it's located, and the claim is very 13 clear. I guess I could have put that claim language in, 14 but I don't think it's necessary. I don't think I would 15 change anything if I had to do it again. I don't see any 16 reason to put the specific language other than interpret 17 what the term one-third to two-third the height of the 18 power converter. I mean, I kind of did do that in the 19 middle of paragraph 4 on page -- PDF page 6. 20 Q Does Vicor's proposed interpretation also capture 21 nonsymmetrical examples of components? 22 A That question confuses me. Does this got 23 something to do with Vicor's claim construction positions 24 or -- I mean, because what I used was plain and ordinary 25 meaning as I read it as a person of ordinary skill in the	94 1 than twice the height H2. 2 And it's calling that a definition of symmetry or 3 an example of symmetry. So yes, this is the case where 4 the '263 is being the applicant or the -- whoever wrote 5 the patent up is being their own lexicographer and 6 defining symmetry by dimensions that might be generally 7 considered asymmetric. But again, I haven't formed any 8 opinion on what the word asymmetry means that I can 9 recall. If I have, point me to it, and I'll see if I can 10 change my definition or my answer. 11 Q If we could go to paragraph 11. And this is when 12 you start to talk about Vinciarelli-218, which has been 13 provided by Vicor in this proceeding as Exhibit 1009. 14 A Okay. 15 Q Do you have Exhibit 1009 with you? 16 A Yes. 17 Q And is your copy of 1009 a claim copy, no notes 18 and markups or any... 19 A Yes, it's clean. 20 Q Okay. Give me one second. 21 I want to ask you a question regarding your 22 opinion when you cite to paragraph 143 of Exhibit 1009. 23 Does this section of Vinciarelli state anything relating 24 to PCB size? 25 A When you say PCB size, exactly what are you
93 1 art looking at the patent. So I'm not -- not entirely 2 sure about the -- when you say Vicor's construction. Is 3 there some other aspect of it that I'm missing? 4 Q Okay. Then I'll reask. 5 Page 5, Header A says, The symmetry taught by the 6 '263 patent. And I look at page 7, and I wonder, does -- 7 what is your understanding -- if this is your 8 understanding of symmetry, what is your understanding of 9 asymmetry with respect to the '263 patent? 10 A I mean, I discussed my understanding in 11 paragraphs 4 through 10. I mean, an example of asymmetry 12 is the image on the bottom of page, PDF page 7. Where 13 the -- as discussed in the patent in Column 5, those lines 14 we were looking at, 57 to -- I'm sorry. 15 50 -- roughly 53 to 55 is an example of 16 asymmetry, and that's in the figure on the bottom of 17 page 7. 18 Q And I have a question with respect to that. That 19 section Column 5 of 54 says symmetry. And my question was 20 specific to asymmetry. What is your understanding of 21 asymmetry within the '263 patent? 22 A I haven't really thought about asymmetry, but it 23 appears as though the '263, based on that claim language, 24 is talking about a case where the height H2 is not greater 25 than twice the height H1 or the height H1 is not greater	95 1 talking about? 2 Q PCB height relative to other components. 3 A Okay. Glad I asked because I was thinking it was 4 the -- not the thickness of the printed circuit board but 5 the length and width of the printed circuit board. Give 6 me a sec. 7 I do not see any discussion in paragraph 143 8 about the thickness of the PCB. 9 Q Okay. And if you could to turn paragraph 12, I 10 have a question with respect to a sentence. 11 A I'm there. 12 Q Okay. In that paragraph, you state, I explain 13 that once Zeng-014 power converter was repackaged as a 14 cuboid it would resemble the cuboid component in Zeng-014 15 and then a skilled artisan would recognize that the 16 Zeng-014 wrapping of the Zeng-014 inductor would be 17 applicable to the entire cuboid power converter. 18 What exactly does this mean with respect to the 19 device that you were envisioning in terms of the 20 combination? 21 A I mean, I discuss that in my first declaration, 22 Exhibit 1003, in detail, but at a high level, it's taking 23 Zeng's 014 power converter, repackaging it as a cuboid, 24 where you wrap the leads around the power converter. I 25 mean, again, I discuss that in my first declaration in

96 1 detail. 2 It looks like here, it's citing paragraph 205. 3 Q And let me... you guys weren't joking. That 4 light does go off all the time. 5 Let me see if I can... one second. If you could 6 turn to page 13. 7 A Okay. 8 Q And when you say -- when you had said the 9 Zeng-014 wrapping of the Zeng-014 inductor, would it be 10 applicable to the entire cuboid power converter, were you 11 referencing, for example, in Figure 6C the component at 12 the top PCB 69? 13 A Sorry, where are you? You're on page 13. 14 Q Page 13. 15 A I'm sorry, would you reask the question? 16 Q Yes. 17 When you said that the Zeng-014 wrapping would be 18 applied to the Zeng-014 inductor and you -- rather, strike 19 that. 20 When you said that the Zeng-014 wrapping of the 21 Zeng-014 inductor would be applicable to the entire cuboid 22 power converter, when you say entire cuboid power 23 converter, is that in reference to a device such as that 24 attached to PCB 69 on Figure 6C? 25 A I'm not really sure I understand the question.	98 1 Zeng-014, and we would package it into a single module as 2 taught by Vinciarelli-218. And then we would apply the 3 wrappings taught in Zeng-014 around the resulting module. 4 And I discuss this in, for example, paragraph 190 of 5 Exhibit 1003. 6 Q Okay. And when you reference the Zeng-014 power 7 module, are you referring to the one depicted in 8 Figure 6B? 9 A There's examples in Figure 6A and 6B, yes. 10 Q Okay. If you could turn back to Exhibit 1015, 11 please. 12 A I'm there. 13 Q Paragraph 22, you reference three devices. 14 A Yes. 15 Q Are these devices that you reference in 16 paragraph 22 devices that are mentioned in Zeng-014, 17 Vinciarelli-218 or Vinciarelli-664? 18 A Not that I recall. The point of those three 19 devices is to show that a skilled artisan would have 20 expected the printed circuit board to be relatively thin 21 compared to the overall height of the power converter 22 components. 23 Q Do these devices have components on both sides of 24 the PCB? 25 A I don't know about the first two. The one from
97 1 The discussion in paragraphs 14 through 21 or 22 is 2 talking about how even if the combination stopped... I 3 mean, as discussed in paragraph 13, even if the -- just 4 kept the Zeng-014 as I discussed there with the component 5 wrapping, that it would still meet the claim limitation. 6 If you're asking about the original combination 7 in the first declaration, I mean, that's discussed there. 8 But at a high level, what you're doing is, as discussed in 9 that first declaration, taking the Zeng-014 power supply 10 and encapsulating it and wrapping it with the technique 11 that Zeng uses to wrap its inductor to result in a cuboid 12 shape. But I don't know if I answered your question. 13 Q Let me... give me one second. 14 And do you have Exhibit 1003 with you just so you 15 can reference it instead of speaking to it? 16 A Yes. 17 Q And I'll refer to -- let me see. 18 If you could look at paragraph 202 of 19 Exhibit 1003. And if you need to look at any other 20 portion of the Ground 3 declaration, please do so in the 21 supplemental or original. 22 And my question is: In the Ground 3 declaration 23 or in the Ground 3 formulation, what device are we looking 24 at in the envision combination to address Limitation 1F? 25 A We would start with the power converter in	99 1 DigiKey, D-i-g-i-K-e-y, or the one that is from -- with 2 the LM2596. But for the third one from Philips, we look 3 at the image on PDF page 21, we can see the planar 4 inductor core on the bottom side of the board in the 5 image. So at least that one has components on both sides. 6 THE STENOGRAPHIC REPORTER: I'm sorry, doctor. You 7 said the third one from Philips, like the name Philips? 8 THE WITNESS: Yes. 9 THE STENOGRAPHIC REPORTER: Thank you. 10 BY MR. BOMBACH: 11 Q And you're referencing the picture depicted on 12 page 17; is that correct? 13 A In my answer to show that Philips switching power 14 supply had components on both sides of the board, I 15 reference the image of Philips part or power supply on 16 page, PDF page 21 of my supplemental declaration. 17 Q Okay. And I got so many documents open. One 18 second. 19 And if we could turn to page 21, what are the 20 sizings of the component compared to each of the -- well, 21 the two components as compared to the PCB? 22 A I don't -- which two components are you talking 23 about? 24 Q Oh, yes. Let me reask that. 25 On page 21 of Exhibit 1015, which depicts the

100 1 Philips DC/DC converter, you marked on the top, Planar 2 inductors, and a side view. Do you see that? 3 A Yes. 4 Q What -- with respect to the height of the DC/DC 5 converter, what percentage of the height is planar 6 inductor and what percentage of the height is PCB? 7 A I don't know for sure, but looking at the image, 8 it looks like the inductor's core is about one-third the 9 height of the overall structure, and the printed circuit 10 board then would be one-third the height. If you're 11 asking about the -- all the components, if we look at the 12 power MOSFET in the bottom part of the image, it's quite a 13 bit thicker. So in that situation, the component's 14 thicker than the printed circuit board. 15 So, I mean, I don't have any -- I don't have 16 any -- it may be actually in the document, what the 17 components are, and you could determine what the thickness 18 is. And I think if you did do that, you would find that 19 the thickness of the MOSFET that's thicker than the 20 printed circuit board. But I didn't do that analysis. 21 Q If you could turn to -- let's see, page 17, 22 Section D. 23 A Okay. 24 Q That paragraph 26, you describe the device of 25 Figure 6 and Figure 33. Is it your understanding that	102 1 Q And if you could reference again, Figure 6 of 2 page 19, and I note that there are two larger components 3 on the top of the PCB on one of the devices. Do you see 4 that? 5 A The two larger rectangles? 6 Q Yes. 7 A Yes. 8 Q And as I understand your analysis, Figure 33 is 9 basically an encapsulant insulated version of Figure 6 10 minus the heatsink. But can you explain why Figure 6 has 11 two components whereas Figure 33 has one exposed core? 12 A There seems to be an underlying assumption that 13 those two larger rectangles are the cores of the 14 transformer. If you point me to where it says that, I'll 15 take a look. But, I mean, I don't -- just sitting here, I 16 don't think the depiction of components is meant to be -- 17 I think it's meant to be representative, not -- not 18 limiting. It's just meant to show there's thinner and 19 thicker components on the top and bottom of the board. 20 But I don't think it's actually representative of 21 how the components are -- are related to a specific 22 circuit. But I guess the takeaway is I don't -- unless it 23 says somewhere that those bigger rectangles are the cores 24 of the transformer, I don't recall that. But again, I 25 think it's just representative. It's not limiting.
101 1 Figure 6 and Figure 33 of Vinciarelli-218 depict different 2 devices? 3 A As I said in paragraph 26, Figure 6 is showing 4 the power converter with the heatsink, and then Figure 33, 5 the components and board are the same or similar 6 embodiments as discussed in Vinciarelli. And Figure 33 7 would be an encapsulation of Figure 6 but without the 8 heatsinks, and I discuss that more in paragraph 26. 9 THE STENOGRAPHIC REPORTER: I'm sorry, doctor, you 10 said heatsink? 11 THE WITNESS: Yes. One word, h-e-a-t-s-i-n-k. 12 THE STENOGRAPHIC REPORTER: Thank you. 13 BY MR. BOMBACH: 14 Q If you can look at Figure 6, there -- actually -- 15 strike that. 16 Let's look at page 18 where you depict Figure 33 17 of Vinciarelli-218. Do you see that? 18 A I see Figure 33 on PDF page 18 of my supplemental 19 declaration, Exhibit 1015. Yes. 20 Q And there is one exposed core on Figure 33, 21 right? 22 A Correct. The top part of Figure 33 shows the 23 core exposed on the top. And then right next to that 24 figure, Figure 34, shows the exposed core on the bottom of 25 the embodiment.	103 1 And when we get a good chance for -- time for a 2 break, can we take a break? 3 Q Yeah, do you want to do that now? 4 A Yes. 5 Q All right. Yeah. Let's go off the record. 6 (Recess taken.) 7 BY MR. BOMBACH: 8 Q Dr. Baker, on paragraph 26 of Exhibit 1015, 9 you're referring to Figure 6. And if a heatsink were not 10 used on this embodiment, where would the encapsulate be 11 located? 12 A I discuss that in paragraphs -- well, basically 13 27. It would be around the components to provide the 14 surfaces, like are seen in Figures 33 and 34. So for 15 example, the encapsulant would be level with the exposed 16 core. 17 THE STENOGRAPHIC REPORTER: You're saying core, 18 c-o-r-e, correct? 19 THE WITNESS: Yes. 20 THE STENOGRAPHIC REPORTER: Thank you. 21 BY MR. BOMBACH: 22 Q And where is your support that the encapsulant 23 would be level with the exposed core in Vinciarelli-218? 24 A In paragraph 159, for example, it says, this is 25 the last sentence, As shown in Figures 33 and 34 and

104 1 described in greater detail below, the top 815A and the 2 bottom 815B surfaces of the singulated module 815 are 3 defined by the cured encapsulant 805, 806 in which the 4 magnetic core surfaces 815C and 815D are exposed. 5 Q And what language -- actually, what language in 6 what you cite supports your position that the top of the 7 encapsulant is level with the top of the exposed core of 8 the component? 9 A Says that the top and bottom of the surfaces in 10 Figures 33 and 34 are defined by the cured encapsulant and 11 the magnetic core surfaces are exposed. And if we look at 12 Figures 33 and 34, we see that the top and bottom surfaces 13 of the encapsulants are -- is defined by the encapsulant, 14 and the magnetic core surfaces are exposed. 15 Q And if I understand your answer correctly, it's 16 the -- where it's defined by that provides support for the 17 argument that the top of the encapsulant and the top of 18 the exposed core, the component, are level? Is my 19 understanding correct? 20 A Yes. You can see that they're level in Figures 21 33 and 34 and that's what's described in the end of 22 paragraph 159. 23 Q If you look at... one second. 24 Paragraph 33. 25 A Okay.	106 1 Q Okay. So as I understand your testimony, the 2 pictures look similar; is that right? 3 A Yes. It's similar to what is taught in 4 Vinciarelli-664. And I discuss that in more detail in 5 paragraphs 35 and 36. 6 Q If you could go to paragraph 34, you reference a 7 data sheet. Is the -- you don't contend that the data 8 sheet is a prior art device, do you? 9 A I am not using that data sheet as prior art, no. 10 Q Okay. Looking at paragraph 34 on what I 11 understand to be the shielding, where would you state, if 12 any, there is a bonding pad? 13 A On the bottom of the device. And what's shown in 14 page, PDF page 26. That image at the bottom of the 15 package. 16 Q So your understanding would be the entirety of 17 that shielding is a bonding pad; is that correct? 18 A Any part of the bond, bottom shield could be 19 soldered to it and be the bonding pad, yes. 20 Q Looking at these shieldings, are you able to 21 state whether they are connected to the internal 22 components of a PCB or not? 23 A I may not be understanding the question. The 24 pads and pins on the packaged part are connected to the 25 components on the printed circuit board in the packaged
105 1 Q This depicts -- does the picture in Figure 33 2 depict the power -- or rather a prior art device? Let me 3 reask it. Does the picture of figure -- strike that. 4 Does the figure on paragraph 33 depict a device 5 that is prior art to the '263 patent? 6 A It's not a prior art device or a device I'm 7 relying on as prior art. But it does embody what's taught 8 in Vinciarelli-664. 9 Q And what is your basis for stating that the 10 figure depicted in paragraph 33 embodies what is taught in 11 Vinciarelli-664? 12 A It looks like the images in Vinciarelli-664. For 13 example, it has both top and bottom shields. 14 Q And did you do a claim analysis to determine 15 whether the device in paragraph 33 actually is the 16 embodiment of Vinciarelli -- strike that. 17 Is your basis for stating that the figure 18 depicted in paragraph 33 embodies what is taught in 19 Vinciarelli-664 a view of the images, or is there more to 20 your analysis? 21 A Perhaps I used the wrong word when I said 22 embodies because I did not do a claim-by-claim analysis. 23 It's an example and looks similar to what is taught in the 24 Vinciarelli-664 as I discussed in paragraphs 35 and 36 of 25 my supplemental declaration.	107 1 part. I don't think it's -- I don't think there would 2 be -- it would be a reasonable position to say that the 3 pads or the pins of the packaged part are not connected to 4 anything or connected to the board. I may not be 5 understanding the question. 6 Q Bear with me one second. 7 If you could turn to paragraph 39, please. 8 A Okay. I'm there. 9 Q When you say Zeng 0 (indiscernible utterance) 10 conductors offer a -- 11 THE STENOGRAPHIC REPORTER: Sorry, Counsel, it's hard 12 to hear you when you have your hand over your mouth. I'm 13 sorry. 14 MR. BOMBACH: Sorry. I was in reading mode. 15 BY MR. BOMBACH: 16 Q You state that Zeng-014's wrap conductors offer 17 thinner alternatives to the Vinciarelli-218 adapters and 18 provide for stacking. What is your basis regarding the 19 thinness for Zeng-014? 20 A If we look at the top of page 34 of Exhibit 1015, 21 you see Zeng's packaging technique of wrapping the 22 conductors around the package. And if we go compare that 23 to the adapters in, for example, Figure 35 on the bottom 24 of page 31 of my supplemental declaration, can see that 25 the adapter thickness is -- it's going to be thicker than

108 1 what we would have with the Zeng packaging technique or 2 wrapping technique. 3 And I discuss that in more detail in the 4 associated paragraphs of those figures. 5 Q If you can look at Zeng-014, it's Exhibit 1008. 6 If you can look at Figure 6A, 6B, 6C. With respect to 6A, 7 we have inductor 62. Is there any reason why a POSITA 8 would have half of that inductance on the bottom portion 9 of PCB 63, in other words, splitting inductor 62 into two? 10 A Where is that opinion in my supplemental 11 declaration? Or is it not there? 12 Q I actually don't believe it's there. 13 A I don't really have -- I mean, I could say some 14 things that might be useful, but, I mean -- 15 Q Okay. So you didn't opine on whether a POSITA 16 would look at an inductor, for example, on 6A and have the 17 inductants effectively split in two onto the top and 18 bottom portion of a PCB, right? 19 A Well, I mean, are you talking about outside of 20 Vinciarelli's teaching of having the core be on the top 21 and bottom of the board and exposed like in Figures 33 and 22 34? 23 Q I'm referring to Zeng-014. 24 A I don't recall opining on splitting the inductor 25 so that it was on top and the bottom. I think that may be	110 1 are -- well, okay. The holes are not labeled 808A and 2 809A, but you're asking about the holes in 808A and 809A, 3 correct? 4 Q Yes. 5 A So I don't recall opining about that. I don't 6 recall Vinciarelli-218 discussing what those holes are 7 for. But oftentimes -- and I'm not sure that's -- this is 8 the reason here, but oftentimes, holes are put in 9 electrical contacts so they can make a better connection. 10 The solder can go through the hole, or the adhesive may go 11 through the hole. 12 But maybe they're just doing it to reduce the 13 amount of metal used. I don't know. I don't have an 14 opinion on that. 15 Q Okay. Give me one second. 16 So... trying to find the citation here. 17 Apologies. I don't have it offhand. If we actually look 18 at Figure 17, which would probably have a better 19 description. 20 A Of Vinciarelli-218? 21 Q Yes, please. 22 And there, it's labeled -- you see the whole 23 label of 308B and if you reference paragraph 120. Those 24 are described there. It's -- and then paragraph 120 25 recites, Holes 308B, 309B, 310B may be provided in
109 1 reasonable that, but that wasn't an opinion I offered that 2 I can recall. 3 Q Okay. If you could look at figure -- not figure. 4 Paragraph 39. 5 A Okay. 6 Q And the second-to-last sentence, you said, In 7 fact Vinciarelli-218 specifically discusses soldering 8 contacts to those barcodes. And you conclude, There would 9 be no additional challenge to soldering Zeng-014's wrap 10 conductors. Do you see that portion? 11 A Yes. 12 Q What specific embodiment of Vinciarelli-218 were 13 you referring to, was it Figure 35? Or rather, is 14 Figure 35 an example of an embodiment that you're 15 referring to? 16 A Yes. As discussed in paragraph 41 of my 17 declaration. 18 Q Looking at Figure 35 of Vinciarelli-218, what is 19 your understanding of the portions labeled 808A and 809A? 20 A They are interconnect portions that may be 21 soldered or connected with adhesive to the barcodes on the 22 side of the module. 23 Q And what is your understanding of the little, 24 what looks to be whole portions on the 808A, 809A? 25 A So the holes 808A and 809A, I don't think those	111 1 soldered pads through 308A, 309A, 310A for better soldered 2 joints. 3 And with respect to Figure 17, what is your 4 understanding of the purpose of the holes to provide 5 better solder onto the PCB barcodes of Vinciarelli-218 6 device? 7 A I mean, I think that system is my testimony a 8 moment ago. But I really haven't considered the holes. I 9 mean, there's lots of ways to attach things. So, I mean, 10 they're teaching that they're out of holes, so the solder 11 or adhesive would go in the holes. 12 But again, I haven't offered an opinion on that. 13 Q Referring back to paragraph 39 wherein you 14 conclude there would be no additional challenge to 15 soldering Zeng-014's wrap conductors, in your analysis are 16 you considering adding holes to Zeng-014's wrap conductors 17 to accommodate solder with Vinciarelli-218's PCB barcodes 18 or not? 19 A I don't have an opinion on that. I don't think 20 it -- I don't know if it's necessary. I mean, people 21 solder to expose leads without holes all the time. So I 22 don't have an opinion on that. 23 Q And in your opinion, how would Zeng-014's wrap 24 conductors be applied physically to Vinciarelli-218's 25 device?

112 1 A I discuss that in detail in my first declaration 2 and a little bit in this declaration. You take the leads, 3 for example, as seen in Figure 5C, on page 34 of my 4 supplemental declaration. And you take them and bend them 5 around the Vinciarelli-218 power module that's 6 encapsulated and physically make a contact to the barcodes 7 on the side, for example. 8 Again, I discuss that in more detail in my 9 original declaration. 10 Q Is it your opinion that -- is it, rather -- 11 strike that. 12 Is it your opinion that a bonding-type material 13 such as solder or conducted adhesive is necessary to 14 provide electrical contact between Zeng-014's wrapped 15 conductors in Vinciarelli-218's power supply? 16 A No. I don't -- 17 Q Let me -- oh, go ahead. Sorry. 18 A I was going to say, I don't think that an 19 adhesive or a solder is necessary to make a mechanical or 20 physical connection between the barcode and the wrapping 21 in Zeng. I mean, people every day use USB connectors that 22 physically have two conductors that touch each other and 23 make electrical contact. It's making an electrical 24 contact on a wrapping is -- I don't see any issues with 25 that.	114 1 You opine that it would have been obvious to 2 alternatively apply solder between the wrapped conductor 3 of Zeng-014 and Vinciarelli-218 PCB barcodes, correct? 4 A Are you talking about the discussion in 5 paragraph 46? 6 Q Generally, in your opinion. I don't know if it's 7 captured entirely in 46, but it is part of your opinion as 8 I understand it in both your declarations. 9 A Well, I mean, as discussed in paragraph 46, if 10 you wanted to use solder or adhesive, you could. 11 Q And how would the physical dimensions of -- or 12 rather -- strike that. 13 How would the physical space that the solder 14 takes up be considered -- or rather -- strike that. 15 How would the physical space that the solder 16 takes up in your combination between the Zeng-014 wrap 17 conductor and the Vinciarelli-218's PCB barcode be 18 addressed in your combination? 19 A Well, I see in paragraph 46, there is a 20 discussion about putting holes in so that the solder could 21 go through the holes. I take your question to ask per a 22 number of physical size, but putting adhesive and solder 23 to make a connection won't have any, I mean, in general, 24 any significant impact on the size of the package. 25 But I'd need to know some context and
113 1 Q And you reference a USB device. Is there any 2 clamping or clamping-type mechanical affixing between the 3 PCB barcode and the -- of Vinciarelli-218 and the 4 Zeng-014's wrapped conductors in your proposed 5 combination? 6 A If I understand the question, you're asking if 7 there's any clamping connection? 8 Q Actually -- oh, sorry. Go ahead. 9 A I will say no. You just wrap the conductors 10 around and make a physical contact with the exposed 11 barcode. 12 Q And what would prevent the wrapped conductors 13 from slipping vertically from and disconnecting the PCB 14 barcodes from the wrapped conductor in the case that there 15 is no solder or adhesive? 16 A Just, you could wrap the Zeng conductor around 17 the side and down around the bottom so that, I guess in 18 that case, I guess you could say a clasp of the conductor 19 around the side of the package. I don't know if I would 20 characterize it. It's just packaging the -- the power 21 converter using the techniques taught in Zeng-014. I 22 don't see there would be the possibility of vertical slip 23 that you mentioned. 24 Q And with respect to applying solder -- rather, 25 strike that.	115 1 specifically, what we're talking about to give a more 2 detailed answer. I mean, the extent of my combination 3 comments are in the paragraphs around paragraph 47 of my 4 supplemental declaration. 5 Q If you look at paragraph 41 for a second, please. 6 You see in the first two sentences, Dr. Phinney further 7 notes that Zeng-014 (indiscernible utterance) discloses 8 use of thermosetting adhesive and suggests -- 9 THE STENOGRAPHIC REPORTER: Sorry, it's a bit hard to 10 understand you. I'm not understanding you. I'm sorry. 11 BY MR. BOMBACH: 12 Q Oh, yeah. 13 In paragraph 41 you state, Dr. Phinney further 14 notes that Zeng-014 discloses use of a thermosetting 15 adhesive and suggests that it's incompatible with the 16 barcodes. No support is provided, and this statement is 17 incorrect. 18 Do you see that? 19 A Yes. 20 Q Does Vinciarelli-218 describe using thermosetting 21 adhesive specifically for its PCB barcodes? 22 A It describes using adhesive, yes. 23 Q Does Vinciarelli -- I asked with respect to 24 adhering specifically to PCB barcodes. Does the 25 Vinciarelli-218 describe using thermosetting adhesive

116 1 specifically to adhere a lead to the PCB barcodes? 2 A Yes. We discussed the use of connecting the 3 leads to the barcodes using solder or adhesive earlier. I 4 can go back and find that discussion if it would be 5 useful. 6 Q Yes. It would. Can you please identify that for 7 me? Just so we could have a full record. 8 THE STENOGRAPHIC REPORTER: Miguel, sometimes you're 9 saying Vinciarelli 21218 and then 218. Are those two 10 different Vinciarellis or it's 218? 11 MR. BOMBACH: It's always 218. I apologize. It's 218 12 and 664. 13 THE STENOGRAPHIC REPORTER: Thanks. 14 THE WITNESS: So in paragraph 160, I'll read it into 15 the record. Interconnect portions 808A may be soldered to 16 the exposed interconnects 811, 812 in the manner described 17 above, and protective caps 818 may be attached with epoxy 18 covering the interconnect portions 808A to provide 19 structural integrity and exposing only the terminal 808 -- 20 okay. I may be in the wrong section. Give me a second 21 more. 22 So in Zeng-014, as I discussed in paragraph 46, 23 the connection of the -- to the barcodes could be done 24 with solder to the contacts or by adhesive by gluing the 25 end caps onto the end of the module.	118 1 adhesive is mentioned. 2 Q Does Vinciarelli-218 anywhere state that the 3 conductive adhesive is applied directly to its PCB 4 barcodes to connect its PCB barcodes to its terminals? 5 A The only place I see conductive adhesive 6 mentioned is in paragraph 109, and it's with regard to not 7 having conductive adhesive present. 8 Q And with respect to the usage of solder in your 9 combination using Zeng-014 through that conductor with 10 Vinciarelli-218's power module, how would the solder be 11 held in place during a reflow process, and how would it be 12 prevented from migrating downwards due to gravity? 13 A The question kind of mischaracterizes my 14 combination because in my combination, the Zeng wrapping 15 would make physical contact with the barcodes in 16 Vinciarelli's 218. I give an alternative connection of 17 the conductive adhesives for the solders and, of course, 18 if you didn't -- if you're -- if you heat something up too 19 long, it's soldered, it's going to come loose. But, I 20 mean, assuming you have the right length of time for 21 soldering the package to a printed circuit board, the 22 soldering shouldn't be affected. 23 But, I mean, if you do something wrong, it could 24 cause problems, yes. And I don't think it's reasonable to 25 say that once something's soldered, it's impossible to
117 1 BY MR. BOMBACH: 2 Q And my question is specific to Vinciarelli-218. 3 Does Vinciarelli-218 state that thermosetting adhesive is 4 compatible with its barcodes or otherwise describe the use 5 of thermosetting adhesive with its PCB barcodes? 6 A I mean, paragraph 160 talks about that. If 7 there's something specific that -- I mean, we can go 8 through the use of the epoxy to attach the covers. 9 And after we get through with this question, can 10 we take another break? 11 Q Yeah. If you need a break, but I think I 12 probably only have five, ten minutes maybe if you just 13 want to power through it. But if you need a break, let's 14 do that. 15 MR. KATZ: If it's five or maybe ten, let's not power 16 through. 17 THE WITNESS: Yeah, let's take a quick break. 18 MR. BOMBACH: Okay. We can take a break now. 19 (Recess taken.) 20 BY MR. BOMBACH: 21 Q Does paragraph 160 of Vinciarelli-218 describe 22 using conductive adhesive to connect the lead frames to 23 Vinciarelli-218's PCB barcodes? 24 A I don't see conductive adhesive mentioned in that 25 paragraph, no. The connection with regard to epoxy or	119 1 solder it to something else because then the original 2 soldering will come undone. I think it could come undone 3 if you're heating up the original soldering connection too 4 much. But it's not -- it's not a -- not necessarily 5 again, if you do something wrong, wrong things are going 6 to happen. 7 Q And actually, it might be helpful if we look at a 8 figure so I can provide a more specific question. If you 9 could look at Figure 35 of Vinciarelli-218. 10 A I'm there. 11 Q As I understand it, one of your alternative 12 combinations Zeng-014's wrap conductors would envelope the 13 power module depicted in Figure 35, and there would be 14 solder applied to the PCB barcodes to provide 15 interconnection between the Zeng-014's wrap conductors; is 16 that correct? 17 A That's an alternative, yes. 18 Q In the instance of that alternative, how is the 19 migration of solder downwards due to gravity controlled 20 when the solder is heated to form a connection between the 21 PCB barcode and the Zeng-014 wrapped conductor? 22 A You have to ensure that the heat movement up to 23 the barcode isn't significant enough to cause the solder 24 joint to come -- to not be solid or to become a liquid 25 again. And that's where I -- my previous answer, I talked

Transcript of Dr. R. Jacob Baker, Volume 2
Conducted on April 18, 2025

11 (120 to 123)

120 1 about ensuring that you don't heat the module too long 2 when you're soldering it to a printed circuit board. 3 Q And my question's specific to that soldered 4 joint, how is solder prevented from migrating downward 5 across the side of the Vinciarelli power module onto the 6 encapsulant from the PCB barcodes? 7 A Oh, I've answered that twice now. You just don't 8 heat that soldered joint to the point where it becomes 9 liquid. You ensure that when attaching the module to a 10 printed circuit board, that you heat the board and the 11 printed circuit board enough only to liquify the solder in 12 the connection between the printed circuit board and the 13 module. 14 Q In Exhibit 1015, do you have any corrections that 15 you would like to make? 16 A Not that I can think of. 17 Q During the breaks, did you speak to counsel about 18 the substance of your testimony today? 19 A No. Not really. 20 Q What do you mean not really? 21 A I spoke to him about the length of the deposition 22 and when it would end. 23 Q All right. Well, that's up to him now. 24 I have no further questions. Thank you for your 25 time, Dr. Baker.	122 1 Please be advised I have read the 2 foregoing deposition, pages 80 3 through 124, inclusive. 4 I hereby state there are: 5 6 (Check one) _____ no corrections 7 8 _____ corrections per attached 9 10 _____ 11 DR. R. JACOB BAKER 12 13 14 15 16 17 18 19 --oOo-- 20 21 22 23 24 25
121 1 I pass the witness. 2 MR. KATZ: Yeah, I have no questions. Thank you. 3 (WHEREUPON THE DEPOSITION WAS 4 CONCLUDED AT 8:23 A.M., PACIFIC 5 STANDARD TIME.) 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25	123 1 WITNESS'S CHANGES OR CORRECTIONS 2 3 NOTE: If you are adding to your testimony, print 4 the exact words you want to add. If you are 5 deleting from your testimony, print the exact 6 words you want to delete. Specify with "Add" 7 or "Delete" and sign this form. 8 9 Deposition of: DR. R. JACOB BAKER 10 Case Title: VICOR V. DELTA 11 Date of Deposition: APRIL 18, 2025 12 13 I, _____ have 14 the following corrections to make to my deposition: 15 Page Line Change/Add/Delete 16 17 18 19 20 21 22 23 24 25

Transcript of Dr. R. Jacob Baker, Volume 2
Conducted on April 18, 2025

12 (124 to 127)

124

CERTIFICATE OF SHORTHAND REPORTER/STENOGRAPHER

I, Christa Yan, Certified Shorthand/Stenographic Reporter
within and for the State of California do hereby certify:

That DR. R. JACOB BAKER, the Witness whose deposition is
hereinbefore set forth, was duly sworn by me before the
commencement of such deposition and that such deposition
was taken before me and is a true record of the testimony
given by such witness.

I further certify that both parties were represented by
counsel at the deposition.

I further certify that the deposition of DR. R. JACOB
BAKER, occurred remotely commencing at 6:03 a.m. to 8:23
a.m., Pacific Standard Time.

I further certify that I am not related to any of the
parties to this action by blood or marriage, I am not
employed by or an attorney to any of the parties to this
action, and that I am in no way interested, financially or
otherwise, in the outcome of this matter.

IN WITNESS WHEREOF, I have hereunto set my hand this 22nd
day of April 2025.



CERTIFIED SHORTHAND/STENOGRAPHIC REPORTER
IN AND FOR THE STATE OF CALIFORNIA

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above 91:15, 91:19, 116:17 access 84:13 accommodate 111:17 accordance 83:7 across 120:5 action 124:18, 124:20 actively 85:23 actually 87:8, 100:16, 101:14, 102:20, 104:5, 105:15, 108:12, 110:17, 113:8, 119:7 adapter 107:25 adapters 107:17, 107:23 add 123:4, 123:6, 123:15 adding 111:16, 123:3 additional 86:13, 109:9,	adhesives 118:17 advised 122:1 affected 118:22 affixing 113:2 after 117:9 again 88:22, 92:15, 94:7, 95:25, 102:1, 102:24, 111:12, 112:8, 119:5, 119:25 ago 111:8 ahead 112:17, 113:8 all 85:1, 85:16, 86:8, 87:22, 92:7, 96:4, 100:11, 103:5, 111:21, 120:23		

artisan 95:15, 98:19 asked 87:16, 95:3, 115:23 asking 86:21, 97:6, 100:11, 110:2, 113:6 aspect 93:3 associated 108:4 assumes 89:1 assuming 118:20 assumption 102:12 asymmetric 94:7 asymmetry 93:9, 93:11, 93:16, 93:20, 93:21, 93:22, 94:8 attach 111:9, 117:8 attached 96:24, 116:17, 122:10 attaching 120:9 attempt 92:2 attorney 124:19 attorney-at-law 81:4, 81:11 B b-o-a-r-d 89:25 back 98:10, 111:13, 116:4 background 84:6	baker 80:20, 83:5, 83:10, 83:25, 85:5, 85:20, 103:8, 120:25, 122:15, 123:9, 124:6, 124:15 barcode 112:20, 113:3, 113:11, 114:17, 119:21, 119:23 barcodes 109:8, 109:21, 111:5, 111:17, 112:6, 113:14, 114:3, 115:16, 115:21, 115:24, 116:1, 116:3, 116:23, 117:4, 117:5, 117:23, 118:4, 118:15, 119:14, 120:6 based 93:23 basically 102:9, 103:12 basis 105:9, 105:17, 107:18 bear 107:6 because 91:19, 92:24, 95:3, 105:22, 118:14, 119:1 become 119:24 becomes 120:8 been 84:10, 85:20, 94:12, 114:1 before 80:2, 83:3, 124:7, 124:9 behalf 83:11, 83:15 being 83:11, 94:4,	94:5 believe 87:15, 92:7, 108:12 below 104:1 bend 112:4 benefitted 91:1, 91:8 better 110:9, 110:18, 111:1, 111:5 between 112:14, 112:20, 113:2, 114:2, 114:16, 119:15, 119:20, 120:12 bigger 102:23 bit 100:13, 112:2, 115:9 blood 124:18 blue 87:18, 87:19 board 80:2, 89:13, 89:23, 89:25, 90:22, 95:4, 95:5, 98:20, 99:4, 99:14, 100:10, 100:14, 100:20, 101:5, 102:19, 106:25, 107:4, 108:21, 118:21, 120:2, 120:10, 120:11, 120:12 bombach 81:11, 82:3, 83:14, 83:15, 83:24, 84:19, 85:4, 85:20, 85:25, 86:3, 86:5, 86:7, 90:3, 91:4,	91:9, 99:10, 101:13, 103:7, 103:21, 107:14, 107:15, 115:11, 116:11, 117:1, 117:18, 117:20 bond 106:18 bonded 90:20 bonding 106:12, 106:17, 106:19 bonding-type 112:12 both 90:22, 98:23, 99:5, 99:14, 105:13, 114:8, 124:12 bottom 87:19, 88:2, 88:20, 93:12, 93:16, 99:4, 100:12, 101:24, 102:19, 104:2, 104:9, 104:12, 105:13, 106:13, 106:14, 106:18, 107:23, 108:8, 108:18, 108:21, 108:25, 113:17 box 84:9, 84:13 break 103:2, 117:10, 117:11, 117:13, 117:17, 117:18 breaks 120:17 C c-o-r-e 103:18 cl 90:21 california 81:13, 83:4,
--	--	---	--

83:7, 124:4, 124:31 called 83:11 calling 94:2 camino 81:12 capacitor 89:18, 89:19 caps 116:17, 116:25 capture 92:2, 92:20 captured 114:7 carrier 87:18, 88:19, 89:2, 89:3, 89:5, 89:6, 89:8, 90:23, 91:6, 91:11, 91:16, 91:17 carrier's 89:13 carriers 89:11 case 80:6, 83:20, 93:24, 94:3, 113:14, 113:18, 123:10 cause 83:6, 118:24, 119:23 certainly 91:18 certificate 82:10, 124:1 certified 83:4, 124:3, 124:30 certify 124:4, 124:12, 124:14, 124:17 challenge 109:9, 111:14 chance 103:1	change 92:15, 94:10, 123:15 changes 82:9, 123:1 characterize 113:20 chat 84:9, 84:13 check 122:8 chen 81:18, 83:15 christa 80:32, 83:3, 124:3 circuit 95:4, 95:5, 98:20, 100:9, 100:14, 100:20, 102:22, 106:25, 118:21, 120:2, 120:10, 120:11, 120:12 citation 110:16 cite 94:22, 104:6 citing 96:2 claim 92:9, 92:11, 92:12, 92:13, 92:23, 93:23, 94:17, 97:5, 105:14 claim-by-claim 105:22 claimed 88:24 clamping 113:7 clamping-type 113:2 clarifying 86:4, 86:5 clasp 113:18	clasping 113:2 clean 84:20, 85:8, 86:10, 94:19 clear 92:13 code 83:7 coie 81:10, 83:16 column 90:7, 91:10, 91:18, 91:21, 93:13, 93:19 combination 95:20, 97:2, 97:6, 97:24, 113:5, 114:16, 114:18, 115:2, 118:9, 118:14 combinations 119:12 come 118:19, 119:2, 119:24 commencement 124:8 commencing 124:15 comments 115:3 compare 107:22 compared 98:21, 99:20, 99:21 compatible 117:4 completed 90:9 component 87:18, 87:19, 88:1, 88:2, 88:18, 88:20, 89:2, 89:7, 89:22, 90:21, 95:14, 96:11,	97:4, 99:20, 104:8, 104:18 component's 100:13 components 89:4, 89:9, 89:12, 89:14, 89:15, 89:18, 90:22, 91:16, 92:21, 95:2, 98:22, 98:23, 99:5, 99:14, 99:21, 99:22, 100:11, 100:17, 101:5, 102:2, 102:11, 102:16, 102:19, 102:21, 103:13, 106:22, 106:25 comprises 88:1, 88:3 computer 84:18, 84:21, 85:6 conclude 109:8, 111:14 concluded 121:4 conducted 112:13 conductive 117:22, 117:24, 118:3, 118:5, 118:7, 118:17 conductor 113:14, 113:16, 113:18, 114:2, 114:17, 118:9, 119:21 conductors 107:10, 107:16, 107:22, 109:10, 111:15, 111:16, 111:24, 112:15, 112:22, 113:4, 113:9, 113:12, 119:12, 119:15 confused 83:20
---	---	--	--

confuses 92:22 connect 117:22, 118:4 connected 106:21, 106:24, 107:3, 107:4, 109:21 connecting 116:2 connection 90:20, 110:9, 112:20, 113:7, 114:23, 116:23, 117:25, 118:16, 119:3, 119:20, 120:12 connectors 112:21 considered 94:7, 111:8, 114:14 considering 111:16 consistent 92:6 construction 88:7, 92:5, 92:23, 93:2 contact 112:6, 112:14, 112:23, 112:24, 113:10, 118:15 contacts 109:8, 110:9, 116:24 contend 106:7 context 114:25 controlled 119:19 converter 91:7, 92:18, 95:13, 95:17, 95:23, 95:24, 96:10, 96:22, 96:23, 97:25,	98:21, 100:1, 100:5, 101:4, 113:21 copies 85:21 copy 84:20, 85:8, 94:17 core 99:4, 100:8, 101:20, 101:23, 101:24, 102:11, 103:16, 103:17, 103:23, 104:4, 104:7, 104:11, 104:14, 104:18, 108:20 cores 102:13, 102:23 corporation 80:4 correct 85:6, 87:11, 87:20, 88:15, 88:21, 91:1, 99:12, 101:22, 103:18, 104:19, 106:17, 110:3, 114:3, 119:16 correcting 88:10 correction 83:21 corrections 82:9, 120:14, 122:8, 122:10, 123:1, 123:14 correctly 104:15 could 84:10, 84:23, 85:11, 87:7, 89:15, 90:4, 90:6, 92:13, 94:11, 95:9, 96:5, 97:18, 98:10, 99:19, 100:17, 100:21,	102:1, 106:6, 106:18, 107:7, 108:13, 109:3, 113:16, 113:18, 114:10, 114:20, 116:7, 116:23, 118:23, 119:2, 119:9 counsel 87:16, 91:2, 107:11, 120:17, 124:13 course 118:17 covering 116:18 covers 117:8 cross-talk 84:15 csr 80:32 cuboid 95:14, 95:17, 95:23, 96:10, 96:21, 96:22, 97:11 cured 104:3, 104:10 cv 84:6 D d-i-g-i-k-e-y 99:1 data 106:7, 106:9 date 123:11 day 83:1, 83:3, 112:21, 124:25 dc 100:1, 100:4 declaration 84:17, 85:12, 85:14, 85:15, 87:7, 87:10,	88:12, 91:13, 95:21, 95:25, 97:7, 97:9, 97:20, 97:22, 99:16, 101:19, 105:25, 107:24, 108:11, 109:17, 112:1, 112:2, 112:4, 112:9, 115:4 declarations 114:8 defendant 83:19 defined 104:3, 104:10, 104:13, 104:16 defining 94:6 definition 91:15, 94:2, 94:10 delete 123:6, 123:7, 123:15 deleting 123:5 delta 80:10, 83:16, 123:10 depict 101:1, 101:16, 105:2, 105:4 depicted 98:7, 99:11, 105:10, 105:18, 119:13 depiction 102:16 depicts 99:25, 105:1 depo 85:23 deposed 84:2 deposition 80:19, 120:21, 121:3, 122:2,
---	--	--	--

123:9, 123:11, 123:14, 124:6, 124:8, 124:13, 124:14 describe 100:24, 115:20, 115:25, 117:4, 117:21 described 104:1, 104:21, 110:24, 116:16 describes 88:13, 115:22 description 110:19 detail 95:22, 96:1, 104:1, 106:4, 108:3, 112:1, 112:8 detailed 115:2 determine 100:17, 105:14 device 87:25, 88:2, 88:3, 88:5, 88:20, 88:21, 95:19, 96:23, 97:23, 100:24, 105:2, 105:4, 105:6, 105:15, 106:8, 106:13, 111:6, 111:25, 113:1 devices 98:13, 98:15, 98:16, 98:19, 98:23, 101:2, 102:3 diego 81:13 different 101:1, 116:10 digikey 99:1 dimensions 94:6, 114:11	directly 90:20, 118:3 disclose 89:6, 89:8 disclosed 92:2 discloses 115:7, 115:14 disconnecting 113:13 discuss 91:12, 95:21, 95:25, 98:4, 101:8, 103:12, 106:4, 108:3, 112:1, 112:8 discussed 88:11, 88:22, 93:10, 93:13, 97:3, 97:4, 97:7, 97:8, 101:6, 105:24, 109:16, 114:9, 116:2, 116:22 discusses 109:7 discussing 110:6 discussion 91:19, 95:7, 97:1, 114:4, 114:20, 116:4 distribution 90:25, 91:7 doctor 89:24, 99:6, 101:9 document 87:9, 100:16 documentation 86:14 documents 86:17, 99:17 doing 97:8, 110:12 done 116:23 down 113:17	download 84:11, 84:14 downward 120:4 downwards 118:12, 119:19 dr 80:20, 83:5, 83:10, 83:25, 85:5, 85:20, 103:8, 115:6, 115:13, 120:25, 122:15, 123:9, 124:6, 124:14 due 118:12, 119:19 duly 83:12, 124:7 during 118:11, 120:17 E each 99:20, 112:22 earlier 116:3 educational 84:6 effectively 108:17 either 89:4 el 81:12 electrical 110:9, 112:14, 112:23 electrolytic 89:19 electronic 90:21 electronics 80:10, 83:16 else 87:14, 119:1 embodies 105:10, 105:18, 105:22	embodiment 90:11, 90:14, 90:19, 91:14, 91:20, 91:22, 91:24, 92:2, 101:25, 103:10, 105:16, 109:12, 109:14 embodiments 92:5, 92:7, 101:6 embody 105:7 employed 124:19 encapsulant 102:9, 103:15, 103:22, 104:3, 104:7, 104:10, 104:13, 104:17, 120:6 encapsulants 104:13 encapsulate 103:10 encapsulated 112:6 encapsulating 97:10 encapsulation 101:7 encompass 88:18 end 85:21, 104:21, 116:25, 120:22 enough 119:23, 120:11 ensure 119:22, 120:9 ensuring 120:1 entire 95:17, 96:10, 96:21, 96:22 entirely 93:1, 114:7 entirety 106:16
--	--	---	--

envelope 119:12 envision 97:24 envisioning 95:19 epoxy 116:17, 117:8, 117:25 even 97:2, 97:3 every 92:2, 112:21 exact 123:4, 123:5 exactly 94:25, 95:18 examination 83:23 examinations 82:1 examined 83:5 example 91:25, 93:11, 93:15, 94:3, 96:11, 98:4, 103:15, 103:24, 105:13, 105:23, 107:23, 108:16, 109:14, 112:3, 112:7 examples 92:21, 98:9 exclude 92:5 exhibit 82:16, 84:10, 84:15, 85:5, 85:8, 85:11, 85:17, 86:8, 87:1, 87:10, 89:1, 94:13, 94:15, 94:22, 95:22, 97:14, 97:19, 98:5, 98:10, 99:25, 101:19, 103:8,	107:20, 108:5, 120:14 exhibits 82:17, 85:23 expected 98:20 explain 95:12, 102:10 expose 111:21 exposed 101:20, 101:23, 101:24, 102:11, 103:15, 103:23, 104:4, 104:7, 104:11, 104:14, 104:18, 108:21, 113:10, 116:16 exposing 116:19 extent 115:2 F fact 109:7 fall 88:12, 88:14, 88:23 figure 88:25, 89:1, 93:16, 96:11, 96:24, 98:8, 98:9, 100:25, 101:1, 101:3, 101:4, 101:6, 101:7, 101:14, 101:16, 101:18, 101:20, 101:22, 101:24, 102:1, 102:8, 102:9, 102:10, 102:11, 103:9, 105:1, 105:3, 105:4, 105:10, 105:17, 107:23, 108:6, 109:3, 109:13, 109:14, 109:18,	110:18, 111:3, 112:3, 119:8, 119:9, 119:13 figures 87:11, 103:14, 103:25, 104:10, 104:12, 104:20, 108:4, 108:21 financially 124:20 find 100:18, 110:16, 116:4 first 90:18, 90:21, 95:21, 95:25, 97:7, 97:9, 98:25, 112:1, 115:6 fish 81:3, 83:19 five 117:12, 117:15 floor 81:5 following 90:24, 123:14 follows 83:13 foregoing 122:2 form 119:20, 123:7 format 83:6 formed 94:7 formulation 97:23 forth 124:7 frames 117:22 friday 80:21, 83:1 full 116:7 fully 86:18	further 91:14, 91:20, 91:22, 91:24, 115:6, 115:13, 120:24, 124:12, 124:14, 124:17 G general 114:23 generally 94:6, 114:6 give 84:22, 94:20, 95:5, 97:13, 110:15, 115:1, 116:20, 118:16 given 124:10 glad 95:3 gluing 116:24 go 84:23, 85:1, 87:1, 94:11, 96:4, 103:5, 106:6, 107:22, 110:10, 111:11, 112:17, 113:8, 114:21, 116:4, 117:7 going 84:9, 87:2, 89:16, 107:25, 112:18, 118:19, 119:5 good 83:25, 84:1, 103:1 gravity 118:12, 119:19 gray 87:18 greater 93:24, 93:25, 104:1 ground 97:20, 97:22,
---	--	---	--

97:23 guess 90:19, 92:13, 102:22, 113:17, 113:18 guys 96:3	93:24, 93:25, 94:1, 95:2, 98:21, 100:4, 100:5, 100:6, 100:9, 100:10 held 118:11 help 87:16 helpful 119:7 here 96:2, 102:15, 110:8, 110:16 hereby 122:4, 124:4 hereinbefore 124:7 hereunto 124:24 high 95:22, 97:8 hole 110:10, 110:11 holes 109:25, 110:1, 110:2, 110:6, 110:8, 110:25, 111:4, 111:8, 111:10, 111:11, 111:16, 111:21, 114:20, 114:21 hour 83:2	impact 114:24 impossible 118:25 inc 80:10 including 91:15 inclusive 122:3 incompatible 115:15 incorrect 115:17 index 82:1 inductance 108:8 inductants 108:17 inductor 95:16, 96:9, 96:18, 96:21, 97:11, 99:4, 100:6, 108:7, 108:9, 108:16, 108:24 inductor's 100:8 inductors 100:2 instance 119:18 instead 88:8, 97:15 insulated 102:9 integrity 116:19 interconnect 109:20, 116:15, 116:18 interconnection 119:15 interconnects 116:16 interested 124:20	internal 106:21 interpret 92:16 interpretation 88:15, 88:17, 92:1, 92:20 ipr 80:7 issues 112:24 itself 92:9
H			J
h-e-a-t-s-i-n-k 101:11 h1 93:25 h2 93:24, 94:1 half 108:8 hand 89:17, 107:12, 124:24 happen 119:6 hard 107:11, 115:9 head 89:10, 90:8 header 93:5 hear 107:12 heat 118:18, 119:22, 120:1, 120:8, 120:10 heated 119:20 heating 119:3 heatsink 101:4, 101:10, 102:10, 103:9 heatsinks 101:8 height 88:1, 88:3, 88:4, 88:19, 88:20, 88:21, 89:9, 92:17,	I identification 82:16 identify 116:6 ii 80:17 image 89:3, 93:12, 99:3, 99:5, 99:15, 100:7, 100:12, 106:14 images 105:12, 105:19	impact 114:24 impossible 118:25 inc 80:10 including 91:15 inclusive 122:3 incompatible 115:15 incorrect 115:17 index 82:1 inductance 108:8 inductants 108:17 inductor 95:16, 96:9, 96:18, 96:21, 97:11, 99:4, 100:6, 108:7, 108:9, 108:16, 108:24 inductor's 100:8 inductors 100:2 instance 119:18 instead 88:8, 97:15 insulated 102:9 integrity 116:19 interconnect 109:20, 116:15, 116:18 interconnection 119:15 interconnects 116:16 interested 124:20	jacob 80:20, 83:5, 83:10, 122:15, 123:9, 124:6, 124:14 joint 119:24, 120:4, 120:8 joints 111:2 joking 96:3
			K
			katz 81:4, 83:18, 84:16, 117:15, 121:2 kept 97:4 kind 91:23, 92:18, 118:13 know 83:17, 84:11, 84:12, 84:23, 87:3, 90:9, 97:12, 98:25, 100:7, 110:13, 111:20, 113:19, 114:6, 114:25
			L
			label 110:23

labeled 109:19, 110:1, 110:22 language 88:23, 92:9, 92:11, 92:13, 92:16, 93:23, 104:5 larger 89:2, 89:7, 89:9, 102:2, 102:5, 102:13 last 103:25 lead 116:1, 117:22 leads 95:24, 111:21, 112:2, 116:3 least 99:5 legal 91:23 length 95:5, 118:20, 120:21 let's 85:1, 87:1, 100:21, 101:16, 103:5, 117:13, 117:15, 117:17 level 95:22, 97:8, 103:15, 103:23, 104:7, 104:18, 104:20 lexicographer 94:5 light 96:4 limitation 88:7, 88:15, 88:17, 97:5, 97:24 limiting 102:18, 102:25 line 90:12, 123:15	lines 91:18, 93:13 link 84:13 liquid 119:24, 120:9 liquify 120:11 little 109:23, 112:2 llp 81:10 lm 99:2 located 92:12, 103:11 long 118:19, 120:1 look 84:22, 85:11, 93:6, 97:18, 97:19, 99:2, 100:11, 101:14, 101:16, 102:15, 104:11, 104:23, 106:2, 107:20, 108:5, 108:6, 108:16, 109:3, 110:17, 115:5, 119:7, 119:9 looking 93:1, 93:14, 97:23, 100:7, 106:10, 106:20, 109:18 looks 96:2, 100:8, 105:12, 105:23, 109:24 loose 118:19 lots 111:9 M magnetic 104:4, 104:11, 104:14	make 110:9, 112:6, 112:19, 112:23, 113:10, 114:23, 118:15, 120:15, 123:14 making 112:23 manner 89:12, 116:16 many 99:17 marked 82:17, 85:24, 85:25, 86:2, 100:1 marking 85:18, 85:23 markings 85:9 markups 94:18 marriage 124:18 material 112:12 matter 84:2, 124:21 maybe 84:23, 110:12, 117:12, 117:15 mckenzie 81:18, 83:15 mean 85:24, 88:8, 89:15, 91:13, 92:18, 92:24, 93:10, 93:11, 95:18, 95:21, 95:25, 97:3, 97:7, 100:15, 102:15, 108:13, 108:14, 108:19, 111:7, 111:9, 111:20, 112:21, 114:9, 114:23, 115:2, 117:6, 117:7, 118:20,	118:23, 120:20 meaning 92:6, 92:25 means 91:24, 94:8 meant 102:16, 102:17, 102:18 mechanical 112:19, 113:2 meet 97:5 mention 91:11 mentioned 98:16, 113:23, 117:24, 118:1, 118:6 metal 110:13 middle 88:4, 88:19, 92:19 might 89:17, 89:18, 94:6, 108:14, 119:7 migrating 118:12, 120:4 migration 119:19 miguel 81:11, 83:15, 116:8 minus 102:10 minutes 117:12 mischaracterizes 118:13 missing 93:3 mode 107:14 module 98:1, 98:3, 98:7, 104:2, 109:22, 112:5,
--	--	---	--

116:25, 118:10, 119:13, 120:1, 120:5, 120:9, 120:13 moment 111:8 more 101:8, 105:19, 106:4, 108:3, 112:8, 115:1, 116:21, 119:8 morning 83:25, 84:1 mosfet 100:12, 100:19 mouth 107:12 movement 119:22 much 89:18, 119:4 myself 83:14	115:7, 115:14 nothing 83:13 number 114:22	one 89:2, 89:9, 89:21, 90:10, 90:12, 94:20, 96:5, 97:13, 98:7, 98:25, 99:1, 99:2, 99:5, 99:7, 99:17, 101:11, 101:20, 102:3, 102:11, 104:23, 107:6, 110:15, 119:11 one) 122:8 one-third 92:11, 92:17, 100:8, 100:10 only 84:25, 116:19, 117:12, 118:5, 120:11 open 85:5, 85:17, 86:8, 87:4, 90:4, 90:5, 99:17 opine 108:15, 114:1 opining 108:24, 110:5 opinion 87:23, 87:25, 94:8, 94:22, 108:10, 109:1, 110:14, 111:12, 111:19, 111:22, 111:23, 112:10, 112:12, 114:6, 114:7 ordinary 92:24, 92:25 original 97:6, 97:21, 112:9, 119:1, 119:3 other 87:19, 88:21,	89:12, 89:17, 92:16, 93:3, 95:2, 97:19, 108:9, 112:22 otherwise 117:4, 124:21 out 111:10 outcome 124:21 outside 108:19 over 107:12 overall 98:21, 100:9 own 94:5 owner 80:12, 81:9, 83:11, 83:16
N	O		P
name 99:7 nd 124:24 necessarily 119:4 necessary 92:14, 111:20, 112:13, 112:19 need 86:13, 86:17, 97:19, 114:25, 117:11, 117:13 new 81:6 next 101:23 nonsymmetrical 92:21 note 92:8, 102:2, 123:3 notes 86:11, 94:17,	oath 83:13 obvious 114:1 occurred 124:15 offer 107:10, 107:16 offered 109:1, 111:12 offhand 110:17 office 80:1 oftentimes 110:7, 110:8 oh 83:20, 87:6, 90:12, 99:24, 112:17, 113:8, 115:12, 120:7 okay 84:9, 84:20, 85:22, 86:13, 86:16, 86:22, 87:1, 87:17, 88:14, 88:25, 89:6, 90:16, 90:24, 93:4, 94:14, 94:20, 95:3, 95:9, 95:12, 96:7, 98:6, 98:10, 99:17, 100:23, 104:25, 106:1, 106:10, 107:8, 108:15, 109:3, 109:5, 110:1, 110:15, 116:20, 117:18 once 95:13, 118:25	one) 122:8 one-third 92:11, 92:17, 100:8, 100:10 only 84:25, 116:19, 117:12, 118:5, 120:11 open 85:5, 85:17, 86:8, 87:4, 90:4, 90:5, 99:17 opine 108:15, 114:1 opining 108:24, 110:5 opinion 87:23, 87:25, 94:8, 94:22, 108:10, 109:1, 110:14, 111:12, 111:19, 111:22, 111:23, 112:10, 112:12, 114:6, 114:7 ordinary 92:24, 92:25 original 97:6, 97:21, 112:9, 119:1, 119:3 other 87:19, 88:21,	p1 90:20 p2 90:20 pacific 83:2, 121:4, 124:16 package 98:1, 106:15, 107:22, 113:19, 114:24, 118:21 packaged 106:24, 106:25, 107:3 packaging 107:21, 108:1, 113:20 pad 106:12, 106:17, 106:19 pads 106:24, 107:3, 111:1 page 82:2, 82:16,

85:15, 87:6, 87:7, 87:8, 87:9, 89:1, 89:3, 92:19, 93:5, 93:6, 93:12, 93:17, 96:6, 96:13, 96:14, 99:3, 99:12, 99:16, 99:19, 99:25, 100:21, 101:16, 101:18, 102:2, 106:14, 107:20, 107:24, 112:3, 123:15 pages 122:2 paragraph 88:11, 88:23, 91:12, 92:8, 92:19, 94:11, 94:22, 95:7, 95:9, 95:12, 96:2, 97:3, 97:18, 98:4, 98:13, 98:16, 100:24, 101:3, 101:8, 103:8, 103:24, 104:22, 104:24, 105:4, 105:10, 105:15, 105:18, 106:6, 106:10, 107:7, 109:4, 109:16, 110:23, 110:24, 111:13, 114:5, 114:9, 114:19, 115:3, 115:5, 115:13, 116:14, 116:22, 117:6, 117:21, 117:25, 118:6 paragraphs 93:11, 97:1, 103:12, 105:24, 106:5, 108:4, 115:3 part 99:15, 100:12,	101:22, 106:18, 106:24, 107:1, 107:3, 114:7 parties 124:12, 124:18, 124:19 parts 90:20 pass 121:1 patent 80:1, 80:2, 80:9, 80:12, 81:9, 83:11, 83:15, 85:17, 88:13, 89:6, 89:8, 89:20, 90:4, 91:14, 91:22, 92:3, 93:1, 93:6, 93:9, 93:13, 93:21, 94:5, 105:5 pcb 90:23, 90:25, 91:6, 91:11, 91:17, 94:24, 94:25, 95:2, 95:8, 96:12, 96:24, 98:24, 99:21, 100:6, 102:3, 106:22, 108:9, 108:18, 111:5, 111:17, 113:3, 113:13, 114:3, 114:17, 115:21, 115:24, 116:1, 117:5, 117:23, 118:3, 118:4, 119:14, 119:21, 120:6 pdf 85:15, 87:9, 92:19, 93:12, 99:3, 99:16, 101:18, 106:14 people 111:20, 112:21	percent 88:1, 88:3, 88:4, 88:8, 88:9, 88:10, 88:19, 88:21 percentage 100:5, 100:6 perhaps 105:21 perkins 81:10, 83:16 person 92:25 petitioner 80:6, 81:2, 83:21 philips 99:2, 99:7, 99:13, 99:15, 100:1 phinney 115:6, 115:13 physical 112:20, 113:10, 114:11, 114:13, 114:15, 114:22, 118:15 physically 111:24, 112:6, 112:22 picture 87:17, 99:11, 105:1, 105:3 pictures 106:2 pins 106:24, 107:3 place 118:5, 118:11 plain 92:24 planar 99:3, 100:1, 100:5 please 84:11, 85:16, 86:14, 86:18, 86:21, 87:6,	87:8, 90:4, 90:15, 97:20, 98:11, 107:7, 110:21, 115:5, 116:6, 122:1 point 94:9, 98:18, 102:14, 120:8 portion 87:18, 87:19, 88:4, 97:20, 108:8, 108:18, 109:10 portions 109:19, 109:20, 109:24, 116:15, 116:18 posita 108:7, 108:15 position 104:6, 107:2 positions 92:23 possibility 113:22 power 92:18, 95:13, 95:17, 95:23, 95:24, 96:10, 96:22, 97:9, 97:25, 98:6, 98:21, 99:13, 99:15, 100:12, 101:4, 105:2, 112:5, 112:15, 113:20, 117:13, 117:15, 118:10, 119:13, 120:5 premarked 84:10, 85:20 prepared 83:7 present 81:17, 118:7 prevent 86:23, 113:12 prevented 118:12, 120:4
--	---	---	---

previous 119:25 previously 84:2, 84:6, 85:24, 85:25, 86:2 print 123:3, 123:5 printed 95:4, 95:5, 98:20, 100:9, 100:14, 100:20, 106:25, 118:21, 120:2, 120:10, 120:11, 120:12 prior 105:2, 105:5, 105:6, 105:7, 106:8, 106:9 probably 110:18, 117:12 problems 118:24 proceeding 83:21, 83:22, 85:6, 94:13 process 118:11 proposed 92:20, 113:4 protective 116:17 provide 103:13, 107:18, 111:4, 112:14, 116:18, 119:8, 119:14 provided 84:7, 87:11, 94:13, 110:25, 115:16 provides 104:16 providing 86:24 ptab 80:6 purpose 111:4	put 87:13, 87:15, 92:13, 92:16, 110:8 putting 114:20, 114:22 Q question 86:21, 91:23, 92:4, 92:22, 93:18, 93:19, 94:21, 95:10, 96:15, 96:25, 97:12, 97:22, 106:23, 107:5, 113:6, 114:21, 117:2, 117:9, 118:13, 119:8 question's 120:3 questions 86:14, 86:18, 87:2, 120:24, 121:2 quick 84:11, 117:17 quickly 85:11, 90:7 quite 91:6, 100:12 R range 88:12 rather 88:15, 96:18, 105:2, 109:13, 112:10, 113:24, 114:12, 114:14 reacquaint 90:6, 90:8, 90:15 read 90:6, 90:8, 92:25, 116:14, 122:1 reading 107:14	real 81:12 really 89:16, 93:22, 96:25, 108:13, 111:8, 120:19, 120:20 reask 86:21, 88:17, 93:4, 96:15, 99:24, 105:3 reason 92:10, 92:16, 108:7, 110:8 reasonable 107:2, 109:1, 118:24 recall 89:10, 89:20, 94:9, 98:18, 102:24, 108:24, 109:2, 110:5, 110:6 recess 85:3, 103:6, 117:19 recites 110:25 recognize 95:15 record 83:14, 84:24, 85:1, 103:5, 116:7, 116:15, 124:9 rectangles 102:5, 102:13, 102:23 reduce 110:12 refer 85:21, 86:17, 86:18, 97:17 reference 88:25, 91:13, 92:9, 96:23, 97:15, 98:6, 98:13, 98:15,	99:15, 102:1, 106:6, 110:23, 113:1 referenced 91:18, 91:21 referencing 91:14, 96:11, 99:11 referring 98:7, 103:9, 108:23, 109:13, 109:15, 111:13 refers 90:24 reflow 118:11 regard 117:25, 118:6 regarding 94:21, 107:18 regulations 83:7 related 102:21, 124:17 relating 94:23 relative 89:11, 95:2 relatively 98:20 relying 105:7 remembered 83:1 remote 80:19 remotely 81:17, 83:3, 83:5, 124:15 repackaged 95:13 repackaging 95:23 reporter 80:32, 83:4, 85:18, 85:22, 86:1, 86:4, 89:24, 90:2,
--	---	--	---

91:2, 99:6, 99:9, 101:9, 101:12, 103:17, 103:20, 107:11, 115:9, 116:8, 116:13, 124:1, 124:3, 124:30 reporter's 82:10 representative 102:17, 102:20, 102:25 represented 124:12 representing 83:19 request 86:15 resemble 95:14 resistors 89:17 resource 91:5 respect 84:5, 87:2, 90:23, 92:8, 93:9, 93:18, 95:10, 95:18, 100:4, 108:6, 111:3, 113:24, 115:23, 118:8 result 97:11 resulting 98:3 richardson 81:3, 83:19 right 84:3, 85:1, 85:16, 86:8, 87:22, 89:2, 89:10, 89:25, 91:19, 101:21, 101:23, 103:5, 106:2, 108:18, 118:20, 120:23 roughly 93:15	rpr 80:32 s s-t-r-a-i-n 91:3 said 83:3, 83:6, 89:20, 89:25, 91:2, 91:20, 96:8, 96:17, 96:20, 99:7, 101:3, 101:10, 105:21, 109:6 same 85:16, 101:5 san 81:13 say 88:8, 91:16, 93:2, 94:25, 96:8, 96:22, 107:2, 107:9, 108:13, 112:18, 113:9, 113:18, 118:25 saying 86:6, 87:5, 89:12, 103:17, 116:9 says 90:19, 91:5, 91:22, 93:5, 93:19, 102:14, 102:23, 103:24, 104:9 sec 95:6 second 84:22, 84:25, 85:2, 90:12, 94:20, 96:5, 97:13, 99:18, 104:23, 107:6, 110:15, 115:5, 116:20 second-to-last 109:6	section 83:8, 87:3, 90:18, 91:11, 93:19, 94:23, 100:22, 116:20 sections 87:6 see 91:10, 92:15, 94:9, 95:7, 96:5, 97:17, 99:3, 100:2, 100:21, 101:17, 101:18, 102:3, 104:12, 104:20, 107:21, 107:24, 109:10, 110:22, 112:24, 113:22, 114:19, 115:6, 115:18, 117:24, 118:5 seems 102:12 seen 103:14, 112:3 send 84:14 sentence 90:24, 91:5, 95:10, 103:25, 109:6 sentences 115:6 set 124:7, 124:24 shape 97:12 sheet 106:7, 106:8, 106:9 shield 106:18 shielding 106:11, 106:17 shieldings 106:20 shields 105:13	shorthand 83:4, 124:1, 124:3, 124:30 shouldn't 118:22 show 98:19, 99:13, 102:18 showing 101:3 shown 103:25, 106:13 shows 101:22, 101:24 side 89:5, 99:4, 100:2, 109:22, 112:7, 113:17, 113:19, 120:5 sides 90:22, 98:23, 99:5, 99:14 sign 123:7 signature 85:15 signature-b7fzp 124:27 signed 85:13 significant 114:24, 119:23 similar 101:5, 105:23, 106:2, 106:3 similarly 86:10 simultaneous 84:15 single 92:2, 98:1 singulated 104:2 sitting 102:15 situation 88:18, 100:13 size 94:24, 94:25,
---	---	--	---

114:22, 114:24 sizings 99:20 skill 92:25 skilled 95:15, 98:19 slip 113:22 slipping 113:13 solder 110:10, 111:5, 111:10, 111:17, 111:21, 112:13, 112:19, 113:15, 113:24, 114:2, 114:10, 114:13, 114:15, 114:20, 114:22, 116:3, 116:24, 118:8, 118:10, 119:1, 119:14, 119:19, 119:20, 119:23, 120:4, 120:11 soldered 106:19, 109:21, 111:1, 116:15, 118:19, 118:25, 120:3, 120:8 soldering 109:7, 109:9, 111:15, 118:21, 118:22, 119:2, 119:3, 120:2 solders 118:17 solid 119:24 some 89:14, 89:16, 93:3, 108:13, 114:25 someone 87:14 something 92:23, 117:7, 118:18, 118:23,	119:1, 119:5 something's 118:25 sometimes 116:8 somewhere 102:23 sorry 83:20, 89:24, 90:12, 93:14, 96:13, 96:15, 99:6, 101:9, 107:11, 107:13, 107:14, 112:17, 113:8, 115:9, 115:10 sounds 91:23 space 114:13, 114:15 speak 120:17 speaking 97:15 specific 92:16, 93:20, 102:21, 109:12, 117:2, 117:7, 119:8, 120:3 specifically 87:8, 89:21, 109:7, 115:1, 115:21, 115:24, 116:1 specify 123:6 spin 84:11 split 108:17 splitting 108:9, 108:24 spoke 120:21 square 81:5 stacking 107:18	standard 83:2, 121:5, 124:16 start 94:12, 97:25 starts 90:10, 90:14 state 83:4, 83:12, 94:23, 95:12, 106:11, 106:21, 107:16, 115:13, 117:3, 118:2, 122:4, 124:4, 124:31 statement 115:16 states 80:1 stating 105:9, 105:17 stenographer 124:1 stenographic 80:32, 85:18, 85:22, 86:1, 86:4, 89:24, 90:2, 91:2, 99:6, 99:9, 101:9, 101:12, 103:17, 103:20, 107:11, 115:9, 116:8, 116:13, 124:3, 124:30 steven 81:4, 83:18 still 97:5 stopped 97:2 strain 90:25, 91:2, 91:7 strike 87:23, 88:16, 89:7, 96:18, 101:15, 105:3, 105:16, 112:11,	113:25, 114:12, 114:14 structural 116:19 structure 100:9 substance 120:18 suggests 115:8, 115:15 suite 81:12 supplement 84:7 supplemental 84:16, 87:10, 97:21, 99:16, 101:18, 105:25, 107:24, 108:10, 112:4, 115:4 supply 97:9, 99:14, 99:15, 112:15 support 103:22, 104:16, 115:16 supports 104:6 sure 83:18, 92:4, 93:2, 96:25, 100:7, 110:7 surfaces 103:14, 104:2, 104:4, 104:9, 104:11, 104:12, 104:14 switching 99:13 sworn 83:12, 124:7 symmetrical 90:23 symmetry 88:13, 91:15, 93:5, 93:8, 93:19, 94:2, 94:3, 94:6
--	---	---	--

system 111:7	term 92:6, 92:17	119:5	title 123:10
T	terminal 116:19	think 84:8, 89:15, 89:21, 92:14, 100:18, 102:16, 102:17, 102:20, 102:25, 107:1, 108:25, 109:25, 111:7, 111:19, 112:18, 117:11, 118:24, 119:2, 120:16	today 86:23, 120:18
take 84:11, 84:25, 85:11, 102:15, 103:2, 112:2, 112:4, 114:21, 117:10, 117:17, 117:18	terminals 118:4	thinking 95:3	together 87:13, 87:14, 87:15
takeaway 102:22	terms 95:19	thinner 89:22, 102:18, 107:17	top 87:25, 88:18, 89:1, 89:3, 89:10, 96:12, 100:1, 101:22, 101:23, 102:3, 102:19, 104:1, 104:6, 104:7, 104:9, 104:12, 104:17, 105:13, 107:20, 108:17, 108:20, 108:25
taken 85:3, 103:6, 117:19, 124:9	testified 83:13	thinness 107:19	topmost 87:17
takes 114:14, 114:16	testimony 86:24, 106:1, 111:7, 120:18, 123:3, 123:5, 124:9	third 99:2, 99:7	total 88:1, 88:3
taking 95:22, 97:9	text 90:10, 90:14, 91:12, 91:19	thought 93:22	touch 112:22
talk 94:12	th 81:5, 83:1	three 98:13, 98:18	tower 81:5
talked 119:25	thank 86:4, 86:5, 88:10, 90:2, 99:9, 101:12, 103:20, 120:24, 121:2	through 84:12, 90:21, 91:10, 91:18, 92:8, 93:11, 97:1, 110:10, 110:11, 111:1, 114:21, 117:8, 117:9, 117:13, 117:16, 118:9, 122:3	trademark 80:1
talking 89:11, 90:10, 93:24, 95:1, 97:2, 99:22, 108:19, 114:4, 115:1	thanks 116:13	throughout 91:7	transcript 83:6
talks 117:6	thermosetting 115:8, 115:14, 115:20, 115:25, 117:3, 117:5	tight 88:13	transformer 102:14, 102:24
taught 88:22, 93:5, 98:2, 98:3, 105:7, 105:10, 105:18, 105:23, 106:3, 113:21	thick 89:18	time 83:3, 85:16, 86:13, 86:20, 96:4, 103:1, 111:21, 118:20, 120:25, 121:5, 124:16	trial 80:2
teaching 92:6, 108:20, 111:10	thicker 89:4, 89:13, 89:19, 89:23, 100:13, 100:14, 100:19, 102:19, 107:25	times 81:5	true 124:9
technique 97:10, 107:21, 108:1, 108:2	thickness 89:4, 89:11, 89:13, 95:4, 95:8, 100:17, 100:19, 107:25		truth 83:12, 83:13
techniques 113:21	thin 89:16, 98:20		truthful 86:24
ten 117:12, 117:15	things 108:14, 111:9,		trying 110:16
			turn 87:6, 87:8, 95:9, 96:6, 98:10, 99:19, 100:21, 107:7

twice 93:25, 94:1, 120:7 two 98:25, 99:21, 99:22, 102:2, 102:5, 102:11, 102:13, 108:9, 108:17, 112:22, 115:6, 116:9 two-third 92:17 two-thirds 92:12 U under 88:12 underlying 102:12 understand 86:20, 87:5, 87:17, 92:4, 96:25, 102:8, 104:15, 106:1, 106:11, 113:6, 114:8, 115:10, 119:11 understanding 87:22, 87:23, 88:6, 90:17, 91:21, 91:24, 93:7, 93:8, 93:10, 93:20, 100:25, 104:19, 106:16, 106:23, 107:5, 109:19, 109:23, 111:4, 115:10 undone 119:2 uniform 91:6 united 80:1 unless 102:22 unreasonable 89:22	update 84:7 upload 84:9 usage 118:8 usb 112:21, 113:1 use 112:21, 114:10, 115:8, 115:14, 116:2, 117:4, 117:8 useful 108:14, 116:5 uses 97:11 using 106:9, 113:21, 115:20, 115:22, 115:25, 116:3, 117:22, 118:9 utilized 91:6 utterance 107:9, 115:7 V verify 85:12 version 86:10, 102:9 vertical 113:22 vertically 113:13 vicor 80:4, 83:19, 94:13, 123:10 vicor's 92:20, 92:23, 93:2 view 100:2, 105:19 vinciarelli 94:12, 94:23, 98:2, 98:17, 101:1, 101:6,	101:17, 103:23, 105:8, 105:11, 105:12, 105:16, 105:19, 105:24, 106:4, 107:17, 109:7, 109:12, 109:18, 110:6, 110:20, 111:5, 112:5, 113:3, 114:3, 115:20, 115:23, 115:25, 116:9, 117:2, 117:3, 117:21, 118:2, 119:9, 120:5 vinciarelli's 108:20, 118:16 vinciarelli-'s 111:17, 111:24, 112:15, 114:17, 117:23, 118:10 vinciarellis 116:10 volume 80:17 vs 80:8 W want 84:7, 84:14, 94:21, 103:3, 117:13, 123:4, 123:6 wanted 114:10 way 89:21, 124:20 ways 111:9 we'll 85:21 we're 83:16, 85:23, 115:1 weren't 96:3 whereas 102:11	wherein 88:4, 111:13 whereof 124:24 whereupon 121:3 whether 85:12, 85:13, 105:15, 106:21, 108:15 whoever 94:4 whole 83:12, 109:24, 110:22 width 95:5 within 88:6, 88:14, 88:23, 93:21, 124:4 without 85:8, 86:10, 101:7, 111:21 witness 83:6, 83:11, 84:18, 90:1, 91:5, 99:8, 101:11, 103:19, 116:14, 117:17, 121:1, 124:6, 124:10, 124:24 witness's 82:9, 123:1 wonder 93:6 wondering 85:22 word 86:6, 91:17, 94:8, 101:11, 105:21 words 89:12, 91:17, 108:9, 123:4, 123:6 wrap 95:24, 97:11,
--	---	---	--

107:16, 109:9, 111:15, 111:16, 111:23, 113:9, 113:16, 114:16, 119:12, 119:15 wrapped 112:14, 113:4, 113:12, 113:14, 114:2, 119:21 wrapping 95:16, 96:9, 96:17, 96:20, 97:5, 97:10, 107:21, 108:2, 112:20, 112:24, 118:14 wrappings 98:3 wrong 86:6, 105:21, 116:20, 118:23, 119:5 wrote 94:4 Y yan 80:32, 83:3, 124:3 yeah 83:18, 90:12, 90:13, 91:4, 103:3, 103:5, 115:12, 117:11, 117:17, 121:2 york 81:6 yourself 90:7, 90:8, 90:15 Z zeng 95:13, 95:14, 95:16, 96:9, 96:17, 96:18, 96:20, 96:21, 97:4, 97:9,	97:11, 98:1, 98:3, 98:6, 98:16, 107:9, 107:19, 108:1, 108:5, 108:23, 112:21, 113:16, 113:21, 114:3, 114:16, 115:7, 115:14, 116:22, 118:9, 118:14, 119:21 zeng's 95:23, 107:21 zeng-'s 107:16, 109:9, 111:15, 111:16, 111:23, 112:14, 113:4, 119:12, 119:15 zoom 84:13 0 00705 80:7 014 95:13, 95:14, 95:16, 95:23, 96:9, 96:17, 96:18, 96:20, 96:21, 97:4, 97:9, 98:1, 98:3, 98:6, 98:16, 107:16, 107:19, 108:5, 108:23, 109:9, 111:15, 111:16, 111:23, 112:14, 113:4, 113:21, 114:3, 114:16, 115:7, 115:14, 116:22, 118:9, 119:12, 119:15, 119:21 03 83:2, 124:15 1 10 87:3, 92:8,	93:11 1001 85:17, 86:8 1003 95:22, 97:14, 97:19, 98:5 10036 81:6 1008 108:5 1009 94:13, 94:15, 94:17, 94:22 1015 84:10, 84:16, 85:5, 85:8, 85:11, 86:1, 87:1, 87:10, 89:1, 98:10, 99:25, 101:19, 103:8, 107:20, 120:14 109 118:6 11 94:11 11452 81:12 12 95:9 120 110:23, 110:24 122 82:9 124 82:10, 122:3 13 96:6, 96:13, 96:14, 97:3 14 97:1 143 94:22, 95:7 14316 80:32 159 103:24, 104:22 160 116:14, 117:6,	117:21 17 99:12, 100:21, 110:18, 111:3 18 80:21, 83:1, 101:16, 101:18, 123:11 19 102:2 190 98:4 1f 88:7, 88:15, 88:17, 92:1, 97:24 2 20 81:5 202 97:18 2024 80:7 2025 80:21, 83:2, 123:11, 124:25 205 96:2 21 97:1, 99:3, 99:16, 99:19, 99:25 212 81:7 21218 116:9 218 94:12, 98:2, 98:17, 101:1, 101:17, 103:23, 107:17, 109:7, 109:12, 109:18, 110:6, 110:20, 111:5, 111:17, 111:24, 112:5, 112:15, 113:3, 114:3, 114:17,
---	---	--	---

115:20, 115:25, 116:9, 116:10, 116:11, 117:2, 117:3, 117:21, 117:23, 118:2, 118:10, 118:16, 119:9 22 90:7, 97:1, 98:13, 98:16, 124:24 23 121:4, 124:15 2473 83:8 2596 99:2 26 100:24, 101:3, 101:8, 103:8, 106:14 263 85:17, 89:6, 89:8, 89:11, 90:4, 92:3, 93:6, 93:9, 93:21, 93:23, 94:4, 105:5 27 103:13 3 300 81:12 308 110:23, 110:25, 111:1 309 110:25, 111:1 31 107:24 310 110:25, 111:1 33 100:25, 101:1, 101:4, 101:6, 101:16, 101:18, 101:20, 101:22,	102:8, 102:11, 103:14, 103:25, 104:10, 104:12, 104:21, 104:24, 105:1, 105:4, 105:10, 105:15, 105:18, 108:21 34 101:24, 103:14, 103:25, 104:10, 104:12, 104:21, 106:6, 106:10, 107:20, 108:22, 112:3 35 105:24, 106:5, 107:23, 109:13, 109:14, 109:18, 119:9, 119:13 36 105:24, 106:5 39 107:7, 109:4, 111:13 4 41 109:16, 115:5, 115:13 43 90:13, 90:17 46 85:15, 114:5, 114:7, 114:9, 114:19, 116:22 47 115:3 5 50 90:17, 93:15 5070 81:7 53 91:10, 91:18, 91:21, 93:15 54 93:19	55 93:15 57 91:18, 93:14 5700 81:14 59 90:13, 91:10 5c 112:3 6 6 83:2, 124:15 62 108:7, 108:9 63 108:9 664 98:17, 105:8, 105:11, 105:12, 105:19, 105:24, 106:4, 116:12 69 96:12, 96:24 6a 98:9, 108:6, 108:16 6b 98:8, 98:9, 108:6 6c 96:11, 96:24, 108:6 7 720 81:14 765 81:7 8 121:4, 124:15 80 122:2 805 104:3	806 104:3 808 109:19, 109:24, 109:25, 110:1, 110:2, 116:15, 116:18, 116:19 809 109:19, 109:24, 109:25, 110:2 811 116:16 812 116:16 815 104:1, 104:2, 104:4 818 116:17 83 82:3 858 81:14 9 9,819,263 80:10 92130 81:13 98 88:8, 88:10, 88:19 99 88:4, 88:9
---	--	---	---