

Docket No. 2022-1755

In the
United States Court of Appeals
for the
Federal Circuit

PARKERVISION, INC.,

Plaintiff-Appellant

v.

QUALCOMM INCORPORATED, QUALCOMM ATHEROS, INC.,

Defendants-Appellees

*Appeal from the United States District Court for the Middle District of Florida
in Case No. 6:14-cv-00687-PGB-KRS · Honorable Paul G. Byron, Judge*

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U.S. Patent No. 7,218,907

1. A method for down-converting an electromagnetic signal, comprising:

periodically coupling an electromagnetic signal that includes a carrier signal to an energy storage device and a load, wherein the periodic couplings occur at a rate less than twice the frequency of the carrier signal;

providing, during the periodic couplings, energy from the electromagnetic signal to the energy storage device, thereby changing an amount of energy stored by the energy storage device;

providing, during the periodic couplings, energy from the electromagnetic signal to the load; and

providing, between the periodic couplings, energy from the energy storage device to the load, thereby changing the amount of energy stored by the energy storage device;

whereby the energy provided to the load forms a down-converted signal.

U.S. Patent No. 6,091,940

22. An apparatus for communicating comprising:

(a) a transmitting subsystem comprising:

(1) a switch module having a first input connected to a bias signal, a control input connected to a control signal, and an output generating a periodic signal, wherein said control signal is an oscillating signal, said control signal causing said switch module to gate said bias signal, said periodic signal having an amplitude that is a function of said bias signal, and said periodic signal being a harmonically rich signal comprised of a plurality of harmonics, and

(2) a filter to accept said harmonically rich signal and to output one or more desired harmonics from said plurality of harmonics; and

(b) a receiving subsystem.

24. The apparatus of claim 22, wherein said receiving subsystem comprises:

an aliasing module, further comprising:

(1) a universal frequency translation (UFT) module, said UFT module aliasing an electromagnetic signal according to an aliasing signal having an aliasing rate to down-convert said electromagnetic signal, and transferring energy from said electromagnetic signal at said aliasing rate;

(2) a signal generator generating said aliasing signal, said aliasing signal comprising a plurality of pulses having non-negligible apertures; and

(3) a storage device storing energy from said UFT module.

25. A method of communicating, comprising the steps of:

(1) shaping an oscillating signal to create a string of pulses that is a function of said oscillating signal;

(2) gating a reference signal at a rate that is a function of said string of pulses to create a periodic signal having a plurality of harmonics, said reference signal being a function of an information signal, and at least one of said plurality of harmonics being a desired harmonic; and

(3) outputting said periodic signal, said periodic signal having an amplitude that is a function of said reference signal.

**UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT**

CERTIFICATE OF INTEREST

Case Number 22-1755
Short Case Caption ParkerVision, Inc. v. Qualcomm Incorporated
Filing Party/Entity Qualcomm Incorporated and Qualcomm Atheros, Inc.

Instructions: Complete each section of the form. In answering items 2 and 3, be specific as to which represented entities the answers apply; lack of specificity may result in non-compliance. **Please enter only one item per box; attach additional pages as needed and check the relevant box.** Counsel must immediately file an amended Certificate of Interest if information changes. Fed. Cir. R. 47.4(b).

I certify the following information and any attached sheets are accurate and complete to the best of my knowledge.

Date: Nov. 14, 2022

Signature: /s/ Eamonn Gardner

Name: Eamonn Gardner

FORM 9. Certificate of Interest

Form 9 (p. 2)
July 2020

<p>1. Represented Entities. Fed. Cir. R. 47.4(a)(1).</p>	<p>2. Real Party in Interest. Fed. Cir. R. 47.4(a)(2).</p>	<p>3. Parent Corporations and Stockholders. Fed. Cir. R. 47.4(a)(3).</p>
<p>Provide the full names of all entities represented by undersigned counsel in this case.</p>	<p>Provide the full names of all real parties in interest for the entities. Do not list the real parties if they are the same as the entities.</p>	<p>Provide the full names of all parent corporations for the entities and all publicly held companies that own 10% or more stock in the entities.</p>
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<p>Qualcomm Incorporated and Qualcomm Atheros, Inc.</p>		

Additional pages attached

4. Legal Representatives. List all law firms, partners, and associates that (a) appeared for the entities in the originating court or agency or (b) are expected to appear in this court for the entities. Do not include those who have already entered an appearance in this court. Fed. Cir. R. 47.4(a)(4).

None/Not Applicable Additional pages attached

5. Related Cases. Provide the case titles and numbers of any case known to be pending in this court or any other court or agency that will directly affect or be directly affected by this court’s decision in the pending appeal. Do not include the originating case number(s) for this case. Fed. Cir. R. 47.4(a)(5). See also Fed. Cir. R. 47.5(b).

None/Not Applicable Additional pages attached

ParkerVision v. Apple, et al., No. 3:15-cv-01477-BJD- MCR (M.D. Fla.)		

6. Organizational Victims and Bankruptcy Cases. Provide any information required under Fed. R. App. P. 26.1(b) (organizational victims in criminal cases) and 26.1(c) (bankruptcy case debtors and trustees). Fed. Cir. R. 47.4(a)(6).

None/Not Applicable Additional pages attached

ADDENDUM TO CERTIFICATE OF INTEREST (Item No. 4)

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I. RELATED CASES

No appeal from this case was previously before this or any other court. (BBvi.¹) But, this Court has decided two appeals relevant to the issues here.

ParkerVision I: A Panel, composed of Circuit Judges Lourie, Bryson, and Chen, decided *ParkerVision v. Qualcomm*, Appeal Nos. 2014-1612, -1655. *ParkerVision v. Qualcomm*, 621 F. App'x 1009 (Fed. Cir. July 31, 2015); *ParkerVision v. Qualcomm*, 627 F. App'x 921 (Fed. Cir. Oct. 2, 2015); *ParkerVision v. Qualcomm*, 136 S. Ct. 1507 (2016). Among other issues, *ParkerVision I* affirmed the judgment of non-infringement as a matter of law of patent claims that are materially identical to the patent claims in this appeal.

'940 Patent IPR: A Panel, composed of Circuit Judges O'Malley, Reyna, and Taranto, decided *ParkerVision v. Qualcomm, et al.*, Appeal Nos. 2017-2012, -2013, -2014, and -2074 on September 13, 2018. *ParkerVision v. Qualcomm*, 903 F.3d 1354 (Fed. Cir. 2018). That appeal affirmed the decision of the Patent Trial and Appeal Board ("Board") to invalidate some, but not all, of the challenged claims from U.S. Patent No. 6,091,940 in *inter partes* review ("IPR") proceedings.

District Court: Another patent case is pending in the United States District Court for the Middle District of Florida, *ParkerVision v. Qualcomm, Apple, Samsung, LG*, Case No. 3:15-cv-01477-BJD-MCR, which may be impacted by this

¹ "BB" refers to ParkerVision's Principal Brief (blue brief).

Court's decision, because it involves products accused in this case and claims that are materially identical to the claims in this appeal. (*See also* Appx9608-9611; Appx9639-9643; Appx9613; Appx9630.) That case is stayed.

II. ISSUES PRESENTED

The issues presented by ParkerVision's appeal are:

1. Did the district court correctly conclude that ParkerVision was collaterally estopped from relitigating *ParkerVision I*, where: (a) ParkerVision stipulated that the accused products in the two cases operate the same in all material respects; (b) expert testimony demonstrated the substantial similarity between the claim language in the two cases; (c) ParkerVision failed to submit any expert testimony or other evidence establishing any *material* difference between the claims; and (d) ParkerVision's experts admitted that the relevant claims here contain the same requirement that the Federal Circuit found dispositive of non-infringement in *ParkerVision I*?

2. Did the district court abuse its discretion by excluding certain ParkerVision technical expert opinions under *Daubert* where the experts had no sufficient facts or data and failed to conduct admittedly necessary simulations?

3. Did the district court err in precluding ParkerVision's expert from disputing certain findings made by the Board and affirmed by this Court and, as an initial matter, is ParkerVision's appeal even proper where such preclusion had no bearing on the district court's grant of summary judgment?

III. COUNTERSTATEMENT OF THE FACTS

Over the last decade, ParkerVision serially asserted more than 100 claims from over 20 patents against Qualcomm. Despite all those chances, ParkerVision failed to prove that even a single Qualcomm product infringes even a single ParkerVision claim. ParkerVision failed because, as this Court previously affirmed, Qualcomm’s products operate in a fundamentally different way than ParkerVision’s energy sampling invention.²

ParkerVision’s latest failing is the subject of this appeal. After considering thousands of pages of briefing and evidence, and hearing argument for a full two days, the district court reached an inevitable conclusion—ParkerVision could not prove that any Qualcomm products infringe any of the asserted claims. Despite the time and effort that the district court devoted and its rulings, ParkerVision now claims that the district court just wanted out. Based on a statement taken out of context, ParkerVision argues that the district court issued its *Daubert* and summary judgment orders not based on the merits, but instead to “ensure[] that the district court would be out of it” and would not have to try this case. (BB4.) Nothing could be further from the truth.

² *ParkerVision v. Qualcomm*, 621 F. App’x 1009, 1013-1024 (Fed. Cir. 2015) (“*ParkerVision I*”); *ParkerVision v. Qualcomm*, 627 F. App’x 921, 922-24 (Fed. Cir. 2015) (“*Rehearing*”). After this Court ruled, ParkerVision accused this Court of “intransigence” in a writ to the Supreme Court, which was denied. Appx9594, Appx9593; Appx7414; *ParkerVision v. Qualcomm*, 136 S. Ct. 1507 (2016).

The reason the district court is “out of it” is because, after fulsome fact and expert discovery, the court correctly applied collateral estoppel and dutifully performed its *Daubert* gatekeeping role. In doing so, the district court relied on substantial and undisputed evidence that: (1) proved that the accused products and claim limitations here are not materially different from the products and claim limitations that resulted in the non-infringement judgment in the first case; and (2) demonstrated that ParkerVision’s expert testimony was unreliable and inadmissible because the expert had not done the work that was customary and necessary in this field to analyze the accused products. As those findings were well-supported, this Court should affirm the district court’s rulings.

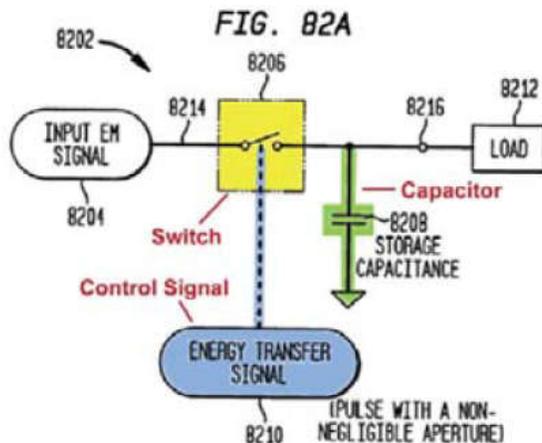
A. ParkerVision’s Technology.

ParkerVision claims to have developed processes to “down-convert” a high-frequency carrier signal into a low-frequency baseband signal, and “up-convert” the low-frequency baseband signal to a high-frequency carrier signal for use in wireless technologies. (BB6-7.) As down-conversion is necessary to receive signals at a wireless device, and up-conversion is necessary to transmit signals from a wireless device, the claims directed to down-converting are sometimes referred to as “receive claims” and the claims directed to up-converting are sometimes referred

to as “transmit claims.”³ ParkerVision calls its down- and up-conversion processes “energy sampling” or “energy transfer sampling.” (BB8; *see also ParkerVision I*, 621 F. App’x at 1011 (“energy sampling”).) ParkerVision agrees the ‘907 and ‘940 patents-at-issue are “energy sampling” patents. (BB8-12; Appx44343; Appx44385; Appx44398; Appx44432.) This Court described ParkerVision’s down-conversion energy sampling system:

At the most basic level, the energy sampling system consists of an electronic switch connected on one end to an input electromagnetic signal and on the other end to a storage capacitor followed by a load device or resistor. *See, e.g.*, ‘551 patent, Figs 82A, 82B. ParkerVision designed its down-converting system to perform energy sampling, rather than voltage sampling, by increasing the size of the capacitor, increasing the duration of the period that the switch is closed, and decreasing the impedance value of the load.

ParkerVision I, 621 F. App’x at 1011.



³ Relevant to this appeal, ParkerVision’s receive claims include claim 23 of the ‘551 patent from *ParkerVision I* (Appx7493-7700 (copy of the ‘551 patent) at Appx7688), claim 1 of the ‘907 patent (Appx424-425) and claim 24 of the ‘940 patent (Appx150). ParkerVision’s transmit claims include claim 25 of the ‘940 patent. (Appx150.)

(Appx7600 (color annotations added); Appx279; Appx9612; Appx9649-9653; Appx9654; Appx4004; Appx4009.) ParkerVision’s “energy sampling” invention transfers energy from the electromagnetic signal (*e.g.*, carrier signal) into an energy storage device (*e.g.*, capacitor) and uses the stored energy to generate or produce a down-converted baseband signal. For up-conversion, ParkerVision reverses its process to perform a method that is configured to generate “integer-multiple” harmonics. Appx150 (claim 25); *ParkerVision v. Qualcomm*, 903 F.3d 1354, 1363 (Fed. Cir. 2018) (“*ParkerVision IPR Appeal*”).

B. Early Interactions.

Although irrelevant to this case and appeal, “[b]efore any patent issued, ParkerVision approached Qualcomm to license its invention.” *ParkerVision I*, 621 F. App’x at 1012; Appx57401. ParkerVision was reluctant to disclose how its technology worked. (Appx60776-60777.) But based on what ParkerVision promised, Qualcomm said positive things. (Appx60776 n.64.) Qualcomm caveated its positive statements with “if it works.” (*Id.*; Appx34892; Appx34912-34913.) Once ParkerVision disclosed more information, Qualcomm’s interest waned. (Appx60773-60775; *see also* Appx54442.) Qualcomm concluded that ParkerVision’s patents provide “nothing of value” and that Qualcomm could achieve better performance with a traditional mixer approach. (Appx60776; Appx60768; *see also* Appx60772-60780.) ParkerVision and Qualcomm never reached an

agreement. (BB13.)

Qualcomm never implemented ParkerVision's design. Instead, the accused products utilize double-balanced mixers to both down-convert and up-convert. *ParkerVision I*, 621 F. App'x at 1013 ("undisputed that double-balanced mixers existed prior to ParkerVision's invention[s]."); 1016 ("baseband current [in the accused products] is created by the double-balanced mixer"); Appx60774-60775.

C. ParkerVision's Serial Litigations Against Qualcomm.

1. *ParkerVision I*.

In 2011, ParkerVision sued Qualcomm. *ParkerVision I*, 621 F. App'x at 1012 (claims at trial, including claim 23 of the '551 patent). All asserted claims were receive claims. *Id.* at 1011-12. Although ParkerVision's "asserted claims use[d] slightly different language," this Court noted that everyone agreed the "differences in the claim language [did] not materially affect the issues". *Id.* at 1012. Following a jury trial, the district court granted Qualcomm's JMOL motion on non-infringement, but denied it on invalidity. ParkerVision appealed and Qualcomm cross-appealed. *Id.*; Appx9606-9612.

a. JMOL Decision and Appeal.

The non-infringement issue for the JMOL and appeal involved the "generating" limitation in all of the asserted claims. The relevant claims included a storage module that "receives non-negligible amounts of energy from a carrier signal" "wherein a lower frequency signal is generated from the transferred energy."

ParkerVision I, 621 F. App'x at 1011, 1012 (claim 23 from the '551 patent). This Court explained: the “generating limitation in each of the asserted claims requires that the accused products produce a low-frequency baseband signal using energy that has been transferred from a high-frequency carrier signal into a storage medium, such as a capacitor or set of capacitors.” *Id.* at 1013. According to this Court, the parties’ dispute “centers on whether the capacitors immediately downstream from the mixer are involved in generating the baseband signal.” *Id.*

At trial, however, ParkerVision’s expert had admitted that the lower-frequency baseband signal was created by double-balanced mixers in the accused products and that it existed before the signal reaches the relevant capacitors. *Id.* Based on that admission, the district court granted the motion and this Court affirmed.⁴

b. ParkerVision’s Ever-Changing Theories.

ParkerVision constantly changed its arguments during the post-trial and appeal process—a fact noted by this Court. *ParkerVision I Rehearing*, 627 F. App'x at 922 n.1. At the JMOL hearing before the district court, ParkerVision presented a “two baseband” theory:

ParkerVision argued that what comes out of the mixer is merely a

⁴ Separately, the Court reversed the district court’s denial of Qualcomm’s JMOL motion on invalidity as to all but 1 asserted claim. Thus, this Court invalidated 10 of the 11 claims asserted by ParkerVision at trial. *ParkerVision I*, 621 F. App'x at 1022, 1024.

“lower frequency signal” (compared to the carrier signal), but was not the baseband. According to ParkerVision, the lower frequency signal goes into the capacitors, where it is stored as energy, and that energy is then used to generate the baseband signal—a different signal than the “lower frequency signal”—following the capacitors.

ParkerVision I, 621 F. App’x at 1015. This Court rejected the “two baseband” theory, which ParkerVision abandoned for appeal, because “[n]o evidence supports such a theory[.]” *Id.*

On appeal, ParkerVision presented a different theory—what this Court called the “one and the same point” theory. *Id.* This Court rejected that argument as inapplicable to current mode products like the accused products. *Id.* at 1015-16.

Finally, in its petition for rehearing, ParkerVision advanced a third argument—that the signal exiting the double-balanced mixer in the accused product is a “modulated” baseband (*i.e.*, a baseband carried on the carrier signal) while the real demodulated baseband is generated by the discharge of the storage capacitors. *ParkerVision I Rehearing*, 627 F. App’x at 922. This Court held that “[n]o evidence supports ParkerVision’s newly minted theory” either. *Id.* After ParkerVision’s unsuccessful cert. petition, this Court’s decision became final.

2. *ParkerVision II*: This Case and the IPRs.

ParkerVision filed this case on the same day as the hearing on Qualcomm’s JMOL motion. (Appx2141.) ParkerVision asserted patents that were not asserted in *ParkerVision I*.

While the *ParkerVision I* appeal was pending, Qualcomm filed IPR petitions against one of the patents asserted here, which led the court to stay this case. In IPR2015-**01828**, Qualcomm challenged claims 1, 2, 18, 81, 84, 86, 88-91, 93, 94, 251-254, 256, 258-261, 263, and 264 of the ‘940 patent based on the combination of the Krauss and Ariie references. (Appx39027-39028.) The Board issued a final written decision finding the challenged claims unpatentable. (Appx39043.) Specifically, the Board found that the combination of Krauss and Ariie teaches a “switch module” that “gates,” which is the only limitation ParkerVision challenged. (Appx39038-39041.) As to all other limitations, the Board “reviewed Qualcomm’s unchallenged arguments and evidence on these points, [found] them persuasive that the references disclose the limitations, and adopt[ed] Qualcomm’s analysis as [the Board’s] findings[.]” (Appx39037 (citations omitted).)

In IPR2015-**01829**, Qualcomm challenged claims 21, 25, 26, 281, 283-286, 288, 293, 363-366, 368, 369, and 373 of the ‘940 patent based on the combination of the Nozawa and Philips 4052 references. (Appx38982-38983.) Some of the challenged claims were apparatus claims, while others were method claims.⁵ The apparatus and method claims had many common limitations, including generation of “a plurality of harmonics;” a pulse shaper/pulse shaping module that

⁵ The apparatus claims are claims 21, 281, 283-286, 288, 289, and 293. The method claims are claims 25, 26, 363-366, 368, 369, and 373.

receives an oscillating signal and outputs a string of pulses; and generation of a periodic signal with an amplitude that is a function of a bias signal. (Appx38985-38986.) After instituting review of all of the challenged claims, the Board issued a final written decision. (*Id.*)

The Board found the apparatus claims unpatentable based on Nozawa and Phillips 4052. (Appx38997.) But despite many common limitations, the Board found that Qualcomm had not met its burden to show that the method claims were unpatentable. (Appx39001.) The sole basis for the Board’s finding as to the method claims was the limitation requiring generation of a “plurality of harmonics.” (Appx38998-39001.) According to the Board, while Qualcomm presented sufficient evidence that the Nozawa and Phillips 4052 combination was *capable* of generating “integer-multiple harmonics” for purposes of invalidating the apparatus claims, Qualcomm had not presented sufficient evidence that a person of ordinary skill in the art would have been *motivated* to generate “integer-multiple harmonics” for purposes of invalidating the method claims. (*Id.*)

ParkerVision appealed and Qualcomm cross-appealed. *ParkerVision IPR Appeal*, 903 F.3d at 1360. This Court affirmed all of the Board’s decisions. *See id.* at 1362-64.

3. *ParkerVision III & IV: ParkerVision’s ITC Complaint and Its Companion Jacksonville Case.*

Within two months of this Court’s final decision in *ParkerVision I*, and after Qualcomm filed its IPR petitions against the ‘940 patent, ParkerVision filed two new cases—a complaint with the International Trade Commission and a corresponding district court case in the Jacksonville Division of the Middle District of Florida. Those cases asserted multiple patents involving both transmit and receive claims. The Jacksonville case was promptly stayed. *ParkerVision v. Apple*, No. 3:15-cv-1477-J-39JRK, Dkt. 41 at 2 (M.D. Fla. Feb. 12, 2016).

The parties proceeded to litigate the ITC case until the day before the hearing. (See Appx5927-5928.) ParkerVision voluntarily dropped the case, conceding that based on ALJ rulings, ParkerVision could not prove infringement. (See Appx5928.) The companion district court case is now stayed pending the outcome of this case.

4. *Post-Stay Litigation of this Case.*

The district court lifted the stay of this case in December 2018. (Appx5761.)

a. *Qualcomm’s Early Summary Judgment Motion.*

Shortly after reopening the case, ParkerVision pushed to require Qualcomm to file an early motion addressing the preclusive effect of *ParkerVision I*. (BB16; Appx6001; Appx10168 n.1.) Despite Qualcomm’s objections that such a motion would be premature without fact discovery and claim construction, the court set a briefing schedule. (Appx6001; Appx5997; Appx6099.)

Qualcomm filed its motion for summary judgment of non-infringement as to the '907 and '177 patents in 2019. (Appx9597-9626; Appx10161-10174.) In the motion, Qualcomm argued that the accused products in this case were identical in all material respects to the accused products in *ParkerVision I*. (Appx9620-9623.) Qualcomm also argued that the asserted claims did not materially differ between the two cases. (Appx9623-9626.) In opposition, ParkerVision submitted a declaration from its technical expert, Dr. Phillip Allen, regarding the interpretation of claim 1 of the '907 patent. (Appx10343; Appx10086-10097.) Dr. Allen offered his opinion that “[i]n view of the foregoing, it is clear that the '907 claims do not conflict with the Federal Circuit’s finding in *ParkerVision I*...”. (Appx10096.) ParkerVision also disputed Qualcomm’s showing of the similarity between products. (Appx10082-10083.)

The district court denied Qualcomm’s motion in January 2020. (Appx10327-10345.) First, the district court found that Qualcomm had not proven that the accused products were sufficiently similar to those in *ParkerVision I* and declined to “fill in the gaps.” (Appx10339-10340.) Second, the district court cited Dr. Allen’s declaration regarding the elements in claim 1 of the '907 patent. The district court never decided whether the claims at issue in *ParkerVision I* were identical, in relevant part, to claim 1 of the '907 patent. Instead, the district court found that Dr. Allen’s “testimony creates a material issue of fact precluding

summary judgment as to the ‘907 patent.” (Appx10344.)

b. ParkerVision Changes Experts for the Receive Claims.

As discovery proceeded, ParkerVision designated and served a technical expert report from Dr. Allen for the receive claims. After Qualcomm deposed Dr. Allen, and long after the deadline for expert designations, ParkerVision moved to replace him. (Appx31709-31710.) The Court granted the motion on the condition that ParkerVision’s new expert was bound by the opinions in Dr. Allen’s report. (Appx31750; Appx31970-31971.) ParkerVision thus designated its transmit claims technical expert, Dr. Steer, for the receive claims.

c. Qualcomm’s Summary Judgment and Daubert Motions.

Following fact and expert discovery, Qualcomm timely filed *Daubert* and summary judgment motions.

Daubert: Qualcomm raised a number of issues—only two of which are at issue in this appeal. First, Qualcomm moved to exclude the opinions of ParkerVision’s technical experts because the experts did not base their analysis on any simulations of the accused products or review the necessary “layout” files. Qualcomm submitted substantial evidence, including textbooks and ParkerVision’s own argument to the district court, that such analysis was required. Absent simulations and the review of layout files, any opinion regarding the operation of the accused Qualcomm circuits was unreliable and inadmissible.

Second, Qualcomm moved to preclude ParkerVision’s technical experts from disputing the Board’s findings, as affirmed by this Court, as to what certain prior art references disclosed. Such a motion was necessary because ParkerVision’s expert proceeded as if the IPRs never happened. For example, despite the Board’s affirmed finding that the Nozawa and Phillips 4052 combination was “capable of” generating a “plurality of harmonics,” ParkerVision’s expert opined that it did not have this capability. (Appx42161 (245:15-246:19); Appx41192-41194 (¶¶ 80-82); Appx41207-41208 (¶112).) And despite the Board’s affirmed invalidation in the -1829 IPR of various claims requiring “first and second information signals” based on the Krauss combination, ParkerVision’s expert argued that “Krauss does not disclose ... first and second information signals.” (Appx41363-41364 (¶ 401).)

The district court granted Qualcomm’s *Daubert* motion on both issues—and others. The district court excluded ParkerVision’s technical opinions because ParkerVision’s expert did not perform customary and necessary simulations or review the critical layout files. (Appx37-40.) In addition, the district court found that “the Board made factual findings concerning the teachings of the prior art,” so ParkerVision’s expert “may not offer opinions at trial that contradict the Board’s factual findings on what the prior art teaches.” (Appx26.)

Summary Judgment: Qualcomm also filed a motion for summary judgment as to all asserted claims. (Appx34226-34259.) With respect to the receive claims in

the '907 and '940 patents, Qualcomm argued that collateral estoppel required summary judgment of non-infringement based on the decision in *ParkerVision I*.

At the time Qualcomm filed this summary judgment motion, the disputes of fact that the Court previously cited as a basis to deny the earlier summary judgment had disappeared. Despite its earlier arguments about supposed product differences, ParkerVision never attempted to develop evidence during fact or expert testimony that the accused products differed, in any way material to estoppel, from those in *ParkerVision I*. Instead, at the hearing on the second summary judgment motion, ParkerVision stipulated that the accused products were identical, in all material respects, to the accused products in *ParkerVision I*. (Appx7 n.4.) Similarly, by the time of the second summary judgment motion, both ParkerVision's withdrawn technical expert and its replacement technical expert had testified that the asserted receive claims from the '940 and '907 patents include the exact requirement that the district court and this Court found dispositive of non-infringement in *ParkerVision I*. (Appx8-9.) Based on this and other evidence, the district court granted Qualcomm's collateral estoppel motion as to all asserted receive claims in the '907 and '940 patents. (Appx7-9.)

With respect to the transmit claims, the district court relied on the testimony of Qualcomm's technical expert that the accused products do not meet multiple limitations in those claims, including the "harmonically rich signal" limitation.

(Appx9-10.) In light of its prior order striking the opinions of ParkerVision’s technical experts, the district court found the testimony of Qualcomm’s expert un rebutted. (*Id.*) Accordingly, the district court granted Qualcomm’s motion for summary judgment as to all asserted transmit claims. (Appx10.)

In its brief, ParkerVision repeatedly cites the district court’s statement from the summary judgment hearing that: “[T]his shouldn’t be tried to a jury, in my opinion. They will never understand. This should be PTAB 100 percent. We should be out of it, but that’s how it is.” (BB4, 36 (quoting Appx61009-61010).) From this statement, ParkerVision claims that the district court abdicated responsibility—deciding Qualcomm’s motions not on their merits, but to get rid of the case. ParkerVision’s accusations against the district court are not only disrespectful, but wrong.

Rather than showing a disregard of its obligations, the district court’s statement, when read in context, shows the opposite. The statement at issue had nothing to do with the collateral estoppel ruling. (BB36 (citing the statement while arguing collateral estoppel and claiming that, by it, “[t]he district court did give some indication of its thought process at the hearing.”).) The district court made the statement while hearing a *Daubert* argument about another ParkerVision expert’s opinion that the district court also found unreliable and inadmissible.⁶ Qualcomm

⁶ ParkerVision did not challenge the exclusion of that opinion on appeal.

had demonstrated that a mathematical formula that ParkerVision's expert made up to supposedly identify an "energy sampler" did not work. Qualcomm showed a concrete example where the expert's formula misidentified an energy sampler in ParkerVision's own patent as a conventional voltage sampler. (Appx20.)

The district court then made the following statement:

I mean, the jury doesn't get to hear a theory that – you can simplify it, but the jury doesn't get to hear a theory that doesn't work, simply because an expert says, I have a methodology that takes me to the wrong answer[] ... and [Qualcomm's] argument seems to be as applied it doesn't serve the function that you're offering it for, and, therefore, the jury shouldn't hear it, because all they're going to hear is the end of the story We all know the jury isn't going to follow 99 percent of what you all are talking about in this trial.

(Appx61009.) The district court then continued with the statement at issue, which does not show an abdication of responsibility, but the district court taking to heart its *Daubert* gatekeeping role. (Appx60984-60985.) In that role, the district court correctly prevented ParkerVision from trying to admit unreliable expert opinion testimony in a complicated case—where the jury might only hear “the end of the story.” (Appx61009.)

V. SUMMARY OF THE ARGUMENT

ParkerVision's appeal raises three issues. The following is a summary of Qualcomm's arguments on each issue.

Collateral Estoppel: The district court correctly found that the non-infringement decision in *ParkerVision I* has collateral estoppel effect on the receive claims in this case. Given ParkerVision's stipulation that the accused products in this case operate the same, in all material respects, as the accused products in *ParkerVision I*, the sole issue for collateral estoppel is whether the *claims* share the required identity of issues. To meet the identity of issues requirement, the claims in the two cases need not be identical; collateral estoppel applies if the limitation that resulted in the non-infringement finding is common to both sets of claims.

The limitation at issue here is whether the accused products produce the lower-frequency baseband signal using energy stored in the storage device. The district court correctly found that the claims here and in *ParkerVision I* have the non-infringed requirement in common—a decision fully supported by the record.

Qualcomm's technical expert demonstrated the substantial similarity between the claims in *ParkerVision I* and here through a comparison of the claim language. ParkerVision's experts, on the other hand, failed to present any evidence of material differences in the claims. To the contrary, both ParkerVision's experts admitted in deposition that the claims here contain the same requirement that the district court

and this Court found dispositive of non-infringement in *ParkerVision I*. The district court properly considered the evidence presented by Qualcomm and the lack of evidence presented by ParkerVision, and found that collateral estoppel applies. ParkerVision's attempt to show error through attorney argument fails.

Exclusion of Unreliable Opinions from ParkerVision's Technical Experts:

ParkerVision fails to show that the district court abused its discretion in excluding the testimony of ParkerVision's technical experts. Those experts admittedly failed to review critical "layout" files and conduct simulations that the overwhelming evidence—which includes a textbook from ParkerVision's own expert and admissions from ParkerVision's counsel—established were customary and necessary for the analysis required in this case.

ParkerVision's attempt to excuse its expert's deficient work fails. ParkerVision claims that its experts had other "more reliable" evidence on which its experts could rely. However, the evidence shows that its experts did not rely on that supposedly alternative evidence and, even if they had, such evidence did not provide sufficient facts and data to render their opinions reliable. The district court heard these same excuses and rejected them; ParkerVision fails to show any abuse of discretion by the district court.

Preclusive Effect of Factual Findings from the IPR Proceedings: Lastly, the district court did not err in precluding ParkerVision's expert from contradicting

factual findings made in IPR decisions *that Qualcomm won* and that this Court affirmed. Moreover, ParkerVision's appeal on this issue is improper. The district court's decision regarding the IPR findings, which related solely to *invalidity* issues, had no bearing on the grant of summary judgment of *non-infringement*.

For the reasons discussed below, this Court should affirm the district court's summary judgment decision in full.

VI. ARGUMENT

A. Collateral Estoppel Required Summary Judgment of Non-Infringement of the '907 and '940 Receive Claims.

"[A] party who has litigated an issue and lost should be bound by that decision and cannot demand that the issue be decided over again." *In re Freeman*, 30 F.3d 1459, 1465 (Fed. Cir. 1994); *Allen v. McCurry*, 449 U.S. 90, 94 (1980). Collateral estoppel applies when: "(1) the issue is identical to one decided in the first action; (2) the issue was actually litigated in the first action; (3) resolution of the issue was essential to a final judgment in the first action; and (4) plaintiff had a full and fair opportunity to litigate the issue in the first action." *In re Freeman*, 30 F.3d at 1465; *see also Fleming v. Universal-Rundle*, 142 F.3d 1354, 1359 (11th Cir. 1998).

ParkerVision disputes the district court’s finding on only the first element—and only as to claim scope, not similarity of the accused products.⁷ (BB27.) To meet the first element, the claims need not be identical. “Rather, it is the identity of the *issues* that were litigated that determines whether collateral estoppel should apply.” *Ohio Willow Wood v. Alps S.*, 735 F.3d 1333, 1342 (Fed. Cir. 2013) (emphasis in original); *see also Soverain Software v. Victoria’s Secret Direct Brand Mgmt.*, 778 F.3d 1311, 1319 (Fed. Cir. 2015). The addition of other elements in a claim is irrelevant where the asserted claims contain the “same ... limitation, in the same context, that the [Court] found dispositive of non-infringement” in the first case. *Aspex Eyewear v. Zenni Optical*, 713 F.3d 1377, 1381 (Fed. Cir. 2013). Such a rule makes sense as “[t]he absence of even a single limitation of [the asserted claims] from the accused device precludes a finding of literal infringement.” *Kahn v. Gen. Motors*, 135 F.3d 1472, 1477 (Fed. Cir. 1998). Qualcomm presented substantial and un rebutted evidence that the claims here contain the same limitation that this Court found dispositive in *ParkerVision I*.

1. The Claims Here Raise the Same Non-Infringement Issue as the *ParkerVision I* Claims.

In *ParkerVision I*, the basis for the non-infringement finding was that the “generating” limitation in the asserted claims “require[d] that the accused products

⁷ ParkerVision stipulated that the accused products here operate, in all material respects, the same as the products accused in *ParkerVision I*. (Appx7 n.4.)

produce a low-frequency baseband signal using energy that has been transferred from a high-frequency carrier signal into a storage medium, such as a capacitor or set of capacitors.” *ParkerVision I*, 621 F. App’x at 1013. Qualcomm won because:

[T]he accused products do not require an electric current from the carrier signal to go in and out of the storage capacitors in order to create the baseband signal; instead, the baseband current is created by the double-balanced mixer before the current reaches the capacitors.

Id. at 1016. Based on the un rebutted evidence submitted by Qualcomm, the district court correctly found that the asserted receive claims from the ‘940 and ‘907 patents include the same requirement found not infringed in *ParkerVision I*.

a. Dr. Razavi’s Unrebutted Testimony Proves the Identity of Issues.

Qualcomm first presented the sworn statement of its technical expert, Dr. Behzad Razavi, regarding the identity of issues. (Appx34265.) For both the ‘907 and ‘940 patents, Dr. Razavi provided a side-by-side, color-coded comparison of the claims here and the claims from the patents in *ParkerVision I*.⁸ (E.g., Appx49083-49103 (comparing claims 1 of the ‘907 patent and 24 of the ‘940 patent to claim 23 of the ‘551 patent).⁹) That comparison showed that the claims here

⁸ The charts were in addition to other analysis that Dr. Razavi performed, including analysis on which the district court relied. (Appx7 (citing ¶¶ 632-634, which appear at Appx50497-50500); *see also* Appx48655-48657; Appx48693-48703; Appx48761-48766; Appx50444-50460; Appx50541-50546.)

⁹ Dr. Razavi compared several claims from the patents asserted in *ParkerVision I* to the receive claims asserted in this case. (Appx49083-49087 (comparing claim 1 of the ‘907 patent to: claim 23 from the ‘551 patent; claims 1, 82, and 90 from the ‘518

require the transferring of energy from the carrier signal into a storage device for purposes of down-converting the carrier signal—the dispositive issue in *ParkerVision I*. *ParkerVision I*, 621 F. App’x at 1016.

As the district court noted, ParkerVision failed to present any evidence rebutting Dr. Razavi’s showing:

Qualcomm correctly notes that ParkerVision’s expert failed to compare claims or elements from the *ParkerVision I* patents to the Receiver Claims at issue in this case. (Doc. 538, p. 6). Therefore, Dr. Razavi’s opinion that the Receiver Claims at issue have the same generating limitation as the claims at issue in *ParkerVision I* is un rebutted.

(Appx8.) Absent evidence from ParkerVision on how the claims differ, the district court appropriately concluded that the claims here include the same limitation that was the basis for the non-infringement finding in *ParkerVision I*. See *Ohio Willow Wood*, 735 F.3d at 1343 (“Since OWW failed to explain how the ‘block copolymer’ limitation changes the invalidity analysis, OWW has not met its burden of opposing summary judgment based on this distinction.”).

b. ParkerVision’s Experts Admitted the Identity of Issues.

Far from offering evidence to show any material difference in the claims, ParkerVision’s experts confirmed that the receive claims in the ‘907 and ‘940 patents

patent; claim 2 from the ‘371 patent; and claim 18 from the ‘342 patent); Appx49099-49103 (comparing claim 24 from the ‘940 patent to the same claims from *ParkerVision I*.)

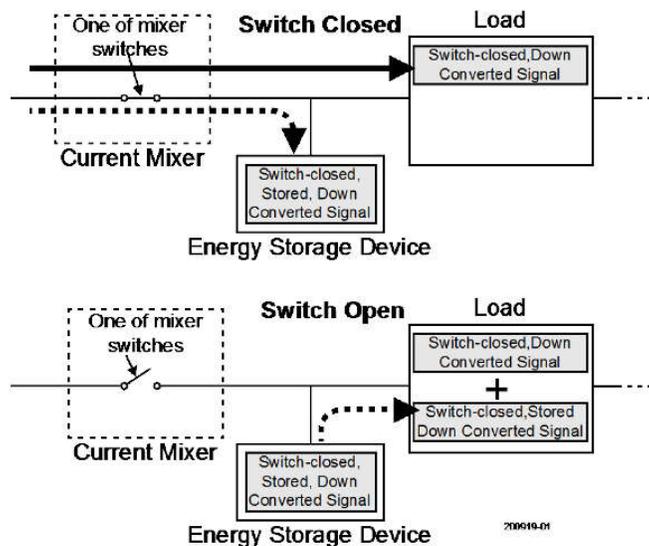
include the same requirement as the “generating” element at issue in *ParkerVision I*. (Appx8.) Again, this Court described the “generating” limitation as “requir[ing] that the accused products produce a low-frequency baseband signal using energy that has been transferred from a high-frequency carrier signal into a storage medium, such as a capacitor or set of capacitors.” *ParkerVision I*, 621 F. App’x at 1013. ParkerVision’s experts testified at deposition that the claims here include exactly that:

Q: Does Claim 24 of the ‘940 patent require that you produce a lower-frequency signal using energy that’s been transferred from a higher-frequency signal into a storage medium?

THE WITNESS: Yes, it does.

(Appx42088 (74:18-24) (objection omitted); Appx41946 (219:20-25); Appx41944 (211:6-16) (same for ‘907 patent); Appx34240-34241.) As the claims in the ‘907 and ‘940 patents require the use of energy from the storage medium to “produce” the baseband—just like in *ParkerVision I*—the issues here are the same as the issues resolved in Qualcomm’s favor before.

Indeed, ParkerVision’s own brief corroborates the admissions by its expert. In the very figure that ParkerVision repeatedly highlights on appeal, ParkerVision’s expert described “energy sampling”—the technology claimed in the asserted patents—as involving “forming the down-converted signal using an energy storage element”:



45. Figure VI.A-3- Illustration of the forming of the down-converted signal using an energy storage element.

(Appx44112, cited at BB11-12; BB33 (without the highlighted language).)

c. ParkerVision’s Own Positions and Arguments in this Case Show the Identity of Issues.

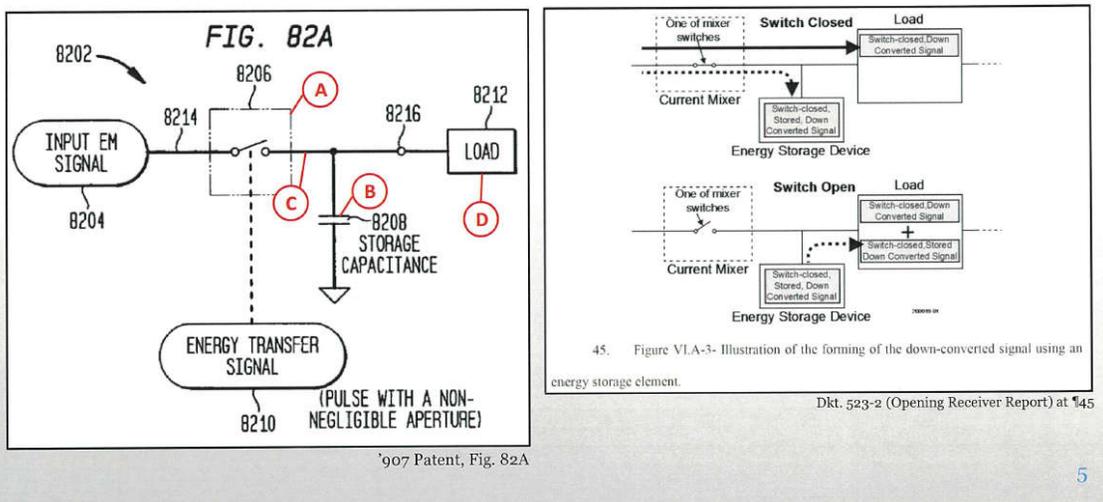
ParkerVision now tries to distinguish the patents in *ParkerVision I* and the patents here. ParkerVision argues that the patents here claim down-conversion by switches while the patents in *ParkerVision I* do not. But ParkerVision’s own positions in this litigation belie its argument.

First, from the start of this case, ParkerVision has argued that the patents here “cover[] similar down-conversion technology” as the patents in *ParkerVision I*. (E.g., Appx2307; Appx2199.) And rather than label the asserted patents as “switch-down-conversion” patents, ParkerVision has used the same “energy sampl[ing]”

label for the ‘907 and ‘940 patents as it used for the patents in *ParkerVision I*. (Appx44343; Appx44398; Appx44432.)

Second, ParkerVision has relied on the exact same figures to explain the claims in the ‘551 patent and the ‘907 and ‘940 patents. For example, at the summary judgment hearing, ParkerVision relied on Figure 82A from the ‘551 patent to describe what the ‘907 and ‘940 patents require in its demonstrative slide 5.

Qualcomm’s Motion Requires Energy Storage Device to Downconvert, But that’s Not How the Patents Work or What Receiver Claims Require



(Appx61724-61725; Appx61598-61603 (relying on Fig. 82A, to describe what the receive claims in this case require).) ParkerVision relied on that figure extensively in *ParkerVision I*. (E.g., Appx9651; *ParkerVision v. Qualcomm*, Nos. 2014-1612, 2014-1655, 2014 WL 4802308, at *16-19, *30-31 (Fed. Cir. Sept. 15, 2014) (relying on Fig. 82A for what the “generating” limitations mean); see also Appx61613;

Appx49637.) This Court even cited Figure 82A to describe the claimed “generating” limitation in *ParkerVision I*. E.g., *ParkerVision I*, 621 F. App’x at 1011-12.

In this appeal, ParkerVision cites to Figure 57E to describe the alleged “switch-down-converted” invention. (BB32.) Once again, in *ParkerVision I*, ParkerVision relied on the same figure when describing the “generating” limitation. (Appx50498-50499; Appx48698.) ParkerVision has not pointed to any element from the claims here that suddenly transforms the configuration from the ‘551 patent into a “switch-down-conversion” patent. As Qualcomm’s expert summarized in testimony cited to the district court: “[a]s seen in the diagram below, both the ‘907/‘177 Patent and the ‘551 Patent (from *ParkerVision I*) show exactly the same embodiment with the same topology and the same component values. This means the two circuits operate identically; if the circuit on the left ‘forms’ or ‘produces’ the down-converted signal using the capacitor and the resistor, so does the circuit on the right.” (Appx50497-50498.) ParkerVision’s reliance on the same figures to describe the patents in both cases shows they do not materially differ.

Third, ParkerVision’s own conduct throughout this litigation suggests recognition of the overlapping and identity of issues between the *ParkerVision I* patents and the patents here. For example, in 2015, ParkerVision moved to sever and stay the receive claims in this case, including claim 24 of the ‘940 patent and the claims of the ‘907 patent, due to the *ParkerVision I* appeal. (Appx5355;

Appx5359; Appx5351.) If the *ParkerVision I* appeal had no bearing on this case, then ParkerVision had no reason to ask for a stay of the ‘940 and ‘907 claims.

2. ParkerVision Fails to Show Any Material Difference Between the Receive Claims Here and in *ParkerVision I*.

Relying on attorney argument, ParkerVision points to differences in claim language to argue that the claims here are “dispositively different” from the *ParkerVision I* claims. (BB2.) ParkerVision attempts to recast the claims as reciting “down-conversion by switches”—a term that never appears in the patents. (BB28.)

The slight differences in language do not fundamentally change the claims or the analysis because, as ParkerVision’s experts admit, the claims at issue contain the same requirement that was resolved against ParkerVision in *ParkerVision I*. See *Ohio Willow Wood*, 735 F.3d at 1342 (“If the differences between the unadjudicated patents claims and adjudicated patent claims do not materially alter the question of invalidity, collateral estoppel applies.”).

a. The ‘907 Patent Claims Expressly Require that Energy Stored in a Storage Device “Forms a Down-Converted Signal.”

To support its argument that the ‘907 patent claims “down-conversion by switches,” ParkerVision points to a limitation in claim 1 that reads “[p]roviding, during the periodic couplings, energy from the electromagnetic signal to the load ... [w]hereby the energy provided to the load forms a down-converted signal.” (BB28; BB31.) ParkerVision then asserts that “[t]hese claims recite down-converted electric

current that flows directly to the load—and thus, as matter of law and logic, could only have been down-converted at the switch.” (BB31-32.) ParkerVision’s argument ignores the rest of the claim language.

The fact that claim 1 has the *added* element that energy is provided directly to the load is irrelevant because other claim limitations expressly require a down-converted signal be formed from energy in the storage devices—just like the claims in *ParkerVision I*. *ParkerVision I*, 621 F. App’x at 1013; *Aspex Eyewear*, 713 F.3d at 1381 (additional claim limitations are irrelevant). In claim 1, the energy provided to the load undisputedly comes from two sources: (1) from the electromagnetic signal during the periodic couplings; and (2) from the energy storage device between the periodic couplings. (BB32.) Claim 1 then requires that “energy provided to the load [which includes energy from the storage device] forms a down-converted signal.” Thus, claim 1 requires the use of energy from the capacitor to “form[] a down-converted signal.” This issue was resolved against ParkerVision in *ParkerVision I*. *ParkerVision I*, 621 F. App’x at 1016 (“In other words, the accused products do not require an electric current from the carrier signal to go in and out of the storage capacitors in order to create the baseband signal[.]”). ParkerVision does not get a second bite at the apple. *See Nystrom v. Trex*, 580 F.3d 1281, 1285-86 (Fed. Cir. 2009).

ParkerVision unsuccessfully attempts to avoid the impact of the last element in claim 1. ParkerVision argues that the energy provided directly to the load and to the storage device is “already down-converted energy.” (BB34.) But claim 1 requires that the energy provided to the load “forms” a down-converted signal. If a down-converted signal already exists, then energy provided to the load would not “form” one. Faced with that problematic language, ParkerVision tries to rewrite the claim and characterize what happens in the load as just “processing” of the already down-converted signal. (BB32.) ParkerVision has provided no evidence to support changing the word “forms” to “processes.” To the contrary, ParkerVision’s expert described the figure that ParkerVision used repeatedly in its brief as an “[i]llustration of the *forming* of the down-converted signal using an energy storage element.” (Appx44112, figure cited at BB11-12; BB33 without description (emphasis added).)

In any event, this Court has already rejected virtually the same argument. In *ParkerVision I*, ParkerVision advanced the “two baseband” theory. *ParkerVision I*, 621 F. App’x at 1014-15. This Court described the argument as follows:

ParkerVision argued that what comes out of the mixer is merely a “lower frequency signal” (compared to the carrier signal), but was not the baseband. According to ParkerVision, the lower frequency signal goes into the capacitors, where it is stored as energy, and that energy is then used to generate the baseband signal—a different signal than the “lower frequency signal”—following the capacitors.

Id. at 1015. ParkerVision makes the same argument again, for both the ‘907 and ‘940 patents. According to ParkerVision, the switch down-converts the

electromagnetic signal and transfers the already down-converted signal (*i.e.*, the first baseband in the “two baseband” theory) to the load and storage device, at which point, the already down-converted energy from the switch and from the energy storage device combine in the load to “process” the already down-converted signal into the final baseband signal (*i.e.*, the second baseband in the “two baseband” theory). This Court rejected the “two baseband” theory, because “[n]o evidence supports such a theory” and ParkerVision cannot relitigate it here. *ParkerVision I*, 621 F. App’x at 1015.

The ‘907 patent claims expressly require that energy from the storage devices—perhaps in addition to energy from the electromagnetic signal—“forms a down-converted signal.” In *ParkerVision I*, ParkerVision presented no evidence that the accused products used energy from the storage devices to “generate” or “form” or “produce” the baseband. Rather, Qualcomm’s double-balanced mixers form the baseband signal. *Id.* at 1014. ParkerVision does not get to relitigate this issue.

b. ParkerVision Misreads the ‘940 Claims and Any Differences in Language are Immaterial.

In briefing the summary judgment motion below, ParkerVision did not discuss the claim language of the ‘940 patent at all; it treated the ‘940 and ‘907 patents the same. (Appx44069-44073.) Indeed, ParkerVision’s only comparison between the ‘940 patent and the ‘907 patent was to note the similarity in claim scope. (Appx44072 n.4.) ParkerVision now argues that the receive claims in the ‘940 patent

also recite down-conversion by switches. (BB30.) They do not—as ParkerVision’s own experts confirmed.

As with the ‘907 patent, ParkerVision ignores the rest of the claim language. Claim 24 of the ‘940 patent claims not just a UFT module, but also the transfer and storage of energy in an energy storage device. If ParkerVision is correct that a switch in the UFT module alone down-converts the electromagnetic signal, then the other claim elements serve no purpose—or stated purpose. ParkerVision’s attempt to characterize the ‘940 patent as claiming down-conversion by switches simply does not match the claim language—or the specification. (Appx144 (57:27-36) (incorporating by reference the ‘551 patent for full description of down-conversion), (58:18-19) (confirming “charge stored during successive pulses forms down-converted output signal”).)

ParkerVision tries to rewrite the ‘940 claims by arguing that “[c]laim 24 then further describes the ‘receiving subsystem’ as including ‘an aliasing module’ which further includes, in relevant part, ‘a universal frequency translation (UFT) module’ *that* ‘down-convert[s]’ an ‘electromagnetic signal.’” (BB30 (emphasis added).) But the claim does not recite a UFT module “that” down-converts. It claims a UFT module that aliases the electromagnetic signal, according to an aliasing signal, at an aliasing rate “to down-convert an electromagnetic signal” and then transfer energy at that same aliasing rate to a storage device. Consistent with the ‘940 specification,

the claims recite that the aliasing *rate* is what is important “to down-convert said electromagnetic signal”—the aliasing rate needs to be such that the energy sampling configuration down-converts the electromagnetic signal by transferring and storing energy in the storage device. (Appx144 (58:1-19).)

Such explanation is how a person of ordinary skill in the art would understand the claim. Indeed, Qualcomm’s expert understood the claim that way. (Appx49099.) And ParkerVision’s two experts understood the claim that way. One expert even confirmed his understanding twice—once during deposition and a second time when offering invalidity opinions. (Appx42088; Appx34240-34241.) Dr. Allen, in his opinion on invalidity, attempted to distinguish the receiver claims in the ‘940 patent from a prior art reference by claiming that the reference does not teach “transfer of energy from a carrier signal to a storage device *and the use of that energy to generate a lower frequency signal or the baseband.*” (Appx40617 (emphasis added); Appx40614; Appx40529.) Such distinction would be irrelevant if, as ParkerVision now argues, claim 24 does not require “the use of that energy to generate a lower frequency signal or the baseband.” (Appx40617.) As ParkerVision and its experts admit, claim 24 requires the use of energy from the storage devices to form a baseband signal—the same issue resolved in Qualcomm’s favor in *ParkerVision I*.

3. ParkerVision's Other Arguments Fail.

ParkerVision raises a host of other arguments. All are without merit.

ParkerVision first complains that the district court provided no analysis of the actual claim language. (BB35-36.) The district court's order provided more than enough. Neither party asked for a construction of any of the claim terms at issue here. And in deciding the motion, the district court relied on and cited the portions of Dr. Razavi's testimony that showed the similarity in the claim requirements. (Appx7-8 (citing Razavi's opening and rebuttal reports).) The district court also noted that ParkerVision provided no opposing expert opinion regarding material differences in claim scope. (Appx7 n.5.) Finally, the district court had unequivocal admissions from ParkerVision's own experts that the claims at issue contained the requirement that was dispositive in *ParkerVision I*. (Appx8.) Given unrebutted expert testimony showing how the requirements of the claim language in this case matched the requirements of the claim language in *ParkerVision I*, a complete lack of evidence from ParkerVision showing material differences in the claims and, instead, admissions from ParkerVision's experts that the claims raised an identical non-infringement issue—all of which the Court cited—nothing more was necessary.

Unable to avoid the dispositive facts, ParkerVision then misconstrues this Court's decision—claiming that “what the Federal Circuit said is the capacitor actually has to create the signal in the first instance.” (Appx61595.) Not so.

The question was whether the capacitors were merely “involved in” generating the baseband. *ParkerVision I*, 621 F. App’x at 1013 (“The parties’ dispute thus centers on whether the capacitors immediately downstream from the mixer *are involved in* generating the baseband signal.”) (emphasis added); *ParkerVision*, 627 F. App’x at 924 (“ParkerVision bore the burden to prove that the storage capacitors in Qualcomm’s devices *are involved in* generating the baseband signal.”) (emphasis added). The district court and this Court found they were not—a finding dispositive here.

a. The Original Summary Judgment Decision is Not Law of the Case.

ParkerVision then asserts that the district court’s denial of Qualcomm’s early collateral estoppel motion is law of the case. (BB42.) ParkerVision is wrong.¹⁰

First, this Court has expressly held that the denial of a summary judgment motion does not invoke the law of the case doctrine. *Aycock Eng’g v. Airflite*, 560 F.3d 1350, 1356 (Fed. Cir. 2009) (“Mr. Aycock misunderstands the law of the case doctrine, which simply does not apply to a denial of summary judgment.”). Such a rule is appropriate because the law of the case doctrine only applies to issues actually presented and decided. *See Halpern v. Principi*, 384 F.3d 1297, 1301

¹⁰ ParkerVision also complains that the district court did not address its prior order in deciding the second summary judgment motion. The district court did not need to analyze a prior order that—given new and un rebutted evidence—was irrelevant.

(Fed. Cir. 2004). Here, the Court’s early summary judgment ruling did not decide that the relevant claims were different; it merely concluded that a question of fact existed at the time, as to the similarity of the products and claim scope. (Appx10344 (“This testimony creates a material issue of fact precluding summary judgment as to the ‘907 patent.”); see *Dessar v. Bank of Am. Nat’l Tr. & Sav. Ass’n*, 353 F.2d 468, 470 (9th Cir. 1965) (finding that law of the case doctrine inapplicable to denial of summary judgment motion because “[s]uch a denial merely postpones decision of any question; it decides none”).)¹¹

Second, even if the law of the case doctrine could apply to a summary judgment denial, the doctrine “merely expresses the practice of courts generally to refuse to reopen what has been decided, not a limit to their power.” *Mendenhall v. Barber-Greene*, 26 F.3d 1573, 1582 (Fed. Cir. 1994) (citation omitted). As the Supreme Court has said, “[a] court has the power to revisit prior decisions of its own or of a coordinate court *in any circumstance*, although as a rule courts should be loathe to do so in the absence of extraordinary circumstances ...”. *Christianson v. Colt Indus. Operating*, 486 U.S. 800, 817 (1988) (emphasis added).

Finally, this Court has recognized that one “exceptional circumstance” warranting a departure from the law of the case doctrine is, like here, the availability

¹¹ The law of the case doctrine does not apply to the ‘940 patent in any event because the first summary judgment motion was directed to the ‘907 and ‘177 patents. (Appx10328.)

of “substantially different” evidence. *Kori v. Wilco Marsh Buggies and Draglines*, 761 F.2d 649, 657 (Fed. Cir. 1985). At ParkerVision’s urging, the district court had Qualcomm file its original summary judgment motion long before discovery concluded. (Appx9603; Appx10329; Appx6001.) By the time of the second summary judgment motion, (1) ParkerVision had given up on claiming there were material differences in the accused products, and (2) ParkerVision’s original expert (whom ParkerVision withdrew) and its replacement expert both admitted that the claims at issue contained the same requirement that was the basis for the non-infringement finding in *ParkerVision I*. (Appx34240-34241; *see also* Appx61298.) Given this new evidence, the district court correctly granted the second summary judgment motion.

b. The District Court Correctly Considered the Unrebutted Expert Evidence.

Finally, ParkerVision argues that the district court erred by: (1) crediting the unrebutted testimony of Dr. Razavi; and (2) relying on ParkerVision’s failure to submit contrary evidence from its experts.

As an initial point, the majority of the evidence from Dr. Razavi was matching of claim language. *E.g., supra* VI(A)(1)(a), n.8-9. Given the striking similarity in the claims, ParkerVision had the burden to produce some evidence of material differences in the claims, which it did not do. *See Ohio Willow Wood*, 735 F.3d at 1343 (“Since OWW failed to explain how the ‘block copolymer’ limitation changes

the invalidity analysis, OWW has not met its burden of opposing summary judgment based on this distinction.”).

ParkerVision also lodges complaints about the substantive nature of Dr. Razavi’s testimony. ParkerVision complains that his charts “include no analysis” and are incomplete because for certain elements, they are blank. Again, Dr. Razavi’s declaration and charts show the striking similarity in the *relevant* claim language—language that was so similar that it did not need further analysis. *See supra* VI(A)(1)(a), n.8-9.

The blank space that ParkerVision cites in the ‘907 chart also does not show a deficiency in Dr. Razavi’s analysis. (BB41.) As discussed above, Dr. Razavi did not have to show that the claims were identical in all respects—he only needed to show that the dispositive element was common to both claims. *Ohio Willow Wood*, 735 F.3d at 1342; *Kahn*, 135 F.3d at 1477 (“absence of even a single limitation” precludes a finding of infringement). The relevant claim limitation was “[w]hereby the energy provided to the load forms a down-converted signal”—a limitation for which Dr. Razavi identified virtually identical language from multiple claims in *ParkerVision I*. *See supra* VI(A)(1)(a), n.8-9.

Additionally, neither party requested that the district court construe the relevant terms from the receive claims at issue. The language thus receives its plain and ordinary meaning. The issue then becomes one of infringement and expert

testimony regarding how a person of ordinary skill in the art would understand the claim and apply it in this case. *Phillips v. AWH*, 415 F.3d 1303, 1313 (Fed. Cir. 2005); *see also Lazare Kaplan Int'l v. Photoscribe Techs.*, 628 F.3d 1359, 1376 (Fed. Cir. 2010). That is what Qualcomm's expert—and the district court—did. (Appx49103 (Dr. Razavi explaining why, in light of the decision in *ParkerVision I*, the accused receiver products did not meet the specific claim elements in the '907 patent).) Qualcomm and ParkerVision's experts acknowledged that the relevant claims require the use of energy in the storage devices to form or produce a baseband. (Appx42088; Appx41944; Appx44112; Appx49083-49103.) This Court found in *ParkerVision I* that the accused products operate differently. *ParkerVision I*, 621 F. App'x at 1013-16. Summary judgment of non-infringement was, therefore, appropriate.

Further, ParkerVision's argument is contrary to its earlier arguments to the district court. In opposition to the original summary judgment motion, ParkerVision submitted an expert declaration regarding the similarity of the claims. In its opposition brief, ParkerVision stated: “[a]nd unless the court construes a limitation, the jury must also decide how a person of ordinary skill in the art would understand it—a matter on which the parties can offer competing evidence.” (Appx10072.) ParkerVision made the same point, although in a different context, at the hearing on the later summary judgment motion. (Appx61305 (117:16-25 (“I think, given the

now disputed meaning of UFT module, I think the Court has two options. One is to allow the experts to apply their understanding of a person of skill in the arts' reading of the specification and claims and apply that perspective to the facts at issue in this case, so a plain and ordinary meaning approach We think that the first approach is appropriate") And in opposition to both summary judgment motions, ParkerVision cited to expert testimony. (Appx10091; Appx44077.) Although the district court committed no error by considering the expert evidence, even if it did, ParkerVision invited that error. *Logan v. Principi*, 71 F. App'x 836, 839 (Fed. Cir. 2003) (applying "invited error" rule to preclude party from claiming Veterans Court applied wrong standard of review when party urged that standard); *O2 Micro Int'l v. Beyond Innovation Tech. Co.*, 934 F. App'x. 923, 934 (Fed. Cir. 2011).

c. The District Court Correctly Relied on the Lack of Evidence from ParkerVision and Its Expert.

ParkerVision next faults the district court for expecting that ParkerVision would submit a rebuttal to Dr. Razavi's testimony. ParkerVision claims that it was natural for its experts not to address the claims from *ParkerVision I* because those claims were not asserted here. (BB42.) But ParkerVision knew of Qualcomm's collateral estoppel defense. (E.g., Appx2435; Appx2368; Appx50444.) ParkerVision should have addressed it.

ParkerVision also claims that the record contained a prior declaration. But that declaration was from Dr. Allen—the expert ParkerVision withdrew.

(Appx31984-31991.) ParkerVision cannot rely on a declaration from a witness that cannot testify at trial. *See Scoche Indus., v. Visor Gear*, 121 F.3d 675, 682 (Fed. Cir. 1997) (on summary judgment, “the evidence presented in the affidavit must be evidence that would be admissible if presented at trial through the testimony of the affiant as a sworn witness”). Moreover, Dr. Allen later admitted in sworn testimony that the relevant element for non-infringement in *ParkerVision I* is part of the ‘940 and ‘907 receive claims. (Appx41946 (219:20-25); Appx41944 (211:6-16).)

ParkerVision then contends that the expert report adopted by Dr. Steer contained a description of how the claims were different. But the cited paragraphs do not distinguish the present case from *ParkerVision I*. Instead, ParkerVision cites to paragraphs regarding a general description of the “energy sampling” patents—which includes both the patents here and the patents in *ParkerVision I*. (Appx9612; Appx9649-9653; Appx9654.) ParkerVision cannot show a material difference in the *claims* by pointing to a section that generally describes ParkerVision’s patents, including the patents here and those in *ParkerVision I*. Moreover, the figure that ParkerVision cites is labelled “forming [] the down-converted signal using an energy storage element,” not some other switch-down-converted method as ParkerVision now contends. (Appx44112.) ParkerVision’s arguments all fail.

d. ParkerVision’s Obviousness-Type Double-Patenting Argument is a Red Herring.

In order to support its assertion that the ‘907 patent claims are different from the claims in *ParkerVision I*, ParkerVision notes that the PTO did not require a terminal disclaimer. (BB35; *cf. SimpleAir v. Google*, 884 F.3d 1160, 1169 (Fed. Cir. 2018) (district court erroneously presumed importance of terminal disclaimer, rather than analyze the claims).) Here, the district court had unrebutted evidence showing that the claims here include the same requirement that resulted in the non-infringement finding in *ParkerVision I. Molinaro v. Fannon/Courier*, 745 F.2d 651, 652-53, 655 (Fed. Cir. 1984) (per curium) (“indisputable that the claim asserted here is the same as that the scope of which was determined in earlier litigation where the receivers accused here were held not to infringe that claim”); *Aspex Eyewear*, 713 F.3d at 1381-82. In deciding the motion for summary judgment, the district court had ParkerVision’s stipulation that the accused products in both cases were identical in material respects, unrebutted testimony from Qualcomm’s technical expert showing the striking similarity of the claim language at issue, and admissions from ParkerVision’s own experts that the claims here include the same requirement that this Court found dispositive of infringement in *ParkerVision I*. (Appx7-9; Appx42088; Appx34240-34241; Appx61298.) The absence of an obviousness-type double-patenting rejection does not override this evidence.

B. The District Court Did Not Abuse Its Discretion in Granting Qualcomm’s *Daubert* Motion to Strike Unreliable and Speculative Infringement Opinions.¹²

Abuse of discretion is the standard of review for *Daubert* rulings. *Williams v. Mosaic Fertilizer*, 889 F.3d 1239, 1245 (11th Cir. 2018). “The ‘considerable leeway’ accorded to a district judge, requires [this Court] to defer to the judge’s decision on expert testimony, ‘unless it is manifestly erroneous.’” *Chapman v. Procter & Gamble Distrib.*, 766 F.3d 1296, 1305 (11th Cir. 2014) (internal citations omitted).

Under *Daubert*, the district judge must “act as a gatekeeper.” *McClain v. Metabolife Int’l*, 401 F.3d 1233, 1237-38 (11th Cir. 2005). ParkerVision bore the burden of showing, among other things, that its experts’ opinions were based on “sufficient facts or data” and “reliable principles and methods.” *Id.* at 1237; Fed. R. Evid. 702. ParkerVision failed.

1. ParkerVision Admitted It Needed Simulations to Prove Performance for Infringement, But Did Not Simulate.

The district court excluded ParkerVision’s expert opinions because they did not simulate the products and failed to review necessary “layout files.” ParkerVision fails to show the district court abused its discretion. Appx32-41; *cf.* *Becton*,

¹² Qualcomm addresses ParkerVision’s *Daubert* argument first. Unlike the collateral estoppel and *Daubert* rulings, the IPR estoppel issue was not a basis for the judgment in this case and is not ripe for appeal. Qualcomm will thus address it last.

Dickinson & Co. v. Tyco Healthcare Grp., 616 F.3d 1249, 1257 (Fed. Cir. 2010) (patentee failed to provide “test data or even a single live demonstration” to show the devices “stored energy”); *Eltech Sys. v. PPG Indus.*, 903 F.2d 805, 808 (Fed. Cir. 1990) (lack of testing).

Experts must employ “in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kumho Tire v. Carmichael*, 526 U.S. 137, 152 (1999). In this case, ParkerVision argued: “The critical thing to understand here is, it’s really ***not possible*** to test the actual performance of a circuit in one of these computer chips ***without simulation***.” (Appx4929 (10:21-23, ParkerVision’s argument during a motion to compel schematics hearing) (emphasis added); Appx34; Appx42195; Appx42192-42201; Appx4822-4833; Appx4860-4866; Appx3465; Appx3471.)

Consistent with ParkerVision’s argument, textbooks confirmed that skilled artisans use simulations to have a reliable basis for understanding and verifying how circuits work. (*E.g.*, Appx40107 (“[C]ircuits are complex and modern transistors have nonlinear, nonideal behavior, so ***simulation is necessary*** to accurately predict detailed circuit behavior.”) (emphasis added); Appx40039; Appx39954-39965; Appx40008-40009; Appx40018-40021; Appx40025; Appx40027-40028; Appx40041-40051; Appx40054-40056; Appx40080-40084.) In fact, the textbook of ParkerVision’s own expert, Dr. Allen, taught: a “designer ***must*** turn to computer

simulation methods to confirm the design’s performance.” (Appx39964 (emphasis added); Appx39965 (“simulate the circuit to predict the performance”); *see also* Appx33 (quoting: “circuits are ... much like keys on a piano. And just because you see those keys laid out in a circuit doesn’t mean you know what tune they’re set up to play”).)

ParkerVision knew simulations were critical for proving infringement issues in this case. As the district court correctly noted, in *ParkerVision I* and each of ParkerVision’s other litigations against Qualcomm involving the same technology, ParkerVision’s experts performed simulations. (Appx33; Appx40526 (“Performed simulations” for expert report in *ParkerVision I* and in the ITC action); Appx40157; Appx41395 (“performed or directed the performance of simulations of the circuitry in Qualcomm’s chips”); Appx41393; Appx41401; Appx31856.)

But ParkerVision’s experts admittedly failed to do simulations in this case. (Appx42149 (125:15-18); Appx42170 (500:15-19); Appx41911 (78:24-79:2); Appx41921 (119:6-10); Appx32142-32148; Appx32119-32152.) Without simulations and testing,¹³ ParkerVision’s experts’ infringement opinions were unreliable. (Appx32145; Appx36-41.)

¹³ ParkerVision failed to identify a single simulation—whether performed by its own experts or anyone else—that supports its experts’ opinions.

2. The District Court Correctly Rejected ParkerVision's Excuses.

ParkerVision's arguments boil down to: (1) the simulation environment for test benches was "horrible," and (2) simulations were unnecessary because ParkerVision had documents or other evidence. (BB56; BB51; BB57.) As the district court found, both excuses fail.

First, the district court rightly rejected ParkerVision's attempt to blame the simulation environment. (BB57.) In two other cases, the same ParkerVision experts relied on simulations performed using the *same* simulation environment available in this case. (Appx33; Appx32143-32147; Appx40526; Appx41395.) The district court observed: "Plaintiff is a sophisticated litigant, rendering its justification for failing to create simulations, which they characterized as very valuable and important evidence, unconvincing." (Appx34.) Indeed, "Plaintiff never moved the Court for any relief" regarding the test benches. (*Id.*)

Second, Qualcomm's motion identified multiple exemplary claim limitations that required simulations; ParkerVision's *ipse dixit* expert opinions were not enough. (Appx32146-32147 ("ParkerVision's experts needed to run simulations to ascertain whether the claim elements are met").) For example, ParkerVision failed to perform simulations that show (i) integer multiple harmonics and a "harmonically rich signal," (ii) "non-negligible energy," or (iii) devices that satisfy the "gating" and "switch module[]" limitations. (Appx32146-32147.)

Unable to identify a single simulation supporting their experts' *ipse dixit*, ParkerVision abandoned the "it's really not possible to test the actual performance of a circuit in one of these computer chips without simulation" position. (Appx4929 (10:21-23).) ParkerVision claims that simulations were unnecessary because the opinions had certain deposition testimony, documents, and calculations.

The district court properly rejected ParkerVision's arguments. The district court found that: (i) some of the evidence ParkerVision cited was never actually considered by the experts (Appx38); (ii) ParkerVision's arguments contradicted ParkerVision's prior representations to the district court and this Court (Appx40); and (iii) the "calculations" that its experts performed were not calculations at all—they were empty formulas lacking the values and variables necessary to perform the supposed calculations (Appx37). (Appx36-40.)

ParkerVision also failed to identify a single simulation in Qualcomm's design documents that: (i) its experts' *relied* on, and (ii) actually supports the opinions regarding the *disputed limitations*.¹⁴ ParkerVision's infringement opinions were fatally devoid of "sufficient facts or data" to support their experts' opinions. Fed. R. Evid. 702. The district court did not abuse its discretion in rejecting ParkerVision's

¹⁴ Even if ParkerVision could identify such a simulation, the district court properly noted that ParkerVision cannot simultaneously complain that Qualcomm's simulation environment was "horrible" and also contend it was reasonable to rely on Qualcomm documents created using the same simulation environment. (Appx36.)

arguments.

a. ParkerVision’s Expert Lacked Sufficient Facts or Data for His “Harmonically Rich Signal” Opinion.

For the “harmonically rich signal” limitation, ParkerVision’s expert had to support his opinions with sufficient evidence that the output of Qualcomm’s mixers are “integer multiple” harmonic frequencies. (Appx10364.) As the district court correctly summarized, Qualcomm challenged Dr. Steer’s opinions because he “failed to simulate or calculate the output and failed to show any specific frequencies would exist in the output.” (Appx39.) ParkerVision has not disputed—either to the district court or in its appeal—that its expert failed to perform any calculations and failed to perform any simulations. Nor does ParkerVision dispute the district court’s finding that ParkerVision’s expert “fails to analyze any particular frequencies or tones used by the accused products” that would result in “integer multiple” harmonics. (Appx40.)

Rather, ParkerVision argues that its expert was entitled to rely on certain design documents and deposition testimony because they include the word “harmonics.” This argument, however, is directly contrary to the arguments ParkerVision made to the Board and this Court during the ParkerVision IPRs.

During the IPRs, ParkerVision distinguished between the generic use of the word “harmonics” and the “integer multiple” harmonics required by the ‘940 patent. Faced with a prior art reference that disclosed an output that “includes many

harmonics,” ParkerVision repeatedly argued in front of the Board and this Court that the use of the word “harmonics” is not enough. (Appx48933-48934; Appx48908-48914; *ParkerVision v. Qualcomm*, Nos. 2017-2012, 2017-2013, 2017-2014, 2017-2074, 2017 WL 4862823, at *17-18, *21-22 (Fed. Cir. Oct. 20, 2017) (“*ParkerVision IPR Appeal Br.*”).) ParkerVision further explained to this Court that the “integer multiple” harmonics in the ‘940 patent were not just any harmonics but were a “specially defined ‘harmonic’” with a “special meaning.” (*ParkerVision v. Qualcomm*, Nos. 2017-2012, 2017-2013, 2017-2014, 2017-2074, 2018 WL 1215304, at *10-12 (Fed. Cir. Feb. 26, 2018); Appx48912.)

In this appeal, ParkerVision identifies four pieces of evidence that allegedly save its expert’s failure to perform calculations or simulations: (i) a test review reference to a “Harmonic test” (Appx51614), (ii) a design review document that discusses attenuation of “higher order harmonics” (Appx51745), (iii) deposition testimony regarding “a whole spew of harmonics of the LO mixing with the signal” (Appx51523 (252:4-8)), and (iv) a figure from a paper by Dr. Razavi that is not even discussing Qualcomm’s products (Appx44080).¹⁵ (BB51.) Neither ParkerVision

¹⁵ ParkerVision did not cite Dr. Razavi’s paper as part of its *Daubert* arguments. ParkerVision’s citation to Dr. Razavi’s paper (Appx44080) in the appeal brief is to a discussion in ParkerVision’s opposition to Qualcomm’s summary judgment motion, not ParkerVision’s opposition to Qualcomm’s *Daubert* motion. Accordingly, ParkerVision’s reliance on this paper for purpose of *Daubert* was forfeited. *In re Google Tech. Holdings*, 980 F.3d 858, 862 (Fed. Cir. 2020) (forfeiture); *Conoco v. Energy & Env’l Int’l*, 460 F.3d 1349, 1358 (Fed. Cir. 2006)

nor its expert made any effort to show that the use of the word “harmonic” in any of the above satisfies the “specially defined” “integer multiple” harmonics in the ‘940 patent. In light of ParkerVision’s prior representations, the district court did not abuse its discretion in rejecting ParkerVision’s reliance on this evidence.

ParkerVision’s argument is also inconsistent with ParkerVision’s agreement during the ‘940 IPR that pointing to sum and/or difference frequencies generated by a mixer is not sufficient to identify a “harmonically rich signal.” (Appx48908-48914; *ParkerVision IPR Appeal Br.*, 2017 WL 4862823, at *22.) For example, in the testimony on which ParkerVision bases its appeal, the witness did not testify that the output signal contains harmonics. The witness testified that you “get a whole spew of harmonics of the LO mixing with the signal.” (Appx51523 (252:4-8).) As the witness clarified multiple times during the deposition, when two signals are mixed you get the sum or difference between the signals—not the “integer multiple” harmonics required by ParkerVision’s patents. (Appx51530 (279:11-22) (confirming that the “first harmonic” the witness was referring to was a sum or difference signal between the LO and the baseband, not the “integer multiple” harmonics required by PV’s patents; and confirming that the next output signal is

(“[T]hose issues not raised below at the district court cannot be heard for the first time on appeal.”). Even if not forfeited, Dr. Razavi’s paper does not save the deficiencies in ParkerVision’s expert report because (i) it is not discussing Qualcomm’s products, and (ii) suffers the same deficiencies as ParkerVision’s other evidence.

“three times the LO frequency plus or minus the baseband frequency”) (emphasis added); Appx39081-39082 (confirming “well-known formula for calculating [frequencies] generated by a mixer”).¹⁶) During the ‘940 IPRs, ParkerVision represented that pointing to sum and/or difference frequencies is not sufficient for ParkerVision’s integer multiple harmonics. (*ParkerVision IPR Appeal Br.*, 2017 WL 4862823, at *22; *see also* Appx39081-39082; Appx48908-48914; Appx49039-49040.) Given ParkerVision’s prior representations, the district court—which referred to these sum and/or difference frequencies as “sideband frequencies”—did not abuse its discretion in finding that ParkerVision failed to prove the reliability of its expert’s conclusory opinion. (Appx40.)

b. ParkerVision’s Experts Performed No Calculations to Show the “Non-Negligible Energy” Limitations.

ParkerVision falsely asserts that “[t]here is no dispute ... ParkerVision’s expert applied [a standard] mathematical calculation using ‘information provided by Qualcomm schematics’ to show the amount of ‘energy stored on the capacitor’ in the accused products.” (BB53.) Not only was this issue hotly contested,¹⁷ the district court expressly rejected the same argument in its *Daubert* decision:

¹⁶ The inventors on ParkerVision’s patents also repeatedly confirmed that the sum and/or difference frequencies generated by a mixer are different from ParkerVision’s “integer multiple” harmonics. (Appx48935-48939 (collecting quotes).)

¹⁷ Qualcomm disputed that ParkerVision’s experts performed the alleged calculations. (Appx61096 (128:5-6) (“ParkerVision’s counsel says, Well, we provided calculations. That is just absolutely not true.”).)

Plaintiff attempts to defend its failure to consider noise and to run simulations by arguing that “the amount of energy stored on the capacitors ... can be calculated from information provided by Qualcomm schematics.” At oral argument, Plaintiff claimed Dr. Allen’s calculations show energy stored on the capacitor. There are two problems with Plaintiff’s argument: first, as Defendants note Dr. Allen fails to disclose the values of the variables in his calculation (for example, I_{Mix}).

(Appx37 (citations omitted); Appx61339-61340.) The district court did not abuse its discretion by rejecting ParkerVision’s argument that its expert relied on calculations, when the expert failed to ever the disclose the values of the variables necessary to perform the calculations.

ParkerVision also asserts that this Court previously held that a “noise-added simulation” was not required to show “non-negligible amounts of energy.” (BB54.) This argument also fails.

First, ParkerVision never raised this argument at the district court. ParkerVision is precluded from relying on it now. *E.g.*, *Conoco*, 460 F.3d at 1358 (“[T]hose issues not raised below at the district court cannot be heard for the first time on appeal.”).

Second, the district court did not fault ParkerVision’s expert for failing to provide a “noise-added simulation,” the district court faulted ParkerVision’s expert for failing to rely on any reliable simulation, calculation, or other evidence. This makes the facts in this case markedly different than *ParkerVision I*. In *ParkerVision I*, Qualcomm’s expert, Dr. Razavi, supported his testimony and

analysis of the Weisskopf reference with simulations. *ParkerVision I*, 621 F. App'x at 1018-19. Although Dr. Razavi did not rely on simulations that were specific to the “non-negligible amounts of energy” limitation, Dr. Razavi relied on his simulations to conclude that: (i) Weisskopf is an energy transfer system “designed to maximize the amount of energy transferred from the carrier signal” to perform down-conversion; and (ii) that in order for energy transfer systems to successfully down-convert the amount of energy must be distinguishable from noise. *Id.* 1018-19. Given the undisputed nature of Dr. Razavi’s testimony, this Court held that no “noise-added simulation” was necessary. *Id.* Unlike the simulation-supported testimony this Court credited from Dr. Razavi, ParkerVision’s expert relied on no simulations (or calculations) to show that Qualcomm’s products implement energy transfer or are “designed to maximize the amount of energy transferred.” *Id.* In the absence of such evidence, the district court properly found ParkerVision’s expert’s testimony unreliable.

c. ParkerVision’s Expert Lacked Reliable Evidence for the “Gating” and “Switch Module” Limitations.

ParkerVision’s expert indisputably failed to perform any simulations or calculations to support his opinion that Qualcomm’s products satisfy the “gating” and “switch module” limitations as construed. Instead, as the sole basis for ParkerVision’s contention that its expert should be excused for his lack of any simulations or calculations, ParkerVision argues its expert relied on: (i) select

testimony from one of the tens of engineers ParkerVision deposed, and (ii) a single statement in one of Qualcomm’s hundreds of design review document. (BB52-53.¹⁸) The fundamental problem with ParkerVision’s argument, however, is that it has never shown that its expert relied on, or even considered, this evidence in forming his opinions on the “gating” and “switch module” limitations.

3. ParkerVision Mischaracterizes the Record.

ParkerVision misreads the district court’s decision as requiring it to perform a “newly created, self-generated simulation.” (BB55.) To the contrary, after reviewing the factual record—including the claims, patents, products, evidence, and briefing—the district court found that none of the evidence that ParkerVision cited amounted to sufficient facts or data under Rule 702 and *Daubert* for its experts’ proffered infringement conclusions. (Appx32142-32148; Appx32-41.) Because ParkerVision’s experts had no sufficient evidence, whether through simulations or testing, its experts’ opinions were unreliable. (Appx32-41.)

¹⁸ Even if ParkerVision’s expert relied on this evidence—which he did not—this statement, taken out of context, does not support ParkerVision’s claims. As the district court noted, ParkerVision’s own expert has taken the position that more must be done in order to determine if a component satisfies the requirements of “gating” and “switch module.” (Appx38-39; *see also* Appx40686 (expressing opinion that parameters not shown on a schematic are necessary to determine whether a MOSFET will “act like a switch”), Appx49039-49040; Appx48965.) Accordingly, the opinions of ParkerVision’s own experts directly conflict with its attorney argument that “[a]ny engineering student can identify a gate from a circuit schematic.” (BB58.)

ParkerVision misleadingly suggests that Qualcomm somehow admitted that ParkerVision’s experts did not need to do simulations. (BB57-59.) ParkerVision quotes a statement that “[o]nce you have the design documents and those admissions, there’s nothing left really to simulate.” (BB59 (citing Appx4911-4912).) But the “admissions” referred to admissions by *ParkerVision’s expert* in *ParkerVision I* that led to the non-infringement finding. Qualcomm never argued that ParkerVision did not need to do simulations to prove infringement. Instead, Qualcomm noted that once you have the admissions from ParkerVision’s experts that proved non-infringement in *ParkerVision I*, no simulations were necessary for non-infringement.

ParkerVision also quotes a statement from a Qualcomm attorney that “simulations become relevant ... [if ParkerVision] want[s] to challenge the accuracy of numbers that are in our design review document.” (BB59 (citing Appx5093).) Contrary to ParkerVision’s argument, this statement actually confirms the necessity of simulations because ParkerVision is trying to do exactly what Qualcomm feared—have its expert dispute the data in Qualcomm’s design review documents based on the expert’s *ipse dixit* opinions. For example, the analysis, results, and simulations in Qualcomm’s design review documents show that: (i) Qualcomm uses

the accused capacitors as part of a filter that eliminates unwanted signals,¹⁹ not “energy storage devices” that store desired “non-negligible energy” (Appx48672-48693 (discussing purpose of capacitors as disclosed by Qualcomm’s design reviews)); and (ii) Qualcomm uses mixers that mix signals to produce “sum and/or difference” frequencies, not the switches in ParkerVision’s patents that turn signals on and off to create “integer multiple” harmonics. (Appx48921-48931 (discussing output frequencies disclosed by Qualcomm’s design reviews).) ParkerVision wants to dispute exactly those facts. The quote that ParkerVision relies upon states the obvious—if ParkerVision wants to dispute the information in Qualcomm’s documents, which show non-infringement—simulations are necessary.

ParkerVision also cites testimony from a Qualcomm engineer recognizing that an expert could determine how the accused products work from Qualcomm’s schematics and the simulation results in Qualcomm’s design reviews. (BB57 (citing Appx5057-5058).) This testimony is a red herring because ParkerVision has not shown that its experts relied on any specific simulation results in Qualcomm’s design reviews to support their opinions for the relevant claim limitations or that anything in the design reviews actually support their experts’ conclusions.

¹⁹ *ParkerVision I*, 621 F. App’x at 1015 n.7 (“evidence shows that the TX filter serves to filter out” unwanted jamming signal).

C. ParkerVision is Estopped from Challenging the Board’s Affirmed Findings About What Certain Prior Art Discloses.

ParkerVision asks this Court to reverse the district court’s decision that precludes ParkerVision’s expert from disputing certain findings made by the Board and affirmed by this Court on appeal. Not only is ParkerVision’s appeal improper, but it conflicts with the black-letter law of this Court.

1. ParkerVision’s Appeal of the IPR Estoppel Ruling Is Improper.

When a party appeals a final judgment of a district court, findings in interlocutory orders with no impact on that final judgment are outside the scope of appellate review. *See Mass. Inst. of Tech. v. Abacus Software*, 462 F.3d 1344, 1350 (Fed. Cir. 2006) (“An appeal is not an opportunity to bring before the appellate court every ruling with which one of the parties disagrees without regard to whether the ruling has in any way impacted the final judgment.”); *Olaplex v. L’Oreal USA*, 845 F. App’x 943, 948 (Fed. Cir. 2021) (on appeal from final order, interlocutory orders may be reviewed only “to the extent that they affect the final judgment”) (citations omitted); *SanDisk v. Kingston Tech.*, 695 F.3d 1348, 1354 (Fed. Cir. 2012) (“[W]here, as here, a party’s claim construction arguments do not affect the final judgment entered by the court, they are not reviewable.”).

ParkerVision’s appeal of invalidity-related issues is improper. ParkerVision asserts that this Court has jurisdiction over its appeal based on a final decision of a

district court under 28 U.S.C. § 1295(a)(1). (*See* BB1.) The final decision is the district court’s judgment in favor of Qualcomm after granting Qualcomm’s motion for summary judgment of non-infringement. (Appx3-10.) The district court did not rule on invalidity in its summary judgment order. (*See id.*) Accordingly, invalidity issues—including whether certain invalidity opinions of ParkerVision’s expert were properly excluded under *Daubert*—had no impact on the final judgment of the district court and this Court should decline to consider ParkerVision’s appeal on the IPR collateral estoppel issue.

2. ParkerVision’s IPR Collateral Estoppel Arguments Fail on the Merits.

a. ParkerVision Was the “Loser” on the Issues to which the District Court Applied Estoppel.

A central premise of ParkerVision’s appeal is that the IPRs were an unbridled “success” for ParkerVision. (BB45.) According to ParkerVision, it must be allowed to “defend[] the results of the Board’s judgment.” (*Id.*) But the IPRs were a decidedly mixed result. The Board invalidated 34 apparatus claims, and this Court affirmed. *ParkerVision IPR Appeal*, 903 F.3d 1354. Accordingly, ParkerVision and its experts are estopped from challenging the Board’s findings as to those claims. *See XY v. Trans Ova Genetics*, 890 F.3d 1282, 1294 (Fed. Cir. 2018); *MaxLinear v. CF CRESPE*, 880 F.3d 1373, 1377 (Fed. Cir. 2018) (“collateral-estoppel effect of an administrative decision of unpatentability” applies to “related claims that present

identical issues of patentability”); *Nestle USA v. Steuben Foods*, 884 F.3d 1350, 1352 (Fed. Cir. 2018). The only claims that survived the IPRs were method claims that correspond to—and overlap substantially with—the invalidated apparatus claims. The mixed results on claims with overlapping issues give rise to the appeal here.

In ruling on the IPRs, the Board considered two issues: (1) do the prior art combinations disclose a system “capable of” the limitation in the challenged claims; and (2) if so, do the references teach using the method claimed in the challenged claims. By invalidating the apparatus claims, the Board found that the Ariie and Krauss and Nozawa and Phillips combinations were “capable of” performing the limitations at issue. But the Board denied the IPR petition on the 9 method claims because it found that Qualcomm failed to show a motivation to perform the limitations. The *Daubert* decision only precluded ParkerVision’s experts from disputing the affirmed decision regarding what the reference combinations were “capable of”—an issue on which ParkerVision was the clear “loser.” As the district court found, ParkerVision should be estopped from contradicting findings on which it lost. (Appx22-27.) ParkerVision has not shown otherwise.

b. The Statutory IPR Estoppel Provision Does Not Bar “Judge-Made Estoppel.”

ParkerVision claims that 35 U.S.C. § 315—which estops IPR petitioners from raising invalidity arguments in district court that they “raised or reasonably could

have raised” in IPR—“trumps ... judge-made estoppel.” (BB44 (citing *B&B Hardware v. Hargis Indus.*, 575 U.S. 138, 148 (2015)).) ParkerVision’s argument misstates the law.

Nothing in *B&B Hardware* stands for the general principle that a statutory estoppel provision “trumps” any common law collateral estoppel effect of an administrative agency’s decision. In fact, *B&B Hardware* stands for the opposite: the default rule is that common law collateral estoppel applies, and that rule can only be overcome through specific statutory language. In *B&B Hardware*, the Supreme Court remarked that “in those situations in which Congress has authorized agencies to resolve disputes, ‘courts may take it as given that Congress has legislated with the expectation that the principle [of issue preclusion] will apply except when a statutory purpose to the contrary is evident.’” *B&B Hardware*, 575 U.S. at 148 (citation omitted). Accordingly, statutory estoppel *only* “trumps” common law estoppel when Congress says so.

ParkerVision provides no argument that such a “statutory purpose” contrary to common law estoppel is evident. Instead, ParkerVision merely points to the language of 35 U.S.C. § 315. (BB44-45.) Nothing in section 315 indicates any “statutory purpose” precluding common law estoppel for the Board’s affirmed findings.

c. The Burden of Proof Does Not Preclude Estoppel.

ParkerVision next argues that a difference in burden of proof between IPR proceedings and district court proceedings precludes estoppel. (BB46-48.)

ParkerVision’s argument ignores this Court’s precedent. This Court affirmed the Board’s findings in the IPRs. Under *XY v. Trans Ova Genetics*, “an affirmance of an invalidity finding, whether from a district court or the Board, has a collateral estoppel effect on all pending or co-pending actions.” 890 F.3d at 1294. ParkerVision ignores *Trans Ova Genetics* entirely—citing *B&B Hardware*. (See BB46.) But this Court cited *B&B Hardware* in *Trans Ova Genetics*, remarking that “[t]his court also recently applied the Supreme Court’s holding in [*B&B Hardware*] to apply ... estoppel to Board decisions.” See *Trans Ova Genetics*, 890 F.3d at 1294 (citation omitted). This Court has already considered *B&B Hardware*—and rejected the argument ParkerVision raises here.

d. The Board’s Findings Were Necessary and Critical to the Decision to Invalidate 34 ParkerVision Claims.

ParkerVision raises one new argument on appeal—that collateral estoppel does not apply because the Board’s findings were not “critical and necessary to the judgment at issue.” (BB46.) ParkerVision forfeited this argument by not raising it below. *E.g.*, *Conoco*, 460 F.3d at 1358; *SimpleAir*, 884 F.3d at 1171.

If this Court considers this new argument, ParkerVision has not shown error. ParkerVision argues that the findings of the Board at issue in the -1828 IPR—that

the Nozawa combination taught various limitations of the challenged apparatus claims of the '940 patent—do not have collateral estoppel effect because they were not “critical and necessary” to the Board’s judgment on the method claims. (BB46.) But the Board’s findings were critical and necessary to the decision that the apparatus claims were unpatentable. Accordingly, ParkerVision is estopped based on the Board’s findings.

VII. CONCLUSION

The district court’s judgment should be affirmed.

Dated: November 14, 2022

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CERTIFICATE OF SERVICE

I hereby certify that on November 14, 2022, I filed or caused to be filed the foregoing with the Clerk of the United States Court of Appeals for the Federal Circuit via the CM/ECF system and served or caused to be served a copy on all counsel of record by the CM/ECF system.

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