

IPR2024-00934
U.S. Patent No. 7,496,342
Patent Owner's Preliminary Response

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Texas Instruments Incorporated
Petitioner,

v.

PARKERVISION, INC.
Patent Owner.

U.S. Patent No. 7,496,342
Issue Date: February 24, 2009
Title: DOWN-CONVERTING ELECTROMAGNETIC SIGNALS, INCLUDING
CONTROLLED DISCHARGE OF CAPACITORS

Inter Partes Review No. IPR2024-00934

**PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION FOR
INTER PARTES REVIEW OF UNITED STATES PATENT NO. 7,496,342**

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PATENT OWNER'S EXHIBIT LIST

Exhibit No.	Description
2001	Complaint, <i>ParkerVision, Inc. v. Texas Instruments Inc.</i> , Case No. 6:23-cv-00384-ADA (WDTX)
2002	Agreed Scheduling Order, <i>ParkerVision, Inc. v. Texas Instruments Inc.</i> , Case No. 6:23-cv-00384-ADA (WDTX)
2003	Dani Kass, "Catching Up On Patent Litigation With Judge Albright," LAW360 (Mar. 14, 2023)
2004	<i>Sonrai Memory Ltd. v. Kingston Tech. Co., Inc.</i> , Case No. 6:21-cv-1284-ADA, Order Denying Kingston Tech. Co. and Kingston Tech. Corp.'s Opposed Motion to Stay Pending Resolution of Inter Partes Review, Dkt. 94 (W.D. Tex., Oct. 18, 2022)
2005	Docket Order, <i>Kerr Machine Co. d/b/a Kerr Pumps v. Vulcan Industrial Holdings, LLC</i> , No. 6:20-cv-00200 (W.D. Tex. Aug. 2, 2020)
2006	Statutory Disclaimer Under 37 CFR 1.321(a) and Electronic Acknowledgment Receipt dated August 28, 2024

I. INTRODUCTION

Pursuant to 35 U.S.C. § 313 and 37 C.F.R. § 42.107, ParkerVision Inc. (“ParkerVision”) submits this Preliminary Response (“Preliminary Response”) and respectfully requests the Board to deny the Petition for *Inter Partes* Review (“Petition”) filed by Texas Instruments Incorporated (“Petitioner” or “TI”) challenging claims 18-23 of U.S. Patent No. 7,496,342 (“the ’342 patent”).

ParkerVision has disclaimed claims 18 and 22-23 of the ’342 patent by way of a Statutory Disclaimer filed on August 28, 2024 (Ex. 2006).¹ Thus, only claims 19-21 remain at issue in this proceeding. *See* 37 C.F.R. § 42.107(e) (“No *inter partes* review will be instituted based on disclaimed claims.”).

The Petition fails to demonstrate that DeMaw or Macnally anticipate or render obvious claims 19-21 of the ’342 patent. In particular, to demonstrate the claim elements, TI relies on inherency and performs circuit simulations. But TI failed to acknowledge, let alone meet the strict standard required to prove

¹ ParkerVision’s decision to disclaim claims 18 and 22-23 of the ’342 patent is not a concession of any kind with respect to the grounds presented in the Petition. *See, e.g., Raytheon Techs. Corp. v. Gen. Elec. Co.*, 993 F.3d 1374, 1379 n.4 (Fed. Cir. 2021) (noting that disclaimer “does not legally constitute ‘an admission that the subject of the disclaimer appears in the prior art.’”).

inherency. Furthermore, for its simulations, TI attempts to back into the results it needs by making up values and using different waveforms than those actually disclosed in DeMaw and Macnally. Using such flawed methodology allows TI to improperly show whatever results it wants to show. Thus, the Petition should be denied.

Furthermore, ParkerVision requests the Board to exercise its discretion under 35 U.S.C. § 314(a) to deny institution of the Petition because of the advanced state of parallel litigation pending in the Western District of Texas, No. 6:23-cv-00384-ADA (“the Texas case”). The ’342 patent is one of three patents asserted in a complaint filed approximately *fifteen months* ago. (Ex. 2001). In that case, preliminary infringement and invalidity contentions have already been exchanged, a *Markman* hearing was held on June 14, 2024, and trial is set for May 7, 2025 (Ex. 2002)—more than *six months before* a final written decision would be due if the Board were to institute. Notably, Petitioner raises the same invalidity issues in the district court as contained in its IPR Petition.

Given the current posture and schedule of the underlying Texas case, the factors set forth in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential), which has not been overruled or abrogated by statute or any regulation, weigh in favor of *denying* institution of an IPR. The ’342 patent is but one of three patents being litigated. The Court and parties have

already invested significant resources in litigating the Texas case, and despite what efficiencies Petitioner may urge, the Board's expenditure of resources will hardly make a dent in simplifying the parallel litigation.

Based on the Board's precedential decisions discussed below, and for the foregoing reasons, institution of the Petition should be denied.

II. *INTER PARTES* REVIEW SHOULD NOT BE INSTITUTED BECAUSE THE PETITIONER CANNOT PREVAIL ON ANY CHALLENGED CLAIM.

ParkerVision has statutorily disclaimed claims 18 and 22-23 of the '342 patent. *See* Ex. 2006. As a matter of law, these claims are treated as if they never existed, which renders the Petition's Ground 1B moot. *See Genetics Inst., LLC v. Novartis Vaccines & Diagnostics, Inc.*, 655 F.3d 1291, 1299 (Fed. Cir. 2011) (“[U]pon entry of a disclaimer under § 253, we treat the patent as though the disclaimed claim(s) had never existed.” (citations omitted)); 37 C.F.R. § 42.107(e) (“No inter partes review will be instituted based on disclaimed claims.”). As for the Petition's remaining grounds, the Board should not institute *inter partes* review because, as set forth below, TI's Petition is replete with statutory deficiencies and dispositive evidentiary gaps.

Claim 19 of the '342 patent recites: “The method of claim 18, wherein the first capacitor discharges between six percent to fifty percent of the total charge stored therein during a period of time that the first switching device is open, and

wherein the second capacitor discharges between six percent to fifty percent of the total charge stored therein during a period of time that the second switching device is open.” Claims 20 and 21 recite language identical to claim 19, with the only difference being the specific percentage discharge ranges for the first and second capacitors. In particular, claim 20 recites a discharge range between 10% and 25%, and claim 21 recites a discharge range between 15% and 20%.

Thus, ParkerVision's analysis of claim 19 of the '342 patent set forth below similarly applies to claims 20 and 21.

A. Ground 1: TI fails to demonstrate that claims 19-21 of the '342 patent are obvious in view of DeMaw.

TI asserts that “DeMaw teaches claim 19.” Pet., 35. TI suggests the same for claims 20 and 21.² *Id.* at 37. But TI does not (and cannot) point to any express

² TI does not expressly argue that DeMaw teaches either claim 20 or 21, but rather implies it by referencing the plotted histogram DEMA W-SIM-FIG. 7. For claim 20, TI relies entirely on the assertion that “[f]rom DEMA W-SIM-FIG. 7, the histogram shows a continuum of occurrences of discharging ratio that includes the claim's 10-25% discharging rate.” Pet., 37. Likewise, for claim 21, TI asserts “[f]rom DEMA W-SIM-FIG. 7, the histogram shows a continuum of occurrences of discharging ratio that includes the claim's 15-30% discharging rate.” *Id.*

disclosure in DeMaw that describes charging/discharging cycles of capacitors, let alone the discharge percentage ranges claims 19-21 specifically require.

Thus, TI relies on inherency to bridge the evidentiary gap in DeMaw. Specifically, TI turns to expert testimony and circuit simulations to suggest that DeMaw's circuit operates in the manner as claimed. But inherency is a demanding standard and TI fails to articulate the standards for inherency, much less explain how its arguments/evidence satisfy this standard. *See, e.g., In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) ("To establish inherency, the extrinsic evidence 'must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.'" (emphasis added)).

Because TI never acknowledges these legal standards, it fails to establish that the capacitors in DeMaw's circuit *necessarily* discharge between the claimed percentages of the total charge during a period of time when the switching devices are open. In other words, TI fails to establish inherency for claims 19-21. Instead, for example, TI merely asserts that "the charge ratio of in claim 19 can be computed." Pet., 35. But it is well-settled law that the mere possibility or probability that a certain result will occur falls short of demonstrating that such a result is necessarily present in the prior art. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (*quoting Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264,

1268 (Fed. Cir. 1991)) (Inherency “may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”).

Because TI makes no attempt to establish that the capacitors in DeMaw's circuit *necessarily* discharge within the claimed percentage ranges of claims 19-21, the Board should reject Petitioner's argument and deny institution.

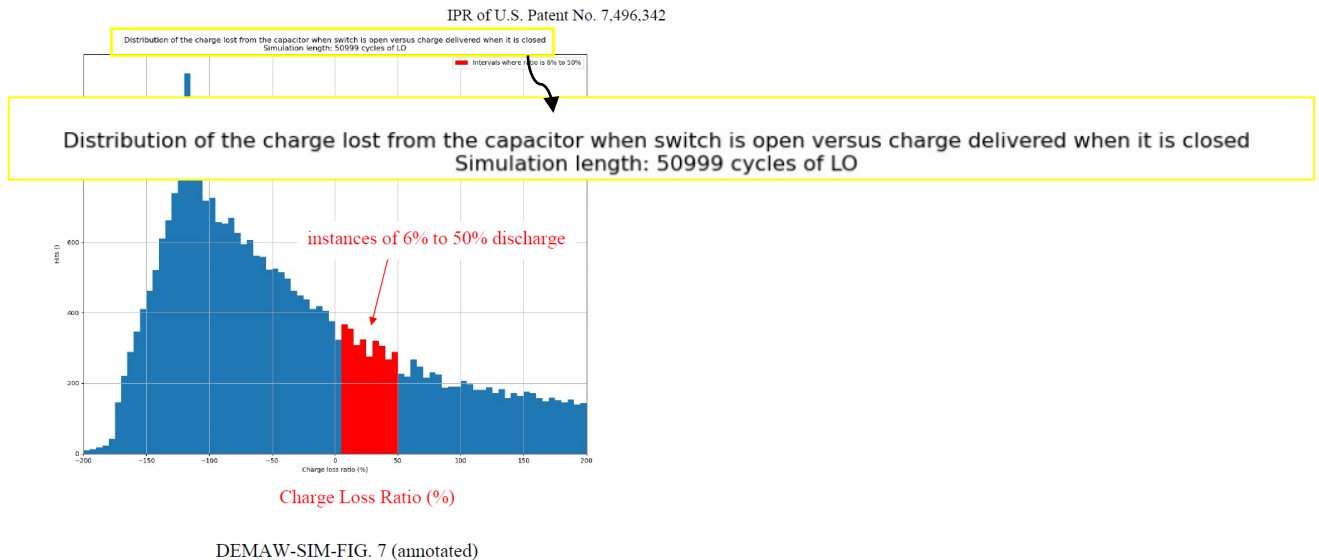
B. TI has not proven that DeMaw teaches all elements of claims 19-21.

Even assuming, *arguendo*, that TI has demonstrated inherency (which it has not), TI still fails to meet its burden of proving DeMaw teaches all elements of claims 19-21.

Specifically, claims 19-21 require that *both* first and second capacitors discharge within a specified percentage range during the open periods of their respective switching devices. But TI provides no evidence to substantiate *both* capacitors meet this claim limitation. This complete failure of proof alone necessitates denial of the Petition.

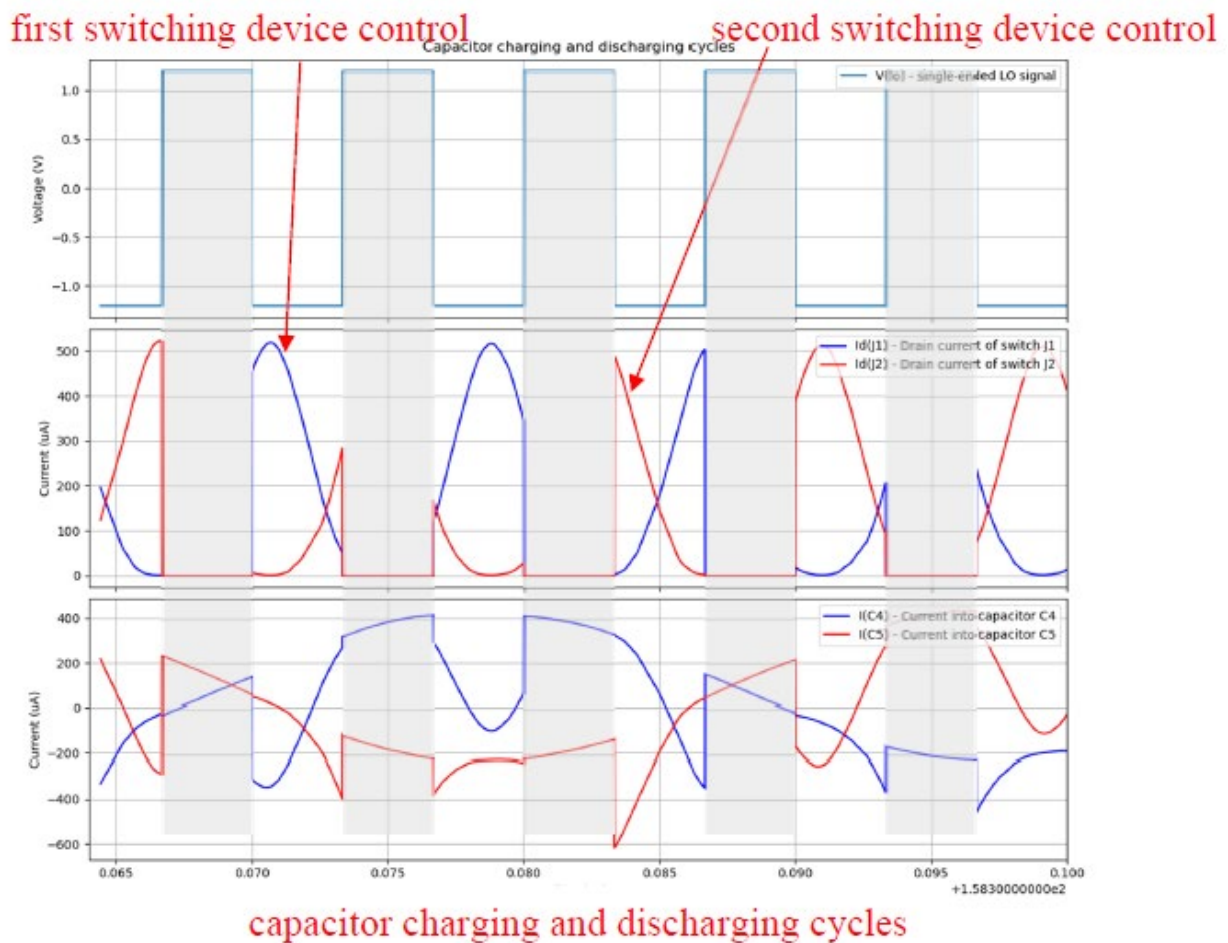
To support its position, TI presents a single histogram DEMAW-SIM-FIG. 7 (reproduced below), which it claims was generated using “a python post-processing script applied to the raw simulation waveforms” over “50,999 simulation cycles.” Pet., 35.

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As shown above, the histogram is titled “Distribution of the charge lost from the capacitor when the switch is open versus charge delivered when it is closed.” (emphasis added). On its face, it is clear that the histogram pertains to only one capacitor. TI provides no further analysis or data regarding the discharge behavior of the second capacitor.

Moreover, TI fails to allege, let alone provide evidence, that the first and second capacitors have identical or even similar charging/discharging cycles. On the contrary, TI’s own simulation DEMAW-SIM-FIG. 4 (reproduced below) suggests the opposite—that the first and second capacitors in DeMaw’s circuit discharge at different rates.



Without evidence that *both* the first and second capacitors operate within the claimed discharge percentage ranges, TI fails to establish that DeMaw either expressly or inherently teaches the “discharge” limitations of claims 19-21. Therefore, the Board should reject TI’s argument that DeMaw discloses all elements of claims 19-21 of the ’342 patent.

C. TI’s DeMaw simulations are unsupported, fail to identify key underlying assumptions, and should not be given any weight.

TI’s only evidence supporting the claim that DeMaw meets the “discharge” limitations of claims 19-21 comes from the histogram allegedly based on

simulations of DeMaw's circuit, and the accompanying declaration of Dr. Galton.

But this evidence is both unsubstantiated and unreliable, amounting to mere *ipse dixit* speculation.

The simulations are flawed because they are not based on the information actually disclosed in DeMaw. Instead, TI ignored what is disclosed in DeMaw and made-up values and waveforms untethered to DeMaw to get to the specific claimed percentages. This is improper.

Though the Federal Circuit has acknowledged that computer simulations are not inherently unreliable or suspect, they must be grounded in "both a solid theoretical foundation and realistic input parameters to yield meaningful results." *Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1054 (Fed. Cir. 2001). In *Novartis*, plaintiff's expert developed a computer model of the defendant's allegedly infringing process but failed to explain the basis for the inputs into his model or the assumptions that informed its design. The district court rejected the expert's model as "so wholly deficient and empirically groundless as to not rise above the level of a self-serving conclusion," and granted summary judgment to the defendant. *Id.* at 1050. The Federal Circuit affirmed, holding that "where an expert's opinion is predicated on factual assumptions, those assumptions must . . . find some support in the record." *Id.* at 1051.

Much like in *Novartis*, TI's Petition fails to provide critical information regarding the factual basis and assumptions underlying its simulations and plotted histogram. Without this information, TI's and Dr. Galton's analysis amounts to nothing more than "mere theoretical speculation" and self-serving conclusions. *See id.*³

In particular, TI/Dr. Galton assert that parameter values from DeMaw were used in the simulations "with minor adjustments," and that "[r]easonable values were calculated based on the expected circuit operating conditions." TI-1003, ¶ 73; Pet., 17. But tellingly, neither TI nor Dr. Galton explains what constitutes a "minor adjustment," why these adjustments were chosen, how the "reasonable values" were calculated, or what "reasonable" actually means. Each of these unexplained assumptions is critical both to the analysis and conclusions drawn from them.

First, TI/Dr. Galton fail to provide any explanation for the parameters selected for the LO input signal. TI/Dr. Galton merely assert that "[t]he LO signal

³ In fact, Dr. Galton's analysis is even more unsubstantiated than the expert analysis rejected in *Novartis*. While the rejected expert in *Novartis* at least attempted to explain the basis for his test inputs and provided the source code for his results, neither TI nor Dr. Galton offers source code or any such explanation at all.

used [in DeMaw's circuit simulation] is a *square* wave of 150MHz and amplitude of 1.2V peak." Pet., 18 (citing TI-1003, ¶¶ 72-74) (emphasis added). TI/Dr. Galton simply chose values and a waveform to get to the result that they needed.

But DeMaw does not disclose a specific LO frequency or amplitude value and, in fact, specifically teaches a *sinusoidal* LO input signal rather than the square wave used in TI's simulations. Thus, TI purposefully ignored the sinusoidal waveform used in DeMaw. And, by using a square wave, TI affected the results of the simulation, changing how the DeMaw circuit would actually operate.

Significantly, TI even admits that "using a square wave for the LO of this circuit is *unconventional*." Pet., 18 (emphasis added). Indeed, TI/Dr. Galton further acknowledge that LO signal amplitude plays a critical role in the switch opening and closing (and thus the charging/discharging cycles of the capacitors). *Id.* at 35 (citing TI-1003, ¶ 114). Without any explanation for these choices, ParkerVision cannot properly investigate and rebut the analysis. And allowing Petitioners to exploit the prior art's lack of disclosure to cherry-pick self-serving values without any explanation or rationale undermines the integrity of the proceedings.⁴

⁴ In that regard, it would be improper for TI to cure these gaps and problems with its expert's analysis and evidence by doing so in a sur-reply. In the first instance, Petitioner must meet its burden in the Petition.

Second, TI/Dr. Galton assert that RF signal in the simulation “was generated with a 1.0 volt, 123.102MHz sinusoidal carrier AM modulated with a 0.15 volt, 1 MHz sinusoidal ‘message signal.’” TI-1003, ¶ 96; *see also* Pet., 19. Yet, DeMaw lacks any disclosure regarding the RF signal frequency, modulation, or amplitude. TI contends that the selected carrier frequency was deliberately chosen “to ensure that there are no perfect ratios which would create simulation artifacts in this noiseless simulation.” Pet., 19.⁵ But TI/Dr. Galton provide no explanation whatsoever for why the specific modulation technique or amplitude values were chosen. And the RF signal parameters directly impact the operation of the circuit, including the charging/discharging cycles and amount of charge stored in the capacitors. Again, without any explanation, the Petition is deficient, and institution should be denied.

Third, TI/Dr. Galton state that “the charge ratio of in claim 19 can be computed on a cycle-by-cycle basis *using a python post-processing script* applied to the raw simulation waveforms.” Pet., 35 (emphasis added); TI-1003, ¶ 114.

⁵ TI cites to Dr. Galton’s declaration (at TI-1003, ¶ 96) to substantiate this assertion; however, Dr. Galton’s testimony lacks any analysis or explanation regarding the rationale behind the specific carrier frequency choice, including the reasoning stated in the Petition.

TI/Dr. Galton further provide that “[t]his ratio was collected for 50,999 simulation cycles and plotted as a histogram, shown in DEMAW-SIM-FIG. 7.” *Id.* But neither TI nor Dr. Galton provides the source code of the python post-processing script used to generate the histogram, nor do they offer any details about the methodology employed. This omission is significant. Without this information, a person of ordinary skill in the art (POSITA) would be unable to confirm the accuracy of the histogram or Dr. Galton’s conclusions regarding discharging ratios.

Because neither TI nor Dr. Galton discloses or describes the facts, data, principles, or methods used in the simulations of DeMaw’s circuit, the Board and ParkerVision cannot assess whether Dr. Galton’s opinion testimony is based on sufficient facts or data, is the product of reliable principles and methods, or whether he reliably applied those principles and methods to the facts of the case. *See* 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). For the foregoing reasons, TI’s simulations, histogram, and Dr. Galton’s declaration are unsubstantiated and unreliable and should be given no weight.

D. Ground 2: TI fails to demonstrate that claims 19-21 of the '342 patent are obvious in view of Macnally.

TI asserts that “Macnally teaches claim 19,” and implies that Macnally similarly teaches claims 20 and 21. Pet., 72-73.⁶ But TI does not (and cannot) point to any express disclosure in Macnally that describes charging/discharging cycles of capacitors, let alone the discharge percentage ranges claims 19-21 specifically require.

Similar to Ground 1, TI attempts to bridge the evidentiary gap in Macnally by relying on expert testimony and circuit simulations to suggest that Macnally's circuit operates in the manner as claimed. But, again, TI fails to articulate the demanding standard for inherency, much less explain how its arguments/evidence satisfy this standard. *See, e.g., In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999)

⁶ TI does not expressly argue that Macnally teaches either claim 20 or 21, but rather implies it by referencing the charge loss ratio, which relates to MACNALLY-SIM-FIG.4. For claim 20, TI relies entirely on the assertion that “[t]here are cycles where the charge loss ratio is 25%, which satisfies the claimed range of 10% to 25%.” Pet., 73. Likewise, for claim 21, TI asserts “[t]here are cycles where the charge loss ratio is 25%, which satisfies the claimed range of 15% to 30%.” *Id.*

(“To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is *necessarily* present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill.” (emphasis added)).

Because TI never acknowledges the legal standard for inherency, it fails to establish that the capacitors in Macnally's circuit *necessarily* discharge between the claimed percentages of the total charge during a period of time when the switching devices are open. In other words, TI fails to establish inherency for claims 19-21. At best, TI suggests the possibility that Macnally's circuit *could* exhibit the claimed discharge behavior. TI contends, for example, that “[a]s the mixer switches [in Macnally's circuit simulation] are driven by the full-swing LO clock signal, *it is possible* to compute the intervals of time when the switches are open versus closed.” Pet., 72. But it is well-settled law that the mere possibility or probability that a certain result will occur falls short of demonstrating that such a result is necessarily present in the prior art. *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (*quoting Continental Can Co. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991)) (Inherency “may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.”).

Notably, Dr. Galton's simulations, which TI rely upon to support its argument, use a “full-swing LO clock signal” that is neither taught nor suggested

by Macnally. Dr. Galton even admits that “[t]he circuit was built using the limited descriptive text available in the patent,” and that “[t]his simulation *deviates* from the original patent’s intended modulation of BFSK.” TI-1003, ¶¶ 92, 94 (emphasis added). These deviations render Dr. Galton’s simulations purely speculative and, therefore, insufficient to establish that the capacitor discharge behavior is inherently present in Macnally, as claimed.

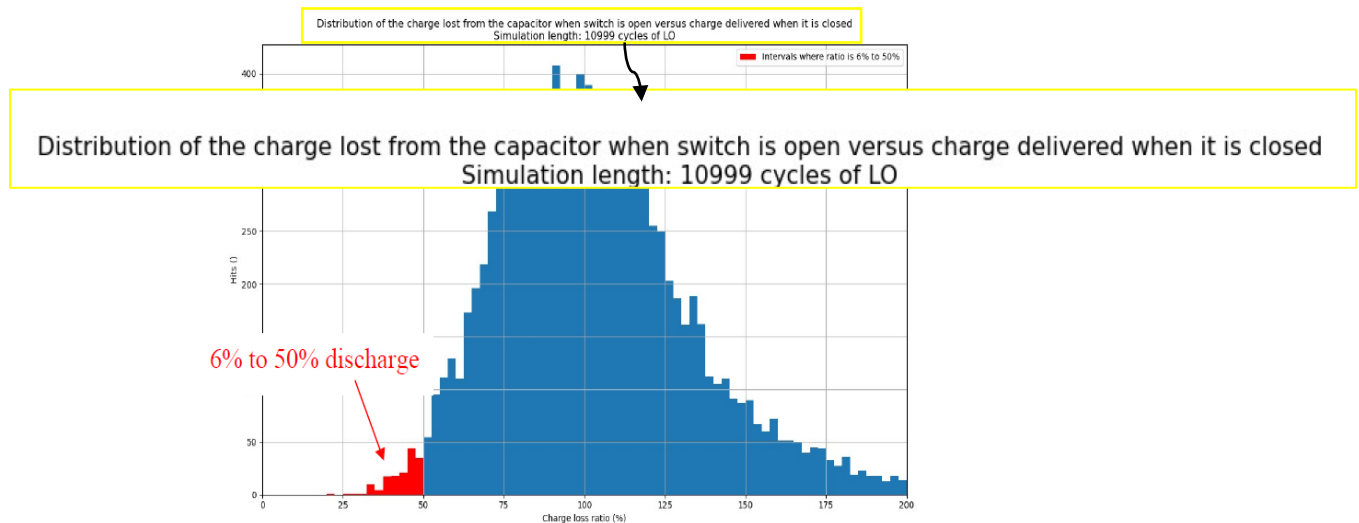
Because TI makes no attempt to establish that the capacitors in DeMaw’s circuit *necessarily* discharge within the claimed percentage ranges of claims 19-21, the Board should reject Petitioner’s argument and deny institution.

E. TI has not proven that Macnally teaches all elements of claims 19-21.

Even assuming, *arguendo*, that TI has demonstrated inherency (which it has not), TI still fails to meet its burden of proving Macnally teaches all elements of claims 19-21.

Specifically, claims 19-21 require that *both* first and second capacitors discharge within a specified percentage range during the open periods of their respective switching devices. But TI provides no evidence to substantiate *both* capacitors meet this claim limitation. This complete failure of proof alone necessitates denial of the Petition.

To support its position, TI presents a single histogram MACNALLY-SIM-FIG. 4 (reproduced below), which it claims was generated using “[t]he identical post-processing script that was used to generate figure DEMAW-SIM-FIG.7.” Pet., 72.



MACNALLY-SIM-FIG. 4 (annotated)

As shown above, the histogram is titled “Distribution of the charge lost from the capacitor when the switch is open versus charge delivered when it is closed.” (emphasis added). On its face, it is clear that the histogram pertains to only one capacitor. TI provides no further analysis or data regarding the discharge behavior of the second capacitor.

Moreover, TI fails to allege, let alone provide evidence, that the first and second capacitors have identical or even similar charging/discharging cycles.

Without evidence that *both* the first and second capacitors operate within the claimed discharge percentage ranges, TI fails to establish that Macnally either expressly or inherently teaches the “discharge” limitations of claims 19-21. Therefore, the Board should reject TI's argument that Macnally discloses all elements of claims 19-21 of the '342 patent.

F. TI's Macnally simulations are unsupported, fail to identify key underlying assumptions, and should not be given any weight.

TI's only evidence supporting the claim that Macnally meets the “discharge” limitations of claims 19-21 comes from the histogram allegedly based on simulations of Macnally's circuit, and the accompanying declaration of Dr. Galton. But this evidence is both unsubstantiated and unreliable, amounting to mere *ipse dixit* speculation.

The simulations are flawed because they are not grounded in the actual disclosure of Macnally. Instead, TI purposefully disregarded the express teachings of Macnally and fabricated values and waveforms that are disconnected from Macnally's actual disclosure to reach the specific claimed percentages. This is improper. *See Novartis Corp. v. Ben Venue Labs., Inc.*, 271 F.3d 1043, 1054 (Fed. Cir. 2001) (simulations must be grounded in “both solid theoretical foundation and realistic input parameters to yield meaningful results”).

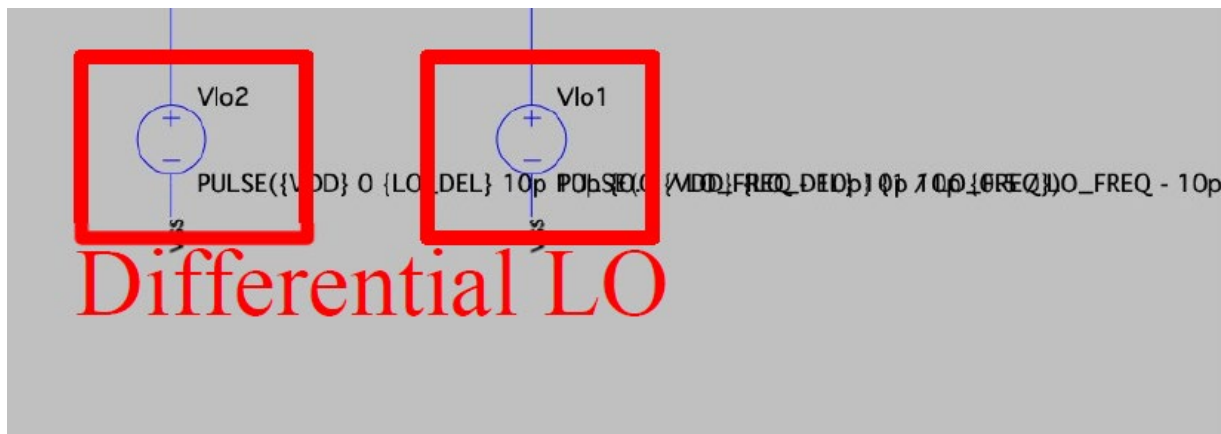
Similar to the situation in *Novartis*, TI's Petition fails to provide critical information regarding the factual basis and assumptions underlying its simulations and plotted histogram. Without this information, TI's and Dr. Galton's analysis is reduced to "mere theoretical speculation" and self-serving conclusions. *See id.*⁷

In particular, TI/Dr. Galton assert Macnally's circuit "was built using the limited descriptive text available in the patent," and Dr. Galton made "reasonable choices for device W/L ratios to make the circuit work as intended." Pet., 53 (citing TI-1003, ¶¶ 92-93). TI/Dr. Galton further indicate that "simple bias circuits and controllers were created" for simulation purposes and that Macnally's circuit simulations utilize "an op-amp macro model." *Id.* But tellingly, neither TI nor Dr. Galton explains what constitutes "reasonable choices," "simple bias circuits and controllers," or "an op-amp macro model," how these choices affect the circuit's operation, or why specific models, circuits, and values were selected. Each of these

⁷ In fact, Dr. Galton's analysis is even more unsubstantiated than the expert analysis rejected in *Novartis*. While the rejected expert in *Novartis* at least attempted to explain the basis for his test inputs and provided the source code for his results, neither TI nor Dr. Galton offers source code or any such explanation at all.

unexplained assumptions is critical both to the analysis and conclusions drawn from them.

First, TI/Dr. Galton fail to provide any explanation for the parameters selected for the LO input signal. TI/Dr. Galton merely assert that “[t]he circuit was operated with a 1.0GHz LO clock.” Pet., 54 (citing TI-1003, ¶¶ 92-94). TI/Dr. Galton simply chose values and a waveform to get to the result that they needed. MACNALLY-SIM-FIG.1 (excerpt reproduced below) shows that TI/Dr. Galton implemented the LO signal in Macnally’s simulations as a “pulse” or square wave.



However, Macnally does not disclose a specific LO frequency or amplitude value and, in fact, specifically teaches a *sinusoidal* LO input signal rather than the square wave used in TI’s simulations. Thus, TI purposefully ignored the sinusoidal waveform used in Macnally. And by using a square wave, TI affected the results of the simulation, changing how the Macnally circuit would actually operate. TI/Dr. Galton further acknowledge that LO signal amplitude plays a critical role in the

switch opening and closing (and thus the charging/discharging cycles of the capacitors). Pet., 72 (citing TI-1003, ¶ 149). Without any explanation for these choices, ParkerVision cannot properly investigate and rebut the analysis. And allowing Petitioners to exploit the prior art's lack of disclosure to cherry-pick self-serving values without any explanation or rationale undermines the integrity of the proceedings.⁸

Second, TI/Dr. Galton assert that the simulated Macnally circuit performs “direct down-conversion on an RF signal comprised of a 1.0GHz sinusoidal carrier amplitude-modulated 10% by a 425.3 kHz sinusoidal message signal.” Pet., 54 (citing TI-1003, ¶¶ 92-94). Significantly, TI/Dr. Galton admit that “[t]his simulation deviates from the original patent's intended modulation of BFSK.” *Id.* TI/Dr. Galton purposefully ignored the express teaching of Macnally and, thus, impacted the simulation results. TI/Dr. Galton contend that “the use of AM modulation instead of BFSK modulation was simply to make the plots easier to interpret,” but they fail to provide any explanation for why this change makes it easier without affecting the results, or why the specific frequencies or amplitude

⁸ In that regard, it would be improper for TI to cure these gaps and problems with its expert's analysis and evidence by doing so in a sur-reply. In the first instance, Petitioner must meet its burden in the Petition.

values were chosen. The RF signal parameters directly impact the operation of the circuit, including the charging/discharging cycles and amount of charge stored in the capacitors. Again, without any explanation, the Petition is deficient, and institution should be denied.

Third, TI/Dr. Galton state that “[t]he identical *post-processing script* that was used to generate figure DEMA-W-SIM-FIG. 7 is used to generate MACNALLY-SIM-FIG. 4....” Pet., 72 (emphasis added). But the plotted histogram shows that Macnally's simulation results were collected over 10,999 cycles of the LO, while DeMaw's simulation was collected for 50,999 cycles. TI/Dr. Galton fail to explain this discrepancy despite asserting that the same script was used. Neither TI nor Dr. Galton provides the source code of the python post-processing script used to generate the plotted histograms, nor do they offer any details about the methodology employed. This omission is significant. Without this information, a POSITA would be unable to confirm the accuracy of the histogram or Dr. Galton's conclusions regarding discharging ratios.

Because neither TI nor Dr. Galton discloses or describes the facts, data, principles, or methods used in the simulations of Macnally's circuit, the Board and ParkerVision cannot assess whether Dr. Galton's opinion testimony is based on sufficient facts or data, is the product of reliable principles and methods, or whether he reliably applied those principles and methods to the facts of the case.

See 37 C.F.R. § 42.65(a) (“Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight.”). For the foregoing reasons, TI’s simulations, histogram, and Dr. Galton’s declaration are unsubstantiated and unreliable and should be given no weight.

III. THE BOARD SHOULD EXERCISE ITS DISCRETION AND DENY INSTITUTION UNDER 35 U.S.C. § 314(a) AND 37 C.F.R. § 42.108(b)

ParkerVision sued Petitioner for infringement of the ’342 patent in the Western District of Texas approximately *fifteen months ago* on May 18, 2023. (*See* Ex. 2001). As such, the Texas case is in an advanced stage and a jury trial will occur more than *six months before* this Board issues a final written decision. By the November 2025 deadline for this Board’s Final Written decision, Judge Albright will have entered a claim construction order covering terms from the ’342 patent, ruled on dispositive motions, and conducted a jury trial. (*See* Ex. 2002). In fact, as of the filing of this response, the parties have already exchanged preliminary infringement and invalidity contentions, completed claim construction briefing, are in the midst of discovery, and had a *Markman* hearing on disputed claim terms.

In the Board’s precedential *Fintiv* decision, the Board set forth six factors for determining “whether efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel

proceeding.” *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 at 5-6 (PTAB Mar. 20, 2020) (precedential). When evaluating these factors, the Board takes a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.⁹ *Google LLC v. Personalized Media Commc’ns, LLC*, IPR2020-00720, Paper 16 at 5 (PTAB Aug. 31, 2020) (citing *Fintiv*, IPR2020-00019, Paper 11 at 5-6). Here, *all* six *Fintiv* factors weigh in favor of *denying* institution. *See NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential) (“Institution of an *inter partes* review under these circumstances would not be consistent with ‘an objective of the AIA . . . to provide an effective and efficient alternative to district court litigation.’” (citation omitted)). As such, the Board should exercise its discretion and deny institution here.

⁹ Efficient administration of matters weighs *against* institution in this case. *See* 35 U.S.C. § 316(b). There is no question that the Board has the discretion to deny institution under 35 U.S.C. § 314(a) and that the facts here fit with denial under the Board’s *Fintiv* precedent and related line of decisions.

A. Factor 1—The district court has not granted a stay, and there is no evidence that the district court will grant a stay even if a proceeding is instituted.

Petitioner has not asked for a stay pending *inter partes* review, and there is no evidence that Judge Albright would grant a stay even if an IPR were instituted. To the contrary, Judge Albright has made it clear that he will not stay a case where, as here, the court can resolve the case as quickly as the Board can:

[T]here's no unfairness to either side by not staying a case for the PTAB when I can try the case as quickly as they can resolve it.... And so far, I think that's proven to be true.

(Ex. 2003). Indeed, “Judge Albright almost never stays proceedings to let the PTAB make its decision first.” *Id.* at 2.

The district court has expressly stated that it considers issue simplification “the most important factor” in deciding whether to stay patent litigation¹⁰—and here, a stay would not simplify anything. Trial in the district court case against Petitioner is scheduled for May 7, 2025 (Ex. 2002). The Board's final written

¹⁰ See, e.g., Ex. 2004, *Sonrai Memory Ltd. v. Kingston Tech. Co., Inc.*, No. 6:21-cv-1284-ADA, slip op. at *4-5 (W.D. Tex. Oct. 18, 2022) (denying a stay following IPR institution because issue simplification was the “most important factor” and the Court had already held a *Markman* hearing and “expended significant resources”).

decision, on the other hand, would not be expected until *six months after* a jury trial, in late November 2025. As mentioned above, in addition to there being no efficiencies or simplification of issues in the district court that would result from institution, denial of TI's Petition preserves the integrity of the system. In the circumstances here, there should not be two adjudications of validity of the '342 patent, particularly where the Board's decision will not come until six months after the jury trial and the case could already be on appeal. Allowing for two decisions regarding the '342 patent's validity, not to mention two potentially conflicting decisions, actually impugns the integrity of the patent system.

Judge Albright's prior decisions on opposed motions to stay pending IPR indicate that a stay of the Texas case would be denied. In *Multimedia Content Management LLC v. DISH Network LLC*, for example, Judge Albright denied a motion to stay with similar facts to the Texas case. There, (1) the defendant filed IPR petitions ten months after filing of the complaint, (2) the court issued a claim construction ruling before the patent owner filed a Preliminary Response, and (3) a jury trial was set three months before the statutory deadline for the Board to issue a final written decision. *Multimedia Content Mgmt. LLC v. Dish Network Corp.*, No. 6:18-cv-00207-ADA, 2019 U.S. Dist. LEXIS 198875, at *2 (W.D. Tex. Jan. 10, 2019). In denying defendant's motion to stay, Judge Albright found that a stay would prejudice the plaintiff, ignore the advanced state of the proceedings, and fail

to simplify the issues. *Id.* Likewise in *Kerr Machine Co. d/b/a Kerr Pumps v.*

Vulcan Industrial Holdings, LLC, 6:20-cv-00200 (W.D. Tex. Aug. 2, 2020), Judge

Albright denied a stay noting, “[e]ven if the PTAB institutes, the Court anticipates that the trial date will occur before the PGR’s final written decision.” (Ex. 2005).

There is no reason to believe that Judge Albright would reach any different result here. Indeed, the uncontroverted facts in the district court litigation demonstrate that a stay will not be granted. In view of this, and again, given Judge Albright’s explicit statements on the record, as well as his prior rulings in *e.g.*, *Multimedia* and *Kerr Machine*, it is firmly established that the court would not grant a stay.

Additionally, even where no stay has been requested, the Board has found factor 1 weighs in favor discretionary denial where (as here), “Petitioner present[ed] no evidence that it has requested a stay [] or that a stay is likely.”

Luxshare Precision Industry v. Amphenol Corp., IPR2022-00132, Paper 10, at 9 (PTAB May 3, 2022). And such a decision is particularly appropriate where the circumstances show that “a stay . . . is unlikely.” *Nintendo Co. v. Gamevice, Inc.*, IPR2020-01197, Paper 13, at 11-12 (PTAB Jan. 12, 2021).

For all of these reasons, factor 1 favors discretionary denial.

B. Factor 2—Because the Texas case will be tried *before* the Board's projected statutory deadline for a final written decision, the Board should deny institution.

Judge Albright has set trial in the Texas case involving the '342 patent for May 7, 2025. (Ex. 2002). Given that the Board will issue an institution decision by November 29, 2024 (three months after the filing of this Preliminary Response), any final written decision, if instituted, would be entered on or around November 29, 2025. As such, the Texas case will have been tried more than *six months before* the Board's projected statutory deadline for a final written decision.

Factor 2, therefore, favors discretionary denial. *See NetApp, Inc. v. Realtime Data LLC*, IPR2017-01195, Paper 9, at 12-13 (P.T.A.B. Oct. 12, 2017) (denying institution) ("The result would be a significant waste of the Board's resources. There would be no offsetting conservation of the [district court's] judicial resources because any final written decision in this proceeding would not issue until well after the scheduled trial date in the [district court] [l]itigation."); *see also Next Caller, Inc. v. TrustID, Inc.*, IPR2019-00961, Paper 10, at 14-15 (P.T.A.B. Oct. 16, 2019) (denying institution where trial was scheduled to start about three months before expected final written decision); *E-One, Inc. v. Oshkosh Corp.*, IPR2019-00161, Paper 16, at 6 (P.T.A.B. May 15, 2019) (denying institution where trial was scheduled to start one month before expected final written decision); *Intel Corp. v. VLSI Tech. LLC*, IPR2020-00106, Paper 17, at 8 (P.T.A.B.

May 5, 2020) (denying institution where trial was scheduled to start four to five months before expected final written decision).

C. Factor 3—The parties and the Court have invested significant resources in the Texas case, favoring discretionary denial.

ParkerVision filed its complaint on May 18, 2023, and TI was subsequently served with a summons on May 19, 2023. TI waited exactly one year—until May 18, 2024—to file the Petition. Because TI did not file the Petition expeditiously, the Court and the parties will have completed litigation by the time the Board issues its final written decision.

Event	Date
Complaint	May 18, 2023
Preliminary infringement contentions served by ParkerVision	December 6, 2023
Preliminary invalidity contentions served by TI	January 31, 2024
Exchange of claim terms for construction	January 31, 2024
Exchange of preliminary claim constructions	February 14, 2024
Exchange of extrinsic evidence	February 21, 2024
Meet and confer to narrow claim construction issues	February 28, 2024
TI filed Opening claim construction brief	March 6, 2024
ParkerVision filed Responsive claim construction brief	March 27, 2024
TI filed Reply claim construction brief	April 10, 2024
ParkerVision filed Sur-Reply claim construction brief	April 24, 2024
Parties submitted Joint Claim Construction Statement	April 29, 2024
Fact discovery opened	May 9, 2024
Petition filed ¹¹	May 18, 2024
Markman Hearing	June 14, 2024
Final invalidity contentions served by TI	July 3, 2024
Final infringement contentions served by ParkerVision	July 10, 2024

¹¹ The green cells reflect deadlines before the PTAB.

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Patent Owner's Preliminary Response

Deadline for Institution Decision	November 29, 2024
Close of fact discovery	December 4, 2024
Close of expert discovery	January 29, 2025
Dispositive motion deadline	February 12, 2025
Final Pretrial Conference	April 16, 2025
Trial	May 7, 2025
Deadline for Final Written Decision	November 29, 2025

And as this chart makes clear, the parties will be deep in fact discovery before any institution decision issues. The parties will proceed with fact depositions, followed by the exchange of expert reports and expert declarations. Specifically, fact discovery will conclude by December 4, 2024. (*See* Ex. 2002, at 3.) Opening expert reports on validity are due December 11, 2024, and expert discovery will end on January 29, 2025—i.e. ten months before any final written decision here. (*Id.*). Dispositive motions, such as any summary-judgment motions regarding the purported invalidity of the '342 patent or Daubert Motions will be filed by February 12, 2025. And trial will occur on May 7, 2025. In sum, the totality of the litigation will be completed before this Board issues its final written decision.

Petitioner ignores *Fintiv*, where the Board specifically considered “the level of investment and effort already expended on claim construction and invalidity contentions in the District Court” in finding factor 3 weighed in favor of discretionary denial. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 14 (PTAB May 13, 2020).

Indeed, the parties have made significant investments in the district court litigation, and that will only continue as the Board considers institution. Notably, the parties have already completed claim construction briefing, served lengthy final infringement/invalidity contentions, and exchanged document production. This Board need look no further than *Fintiv* to see that these types of investments favor discretionary denial. *See Fintiv*, IPR2020-00019, Paper 11 at 10 (“district court claim construction orders may indicate that the court and parties have invested sufficient time in the parallel proceeding to favor denial.”); *see also E-One, Inc. v. Oshkosh Corp.*, IPR2019-00161, Paper 16 at 13, 20 (PTAB May 15, 2019) (denying institution where “district court ha[d] already expended substantial resources” by, among other things, “receiv[ing] briefing and hear[ing] oral argument on claim construction, and issu[ing] a claim construction ruling”); *Nine Energy Service Inc. v. MCS Multistage Inc.*, IPR2020-01615, Paper 18 at 10-11 (PTAB Mar. 24 2021) (finding this factor weighed in favor of denying institution despite recognizing “discovery is in the early stages.”).

D. Factor 4—Significant overlap between issues raised in the Petition and in the Texas case supports denial.

The overlap between the issues raised in the instant IPR Petition and in the parallel district court litigation is substantial. The Petition alleges invalidity of

claims asserted in the district court litigation based on common references relied upon in the Texas case.

Grounds 1A and 1B of this Petition rely on the DeMaw and Tayloe references, which Petitioner also cites in the co-pending district court litigation. And as the Board previously noted, “Petitioner’s assertion of additional invalidity contentions in the District Court is not relevant to the question of the degree of overlap for this factor. Further, the fact that Petitioner has not decided whether to pursue the art from this proceeding in its expert discovery or at trial in the District Court is not persuasive.” *Fintiv*, IPR2020-00019, Paper 15, at 14-15. Ultimately, as the Board recognized in *Supercell*, under *Fintiv*, “if the petition includes the same or substantially the same claims, grounds, arguments, and evidence as presented in the parallel proceeding, this fact has favored denial” because “concerns of inefficiency and the possibility of conflicting decisions [are] particularly strong.” *Supercell Oy v. Gree, Inc.*, IPR2020-00513, Paper 11 at 13 (PTAB June 24, 2020). That is exactly the case here—there is substantial overlap in the references and invalidity grounds in both TI’s Petition and its invalidity arguments in the Texas case.

For the foregoing reasons, factor 4 also supports denial of the Petition.

E. Factor 5—The Petitioner and the defendant in the parallel proceedings are the same party, supporting denial.

The parties are the same in the Petition and the Texas case. As such, Petitioner must concede that this factor favors denial of institution. *See Fintiv*, IPR2020-00019, Paper 15 at 15 (“Because the petitioner and the defendant in the parallel proceeding are the same party, this factor weighs in favor of discretionary denial.”).

F. Factor 6—Other circumstances that impact the Board's exercise of discretion show that denial is appropriate at this time.

There are additional weaknesses with the Petition that favor discretionary denial.¹² And as explained above, institution of the present proceedings will also give rise to substantial duplication of efforts. It will not prevent fact discovery, expert discovery, and other disputes that occur in the Texas case, nor obviate dispositive motions, pre-trial motions or a trial.

For these additional reasons, factor 6 further supports discretionary dismissal.

¹² ParkerVision reserves the right to address, in a Patent Owner Response if required, issues of claim construction not addressed by Petitioner and the failures of the cited art to teach or render obvious the challenged claims.

IV. CONCLUSION

For all of the foregoing reasons, ParkerVision respectfully requests the Board to deny the Petition.

Dated: August 29, 2024

Respectfully submitted,

By: /Jason S. Charkow/

Jason S. Charkow (USPTO Reg. No. 46,418)*

Richard Juang (USPTO Reg. No. 71,478)*

Chandran B. Iyer (USPTO Reg. No. 48,434)

Ronald M Daignault*

jason.s.charkow@gmail.com

richard.juang@gmail.com

cbiyer@daignaultiyer.com

rdaignault@daignaultiyer.com

DAIGNAULT IYER LLP

8229 Boone Boulevard

Suite 450

Vienna, VA 22182

**Not admitted in Virginia*

Attorneys for ParkerVision, Inc.

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this Patent Owner's Preliminary Response complies with the type-volume limitation of 37 C.F.R. § 42.24(b) because it contains 6891 words, as determined by the word-processing program used to prepare the brief, excluding the parts of the brief exempted by 37 C.F.R. § 42.24(a)(1).

Respectfully submitted,

By: /Jason S. Charkow/
Jason S. Charkow
USPTO Reg. No. 46,418

CERTIFICATE OF SERVICE

The undersigned hereby certifies that a copy of the foregoing **PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION FOR INTER PARTES REVIEW OF UNITED STATES PATENT NO. 7,496,342**, together with all exhibits filed therewith, was served in its entirety by filing these documents through the PTAB E2E System, as well as by email on the following counsel of record for Petitioner:

Joshua A. Griswold
Rishi Gupta
Yao Wang
Patrick J. Bisenius
Fish & Richardson P.C.
IPR12189-0090IP1@fr.com
PTABInbound@fr.com
griswold@fr.com
rgupta@fr.com
ywang@fr.com
bisenius@fr.com

Dated: August 29, 2024

Respectfully Submitted,

By: /Jason S. Charkow/
Jason S. Charkow
USPTO Reg. No. 46,418