

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TEXAS INSTRUMENTS INCORPORATED,
Petitioner,

v.

PARKERVISION, INC.,
Patent Owner.

IPR2024-00934
Patent 7,496,342 B2

Before MICHAEL R. ZECHER, BART A. GERSTENBLITH, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

ZECHER, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

Petitioner, Texas Instruments Incorporated (“TI”), filed a Petition requesting an *inter partes* review (“IPR”) of claims 18–23 of U.S. Patent No. 7,496,342 B2 (Ex. 1001, “the ’342 patent”). Paper 2 (“Pet.”). Patent Owner, ParkerVision, Inc. (“ParkerVision”) filed a Preliminary Response (Paper 6 (“Prelim. Resp.”)), along with a statutory disclaimer pursuant to 35 U.S.C. § 253(a) and 37 C.F.R. § 1.321(a) that disclaims claims 18, 22, and 23 of the ’342 patent (Ex. 2006). Consequently, only claims 19–21 of the ’342 patent remain for our consideration. *See* 37 C.F.R. § 42.107(e) (“No [IPR] will be instituted based on disclaimed claims.”); Prelim. Resp. 1.

Based on the authority delegated to us by the Director under 37 C.F.R. § 42.4(a), we may not institute an IPR unless the information presented in the Petition and any preliminary response thereto shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). Taking into account ParkerVision’s Preliminary Response, we conclude that the information presented in the Petition establishes that there is a reasonable likelihood that TI would prevail in demonstrating at least one of claims 19–21 of the ’342 patent is unpatentable. Pursuant to § 314, we hereby institute an IPR as to claims 19–21 of the ’342 patent.

A. *Real Party in Interest (“RPI”)*

TI identifies itself as the an RPI. Pet. 80. ParkerVision identifies itself as the an RPI. Paper 4 (ParkerVision’s Mandatory Notices), 1.

B. *Related Matters*

The parties indicate that the ’342 patent is the subject of the following two district court cases: (1) *ParkerVision, Inc. v. Texas Instruments Inc.*,

No. 6:23-cv-00384 (W.D. Tex. filed May 18, 2023); and (2) *ParkerVision, Inc. v. Qualcomm Inc.*, No. 3:11-cv-00719 (M.D. Fla. filed July 20, 2011). Pet. 81; Paper 4, 1. TI identifies a decision from the U.S. Court of Appeals for the Federal Circuit that, among other things, reversed the U.S. District Court for the Middle District of Florida’s denial of Qualcomm’s motion for judgment as a matter of law relating to invalidity¹ of claim 18 of the ’342 patent. Pet. 11–13 (citing Ex. 1031). In case before the Middle District of Florida, Qualcomm asserted that claim 18 was anticipated by DeMaw, which is one of the asserted prior art references in this proceeding. *Id.* We also note a previous Board decision denying a petition filed by Dr. Michael Farmwald and RPX Corporation challenging claims 18–21 and 23 of the ’342 patent. *Farmwald v. ParkerVision, Inc.*, IPR2014-01107, Paper 7 (PTAB Jan. 8, 2015) (Decision Denying Institution) (Ex. 1030).

C. The ’342 Patent

The ’342 patent, titled “Down-Converted Electromagnetic Signals, Including Controlled Discharge of Capacitors,” issued from U.S. Patent Application No. 10/972/133, filed on October 25, 2004. Ex. 1001, codes (54), (21), (22). The ’342 patent has an extensive priority chain of applications that ultimately results in a claim of priority to U.S. Patent

¹ According to the Federal Circuit, “[a]t the conclusion of the validity and infringement phase [of the trial], the jury returned a verdict rejecting Qualcomm’s validity claims and finding that Qualcomm directly or indirectly infringed . . . claim 18 of the ’342 patent.” Ex. 1031, 5. “Following trial, Qualcomm filed motions for judgment as a matter of law (‘JMOL’) and for a new trial on both invalidity and infringement. The court granted Qualcomm’s motion for JMOL of non-infringement but denied Qualcomm’s motions relating to invalidity.” *Id.* at 6.

Application No. 09/550,644, which was filed on April 14, 2000. *Id.* at code (60).

The '342 patent generally relates to the down-conversion and up-conversion of an electromagnetic ("EM") signal using a universal frequency translation ("UFT") module. Ex. 1001, 1:43–45, 6:25–29. A UFT module, such as UFT 102 illustrated in Figure 1A of the '342 patent, operates to generate an output signal from an input signal, whereby the frequency of the output signal differs from the frequency of the input signal. *Id.* at 6:37–41. Stated differently, the UFT module operates to generate the output signal from the input signal by translating the frequency of the input signal to the frequency of the output signal. *Id.* at 6:41–46.

Figure 16H of the '342 patent, reproduced below, illustrates a receiver with two switches according to one embodiment. Ex. 1001, 3:51–52, 20:33–34.

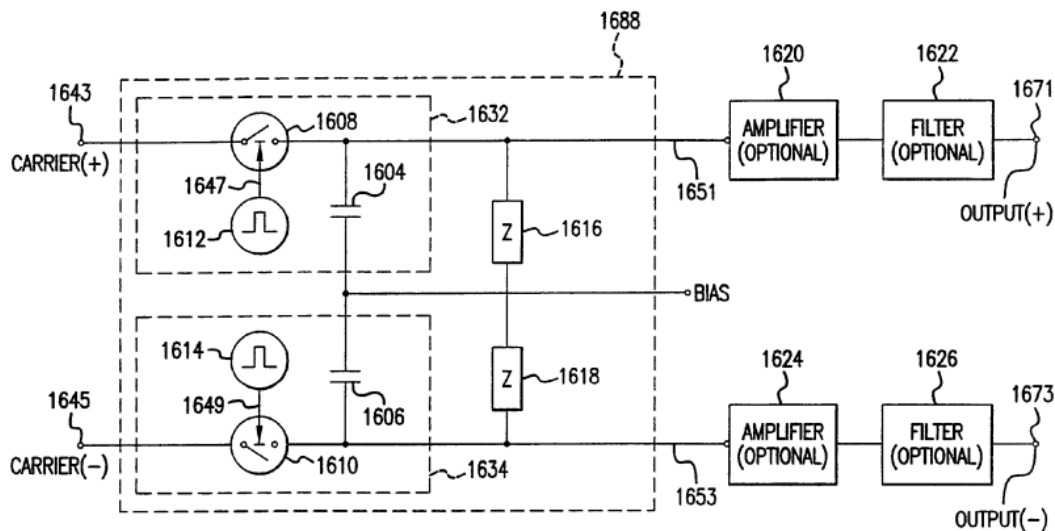


FIG.16H

Figure 16H illustrates universal frequency down-conversion ("UFD") module 1688 that includes two aliasing modules 1632 and 1634 and two

impedance devices 1616 and 1618. Ex. 1001, 18:13–15. Aliasing module 1632 further includes capacitor 1604 and switching device 1608 controlled by aperture generator 1612. *Id.* at 18:34–36. Aliasing module 1634 further includes capacitor 1606 and switching device 1610 controlled by aperture generator 1614. *Id.* at 18:51–53. According to the '342 patent, UFD module 1688 illustrated in Figure 16H operates similarly to UFD module 1638 illustrated in Figure 16A (not shown above), “except that the carrier signal is removed from the down converted signal by capacitors 1604 and 1606 during down conversion.” *Id.* at 20:36–39.

In certain embodiments, the '342 patent discloses that “one or more capacitors are sized to discharge between about six percent to about fifty percent of the total charge stored therein during a period of time that a switching device is open.” Ex. 1001, 38:11–15. The '342 patent, however, states that “this range is provided for illustrative purposes. Other embodiments of the invention exhibit other discharge percentages.” *Id.* at 38:15–18.

D. Challenged Claims

Claims 19–21 directly depend from independent claim 18. Ex. 1001, 52:58–54:2. Dependent claim 19 is illustrative of the challenged claims and is reproduced below. For convenience, independent claim 18 also is reproduced below because, by virtue of dependency, claim 19 includes all the limitations of this independent claim.

18. A method for down-converting an electromagnetic signal, comprising the steps of:
- (1) receiving an information signal;
 - (2) inverting the information signal to generate an inverted information signal;

(3) electrically coupling the information signal to a first capacitor and the inverted information signal to a second capacitor;

(4) controlling a charging and discharging cycle of the first and second capacitors with first and second switching devices electrically coupled to the first and second capacitors, respectively; and

(5) performing a plurality of charging and discharging cycles of the first and second capacitors to generate first and second down-converted information signals across first and second impedance devices, respectively;

wherein the information signal is used to store a charge on the first capacitor when the first switching device is closed and the inverted information signal is used to store a charge on the second capacitor when the second switching device is closed.

Ex. 1001, 52:37–57.

19. 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.

Id. at 52:58–64.

E. Asserted Prior Art References

TI relies on the prior art references set forth in the tables below.

Name	Reference	Dates	Exhibit No.
Tayloe	US 6,230,000	issued May 8, 2001; filed Oct. 15, 1998	1004
Macnally ²	WO 00/16492	published Mar. 23, 2000; filed Sept. 10, 1999	1023

² For clarity and ease of reference, we only list the first named inventor.

Printed Publication	Exhibit No.
Doug DeMaw, “ <i>Practical RF Design Manual</i> ” (Prentice-Hall 1982) ³ (“DeMaw”)	1016

F. Asserted Grounds of Unpatentability

As we note above, due to the statutory disclaimer filed by ParkerVision, the only claims remaining for our consideration are claims 19–21 of the ’342 patent. Ex. 2006. For simplicity, the table set forth below only lists the asserted grounds of unpatentability presented by TI in the Petition that challenge these remaining claims. Pet. 1, 13–38, 50–77.

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
19–21	103(a) ⁴	DeMaw
19–21	103(a)	Macnally

II. ANALYSIS

A. Discretionary Denial Arguments Under § 314(a)

1. Parties’ Arguments

TI contends that we should not exercise our discretion to deny the Petition under § 314(a) because “[it] has eliminated any risk of duplicated

³ To support its argument that DeMaw was indexed and made available publicly by the Penn State University library at least as of November 1982, TI introduces a Declaration of June Ann Munford, a librarian professional, who testifies that the version of DeMaw filed in this proceeding is “a true and correct copy” that was acquired by the Penn State University library on November 9, 1982, and made available publicly shortly after its initial acquisition. Ex. 1014 ¶¶ 14–17.

⁴ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the application that issued as the ’342 patent was filed before this date, the pre-AIA version of § 103 applies. Ex. 1001, codes (21) (22).

efforts” between this proceeding and the co-pending district court case where TI is a party “by voluntarily presenting a *Sotera* stipulation to [ParkerVision].” Pet. 80 (citing Ex. 1041; *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2022-01019, Paper 12 (PTAB Dec. 1, 2020) (Decision Granting Institution) (precedential as to § II.A)). In its Preliminary Response, ParkerVision contends that we should exercise our discretion to deny the Petition under § 314(a) because all the factors set forth in *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (Order Authorizing Supplemental Briefing on Discretionary Denial) (precedential) (“*Fintiv*”), weigh in favor of denying institution. Prelim. Resp. 23–33. ParkerVision, however, does not address the *Sotera* stipulation filed by TI. *See id.*

2. *Fintiv* Analysis

It is well settled that institution of an IPR is discretionary. *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (“[T]he [U.S. Patent and Trademark Office] is permitted, but never compelled, to institute an IPR proceeding.”); 35 U.S.C. § 314(a) (“The Director *may not* authorize an [IPR] to be instituted unless the Director determines that the information presented in the petition filed under section 311 and any response filed under section 313 shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” (emphasis added)). In *Fintiv*, the Board discussed potential applications of *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 (PTAB Sept. 12, 2018) (Decision Denying Institution) (precedential), as well as a number of other cases dealing with discretionary denial under § 314(a). *Fintiv* identifies a non-exclusive list of six factors

parties may consider addressing, particularly where there is a related district court case involving the same patent and whether such a case provides any basis for discretionary denial. *Fintiv* at 5–16. Those factors include the following:

1. whether the court granted a stay or evidence exists that one may be granted if a proceeding is instituted;
2. proximity of the court’s trial date to the Board’s projected statutory deadline for a final written decision;
3. investment in the parallel proceeding by the court and the parties;
4. overlap between issues raised in the petition and in the parallel proceeding;
5. whether the petitioner and the defendant in the parallel proceeding are the same party; and
6. other circumstances that impact the Board’s exercise of discretion, including the merits.

Id. at 5–6.

On June 21, 2022, the Director issued interim guidance in the form of a memo that further clarifies how we should approach analyzing the *Fintiv* factors. *See* Interim Procedure for Discretionary Denials in AIA Post-grant Proceedings with Parallel District Court Litigation at 3, *available at* https://www.uspto.gov/sites/default/files/documents/interim_proc_discretionary_denials_aia_parallel_district_court_litigation_memo_20220621_.pdf. Notably, the Director stated that “the [Patent Trial and Appeal Board (‘PTAB’)] will not discretionarily deny institution in view of parallel district court litigation where a petitioner presents a stipulation not to pursue in a

parallel proceeding the same grounds or any ground that could have been reasonably raised before the PTAB.” *Id.* With this interim guidance in mind, we decline to exercise our discretion to deny institution of this proceeding under *Fintiv* because TI filed a *Sotera* stipulation. Pet. 80; Ex. 1041.

B. Claim Construction

In this IPR, claim terms are construed using the same claim construction standard as in a civil action under 35 U.S.C. § 282(b). *See* 37 C.F.R. § 42.100(b). That is, claim terms generally are construed in accordance with their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art, in view of the specification and the prosecution history pertaining to the patent at issue. *See id.* The ordinary and customary meaning of a claim term “is its meaning to the ordinary artisan after reading the entire patent,” and “as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc).

In its Petition, TI identifies the following two claim terms at issue in the co-pending district court case and its proposed constructions for those claim terms: (1) “controlling a charging and discharging cycle” should be construed as “controlling a cycle of charging and then discharging”; and (2) “switching device” should be accorded its plain and ordinary meaning, but if a construction is necessary, this claim term should be construed as “an electronic device which opens and closes to break or complete an electrical path in a circuit.” Pet. 3–5. TI also identifies the following two additional claim terms that the Board previously construed in connection with another proceeding involving the ’342 patent: (1) “electrically coupling” was

construed as “indirectly or directly connecting such that an electrical signal can flow between”; and (2) “impedance device” was construed as “a device that exhibits an impedance.” *Id.* at 6. Even though TI identifies four claim terms in total in the Petition, TI argues that the asserted prior art renders the challenged claims unpatentable under any reasonable construction of those claim terms. *See, e.g., id.* at 4 (arguing that the “prior art analyzed here renders the claims unpatentable under either [party’s] constructions” proposed in the district court case), 6 (arguing that the “prior art renders the Challenged Claims unpatentable under . . . the [Board’s] constructions”). In its Preliminary Response, ParkerVision does not address TI’s proposed constructions, nor does ParkerVision identify additional claim terms that would require construction at this stage in the proceeding. *See* Prelim. Resp.

Based on the preliminary record, there is no readily discernible controversy between the parties that requires us to construe any claim terms at this time. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (noting that “we need only construe terms ‘that are in controversy, and only to the extent necessary to resolve the controversy’” (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

C. Obviousness over DeMaw

TI contends that claims 19–21 of the ’342 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over DeMaw. Pet. 13–18, 35–37. TI contends that the teachings of DeMaw account for the subject matter of each challenged claim. *Id.* TI submits a Declaration of Ian Galton, Ph.D. to support its positions. *See* Ex. 1003.

Based on the preliminary record, we determine that TI has shown that there is a reasonable likelihood that it would prevail in demonstrating at least one of claims 19–21 of the '342 patent is unpatentable. We begin our analysis with the principles of law that generally apply to an asserted ground based on obviousness, we then assess the level of skill in the art, next we provide an overview of DeMaw, and then we address the parties' contentions with respect to dependent claims 19–21.

1. Principles of Law

A claim is unpatentable under § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, “would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations, including (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of skill in the art; and (4) when in evidence, objective indicia of obviousness or non-obviousness (i.e., secondary considerations, such as commercial success, long-felt but unsolved need, failure of others, etc.).⁵ *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17–18 (1966). We analyze the asserted grounds based on obviousness with the principles we identify above in mind.

⁵ At this stage in the proceeding, ParkerVision does not present arguments or evidence of secondary considerations. *See* Prelim. Resp.

2. *Level of Skill in the Art*

In determining whether an invention would have been obvious at the time it was made, we consider the level of ordinary skill in the pertinent art at the time of the invention. *Graham*, 383 U.S. at 17. “The importance of resolving the level of ordinary skill in the art lies in the necessity of maintaining objectivity in the obviousness inquiry.” *Ryko Mfg. Co. v. Nu-Star, Inc.*, 950 F.2d 714, 718 (Fed. Cir. 1991). The “person having ordinary skill in the art” is a hypothetical construct, from whose vantage point obviousness is assessed. *In re Rouffet*, 149 F.3d 1350, 1357 (Fed. Cir. 1998).

Factors pertinent to a determination of the level of ordinary skill in the art include “(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field.” *Env’t Designs, Ltd. v. Union Oil Co. of Cal.*, 713 F.2d 693, 696 (Fed. Cir. 1983) (citing *Orthopedic Equip. Co. v. All Orthopedic Appliances, Inc.*, 707 F.2d 1376, 1381–82 (Fed. Cir. 1983)). “Not all such factors may be present in every case, and one or more of these or other factors may predominate in a particular case.” *Id.* at 696–97.

For purposes of institution, there is sufficient evidence in the record that enables us to determine the knowledge level of a person of ordinary skill in the art. Relying on the testimony of Dr. Galton, TI argues the following:

[a] person of ordinary skill in the art . . . as of the ’342 Patent’s priority date (April 14, 2000) would have had a least a bachelor’s degree in electrical engineering or a related subject and two or more years of experience in the field of EM circuit design. Less

work experience may be compensated by a higher level of education, such as a master's degree.

Pet. 6 (citing Ex. 1003 ¶¶ 28–30). In its Preliminary Response, ParkerVision does not address TI's assessment of the level of skill in the art. *See* Prelim. Resp. At this stage of the proceeding, we adopt TI's uncontested assessment of the level of skill in the art because it is consistent with the '342 patent and the asserted prior art.

3. Overview of DeMaw

Chapter 6 of DeMaw is titled “Mixers, Balanced Modulators and Detectors.” Ex. 1016, 187.⁶ DeMaw discloses that “[t]here is little difference between the functions of mixers, balanced modulators, and detectors in standard communication circuits” because “[a]ll three operate on the principle of combining two frequencies to produce a third [frequency].” *Id.* DeMaw discloses that “any one of the three circuits perform with high dynamic range, minimum distortion, and good suppression or isolation between the various ports of the circuit device.” *Id.*

One example of a circuit diagram is illustrated in Figure 6.7 of DeMaw, reproduced below.

⁶ All references to the page numbers in DeMaw refer to the native pagination in Exhibit 1016.

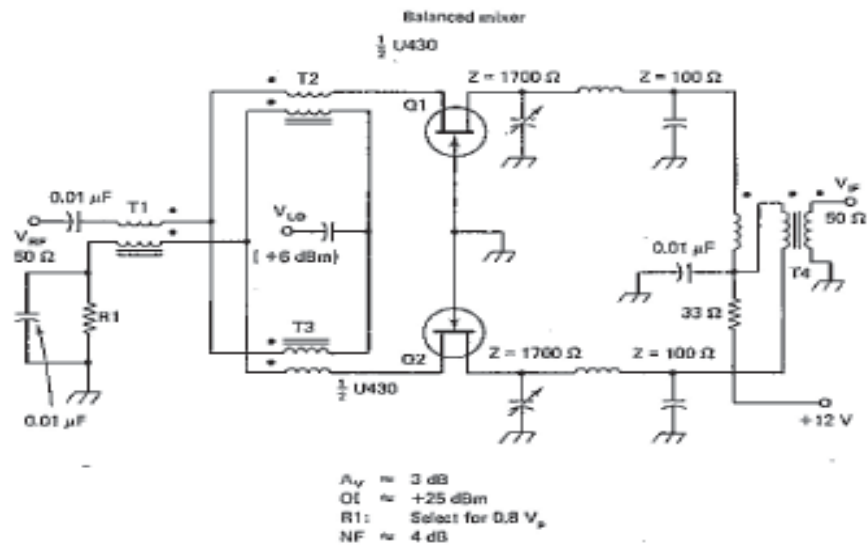


Figure 6.7 Dual FET balanced mixer using a Siliconix U430 device.

Ex. 1016, 197. Figure 6.7 illustrates “[a]n example of [a] properly designed [junction field effect transistor (‘JFET’)] singly balanced mixer.” *Id.* at 196. DeMaw discloses that “[d]ynamic balance is assured through the use of a U430 dual-FET unit,” and “[s]ymmetrical feed is used at the mixer input by means of $T1$, $T2$, and $T3$, providing a 180° phase differential between the sources of $Q1$ and $Q2$.” *Id.* at 196–97.

4. Claims 19–21

At the outset, we briefly address independent claim 18 because, by virtue of dependency, claims 19–21 include all the limitations of this independent claim. *See* Pet. 18–34. In its Petition, TI presents an annotated version of Figure 6.7 of DeMaw.

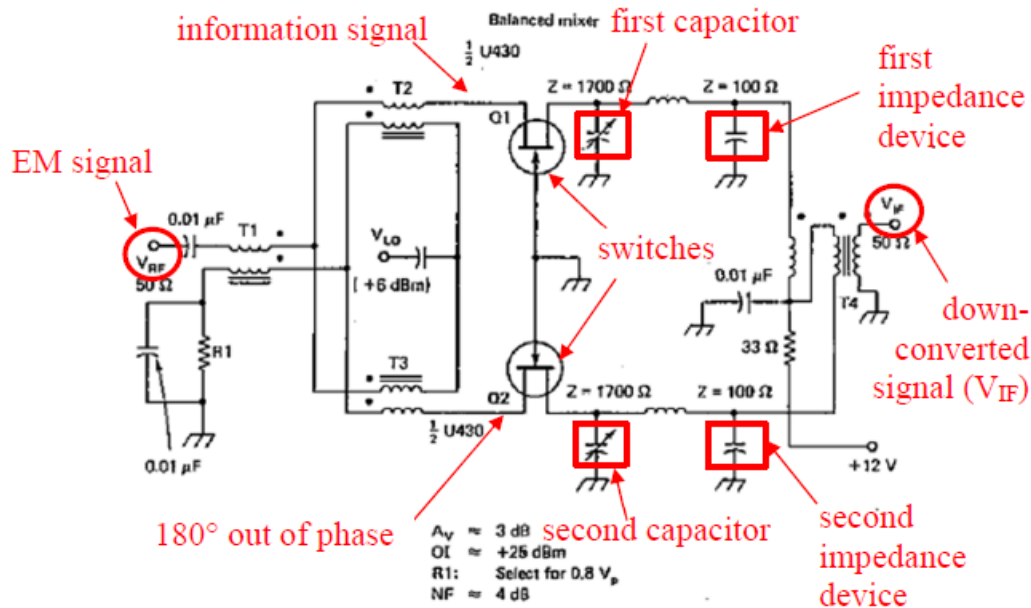


Figure 6.7 Dual FET balanced mixer using a Siliconix U430 device.

DeMaw, FIG. 6.7 (annotated)

Id. at 14. TI's version of Figure 6.7 illustrates a circuit diagram with annotations that explain how DeMaw teaches all the limitations of independent claim 18. *See, e.g., id.* at 18 (arguing that "[t]he method steps [of independent claim 18] are described below using the FIG. 6.7 circuit provided in DeMaw").

Consistent with the Federal Circuit's decision that the circuit diagram in Figure 6.7 of DeMaw explicitly or implicitly discloses all the limitations of independent claim 18, TI argues that DeMaw's information signal teaches the claimed "information signal," the creation of a different information signal with a 180° offset teaches the claimed "inverted information signal," the first and second capacitors shown immediately next to the outputs of transistors Q1 and Q2 teach the claimed "first and second capacitors," transistors Q1 and Q2 teach the claimed "first and second switches," and the

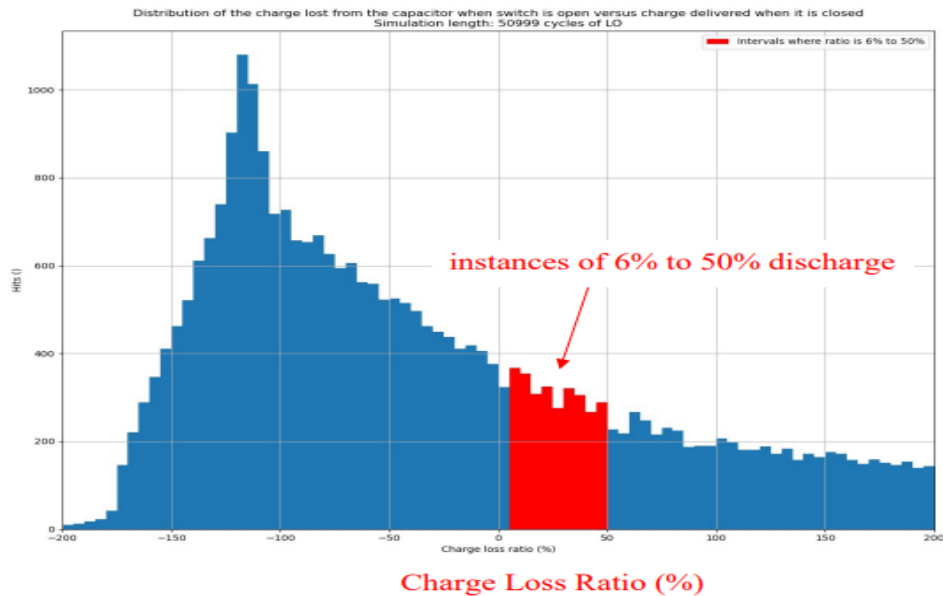
two additional capacitors shown to the right of the first and second capacitors teach the claimed “first and second impedance devices.” *Compare* Ex. 1041, 26, *with* Pet. 18–30, 34. Based on circuit simulations performed by Dr. Galton on a model of DeMaw’s circuit diagram illustrated in Figure 6.7, TI argues that DeMaw teaches “performing a plurality of charging and discharging cycles of the first and second capacitors to generate first and second down-converted information signals across first and second impedance devices, respectively.” Pet. 30–34. According to TI, the simulations performed by Dr. Galton demonstrate that DeMaw’s first and second capacitors, shown immediately next to the outputs of transistors Q1 and Q2, engage in “charging and discharging” cycles to generate first and second down-converted information signals across the two additional capacitors, which, in turn, teach the first and second impedance devices, respectively. *See id.*

Claim 19 directly depends from independent claim 18 and further recites the following:

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.

Ex. 1001, 52:58–64. TI contends that DeMaw teaches this limitation because, by “using the transition edges of the [local oscillator (‘LO’)] signal, and the knowledge that the switch opening and closing is dictated by the LO signal amplitude,” the 6%–50% discharging range required by dependent 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.

According to TI, the discharging rate “was collected for 50,999 simulation cycles and plotted as a histogram,” as evidenced by DEMAW-SIM-FIG. 7, which is reproduced below. *Id.* (citing Ex. 1003 ¶ 114).



DEMAW-SIM-FIG. 7 (annotated)

Id. at 36. DEMAW-SIM-FIG 7 illustrates “[d]istribution of the charge lost from the capacitor when the switch is open versus charge delivered when it is closed.” *Id.* Relying on DEMAW-SIM-FIG. 7, TI asserts “that the DeMaw circuit generates a continuum of these ratios, densely spanning the 6% to 50% range” marked in red that is required by dependent claim 19. *Id.*

Claim 20 directly depends from independent claim 18 and further recites the following:

wherein the first capacitor discharges between ten percent to twenty-five 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 ten percent to twenty-five percent of the total charge stored therein during a period of time that the second switching device is open.

Ex. 1001, 52:65–53:4. TI contends that, based on simulation DEMAW-SIM-FIG. 7, “the histogram shows a continuum of occurrences of discharging ratio that includes the . . . 10–25% discharging rate” required by dependent claim 20. Pet. 37 (citing Ex. 1003 ¶¶ 114–115).

Claim 21 directly depends from independent claim 18 and further recites the following:

wherein the first capacitor discharges between fifteen percent to thirty 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 fifteen percent to thirty percent of the total charge stored therein during a period of time that the second switching device is open.

Ex. 1001, 53:5–54:2. TI contends that, based on simulation DEMAW-SIM-FIG. 7, “the histogram shows a continuum of occurrences of discharging ratio that includes the . . . 15–30% discharging rate” required by dependent claim 21. Pet. 37 (citing Ex. 1003 ¶¶ 114, 116).

Based on the preliminary record, we discern no deficiency in TI’s characterizations of DeMaw, and the general background knowledge in the art, or in TI’s reasoning as to why a person of ordinary skill in the art would have understood that the circuit simulations performed by Dr. Galton on a model of DeMaw’s circuit diagram illustrated in Figure 6.7 sufficiently teach each of the discharging ranges required by dependent claims 19–21. At this stage of the proceeding, ParkerVision presents the following three arguments: (1) TI has not demonstrated that the discharging ranges required by dependent claims 19–21 are obvious in view of DeMaw because TI improperly relies on inherency to bridge the evidentiary gap in DeMaw; (2) TI has not demonstrated that DeMaw teaches the discharging ranges required by dependent claims 19–21 because simulation DEMAW-SIM-

FIG. 7 illustrates a single histogram that only pertains to the first capacitor—there is no analysis regarding the discharge behavior of the second capacitor; and (3) the simulations performed by Dr. Galton on a model of DeMaw’s circuit diagram illustrated in Figure 6.7 are unsupported, fail to identify key underlying assumptions, and should be given no weight. Prelim. Resp. 4–13. We address these arguments in turn.

a. Inherency

In its Preliminary Response, ParkerVision contends that, because “TI does not (and cannot)” rely on explicit disclosures in DeMaw to teach the discharging ranges required by dependent claims 19–21, “TI relies on inherency to bridge the evidentiary gap in DeMaw.” Prelim. Resp. 4–5. More specifically, ParkerVision argues that TI fails to establish that the first and second capacitors in DeMaw’s circuit diagram illustrated in Figure 6.7 “*necessarily* discharge between the claimed percentages of the total charge during a period of time when the switching devices are open” and, as a result, “TI fails to establish inherency for [dependent] claims 19–21.” *Id.* at 5.

Based on the preliminary record, we do not understand TI to use language that would implicate inherency (e.g., necessarily, necessarily present, etc.) when arguing that the simulations performed by Dr. Galton on a model of DeMaw’s circuit diagram illustrated in Figure 6.7 teach the discharging ranges required by dependent claims 19–21. Instead, we understand TI to argue that, when viewing the teachings of DeMaw through the perspective of a person of ordinary skill in the art as provided by the testimony of Dr. Galton, the circuit simulations performed by Dr. Galton on a model of DeMaw’s circuit diagram illustrated in Figure 6.7 indicate that

the discharging rates of DeMaw's first and second capacitors satisfy the discharging ranges required by dependent claims 19–21 during a period of time when DeMaw's first and second switching devices are open. Pet. 35–37 (citing Ex. 1003 ¶¶ 114–16). TI's arguments and evidence with respect to this particular issue are consistent with the well-settled principle that “[w]hat a prior art reference discloses or teaches is determined from the perspective of one of ordinary skill in the art.” *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356, 1361 n.3 (Fed. Cir. 2008).

b. Discharging Ranges

In its Preliminary Response, ParkerVision contends TI fails to satisfy its burden of demonstrating that DeMaw teaches the discharging ranges required by dependent claims 19–21. Prelim. Resp. 6. ParkerVision argues that TI relies on simulation DEMAW-SIM-FIG. 7 plotted as a single histogram, which is titled “[d]istribution of the charge lost from the capacitor when the switch is open versus charge delivered when it is closed.” *Id.* at 6–7 (emphasis added) (citing Pet. 35). According to ParkerVision, this single histogram “pertains to only one capacitor” (i.e., the first capacitor) and does not address the “discharge behavior of the second capacitor.” *Id.* at 7. ParkerVision also asserts that TI does not argue, much less provide evidence, that “[DeMaw's] first and second capacitors have identical or even similar charging/discharging cycles.” *Id.* ParkerVision then directs us to TI's simulation DEMAW-SIM-FIG. 4, arguing that this particular simulation suggests “that the first and second capacitors in DeMaw's circuit discharge at different rates.” *Id.* at 7–8.

Based on the preliminary record, we disagree with ParkerVision's arguments for two reasons. First, as we explain above, we understand TI to

argue that, when viewing the teachings of DeMaw through the perspective of a person of ordinary skill in the art as provided by the testimony of Dr. Galton, the simulations performed by Dr. Galton on a model of DeMaw's circuit diagram illustrated in Figure 6.7 indicate that the discharging rates of DeMaw's first and second capacitors satisfy the discharging ranges required by dependent claims 19–21 during a period of time when DeMaw's first and second switching devices are open. Pet. 35–37 (citing Ex. 1003 ¶¶ 114–16). Although the title for simulation DEMA-W-SIM-FIG. 7 is “[d]istribution of the charge lost from the capacitor when the switch is open versus charge delivered when it is closed,” we understand TI to argue that DeMaw's first and second capacitors discharge at the same rate so only one histogram is required. *See* Pet. 36 (arguing that simulation DEMA-W-SIM-FIG. 7 “generates a continuum of *these ratios*, densely spanning the 6% to 50% range” (emphasis added)). Turning to TI's simulation DEMA-W-SIM-FIG. 4, it is not clear to us that this particular simulation suggests that DeMaw's first and second capacitors discharge at different rates. But even if we were to assume that DeMaw's first and second capacitors discharge at different rates, this does not support ParkerVision's underlying assertion that these capacitors are incapable of discharging at rates that satisfy the discharging ranges required by dependent claims 19–21 during a period of time when DeMaw's first and second switching devices are open.

Second, and perhaps more importantly, “[t]he legal principal at issue in this case is old. For decades,” our reviewing court has “recognized that ‘where the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine

experimentation.”” *E.I. DuPont De Nemours & Co. v. Synvina C.V.*, 904 F.3d 996, 1006 (Fed. Cir. 2018) (quoting *In re Aller*, 220 F.2d 454, 456 (CCPA 1955)). Here, as set forth above, TI has shown that the general conditions of dependent claims 19–21 are disclosed in DeMaw. The burden now shifts to ParkerVision to come forward with sufficient evidence to rebut TI’s “prima facie case of obviousness” by showing, for example, the first and second capacitors required by dependent claims 19–21 discharge at rates that demonstrate new and unexpected results such that each claimed discharging range can be deemed “a ‘critical’ range.” *Id.* (identifying categories of effective rebuttal evidence and making clear that the burden of producing such evidence falls on the patent owner in an IPR). Apart from mere attorney argument, ParkerVision does not present sufficient evidence at this stage in the proceeding to rebut the prima facie case of obviousness made by TI with respect to its asserted ground based on obviousness over DeMaw. *See* Pet. 35–37 (citing Ex. 1003 ¶¶ 114–16). During trial, we invite ParkerVision to present rebuttal evidence in a timely response to the Petition.

c. Simulations Performed by Dr. Galton

In its Preliminary Response, ParkerVision contends that the circuit simulations performed by Dr. Galton on a model of DeMaw’s circuit diagram illustrated in Figure 6.7 “are flawed because they are not based on information actually disclosed in DeMaw.” Prelim. Resp. 9. Instead, ParkerVision argues that the circuit simulations performed by Dr. Galton are based on “made-up values and waveforms untethered to DeMaw to get to the specific claimed [ranges].” *Id.* ParkerVision further argues that the circuit simulations are unreliable because the “Petition fails to provide

critical information regarding the factual basis and assumptions underlying [the] simulations and plotted histogram.” *Id.* at 10. Next, ParkerVision challenges the specific parameters and methodology chosen by Dr. Galton to perform the circuit simulations, arguing that Dr. Galton fails to provide a sufficient explanation for those choices. *Id.* at 10–13 (citing Pet. 18, 19, 35; Ex. 1003 ¶¶ 96, 114). ParkerVision concludes by asserting that “TI’s [circuit] simulations, histogram, and Dr. Galton’s declaration are unsubstantiated and unreliable and should be given no weight.” *Id.* at 13.

Based on the preliminary record, ParkerVision’s arguments regarding the circuit simulations performed by Dr. Galton on a model of DeMaw’s circuit diagram illustrated in Figure 6.7 do not detract from TI’s evidence at this stage of the proceeding because ParkerVision’s arguments raise issues that are best resolved upon a complete record. In our view, Dr. Galton provides a sufficient explanation as to how he performs the circuit simulations on a model of DeMaw’s circuit diagram illustrated in Figure 6.7 by using routine experimentation, including the selection of parameter values taught by DeMaw together with expected minor adjustments that yield the simulation results. Ex. 1003 ¶¶ 72–74, 114–16. We note that ParkerVision will have an opportunity to cross-examine Dr. Galton regarding how he performed the circuit simulations should ParkerVision choose to pursue this argument further during trial. *See* 37 C.F.R. § 42.53.

d. Summary

In summary, TI has shown a reasonable likelihood that it would prevail on its assertions that the subject matter of dependent claims 19–21 would have been obvious over the teachings of DeMaw.

D. Obviousness over Macnally

TI contends that claims 19–21 of the ’342 patent are unpatentable under 35 U.S.C. § 103(a) as obvious over Macnally. Pet. 50–54, 71–73. TI contends that the teachings of Macnally account for the subject matter of each challenged claim. *Id.* TI submits a Declaration of Dr. Galton to support its positions. *See* Ex. 1003.

Based on the preliminary record, we determine that TI has shown that there is a reasonable likelihood that it would prevail in demonstrating that at least one of claims 19–21 of the ’342 patent is unpatentable. We begin our analysis with an overview of Macnally, and then we address the parties’ contentions with respect to these challenged claims.

1. Overview of Macnally

Macnally generally relates to “[a] single-chip [complementary metal-oxide semiconductor (‘CMOS’)] direct conversion transceiver [that] includes an [radio frequency (‘RF’)] circuit, a transmitter having a synthesizer, a receiver having a baseband filter, and a demodulator.” Ex. 1023, code (57). Figure 1 of Macnally, reproduced below, illustrates a block diagram of the single-chip CMOS transceiver according to one embodiment. *Id.* at 3:11–12.⁷

⁷ All references to the page numbers in Macnally refer to the native page numbers located in the top, middle portion of each page in Exhibit 1023.

FIG. 1

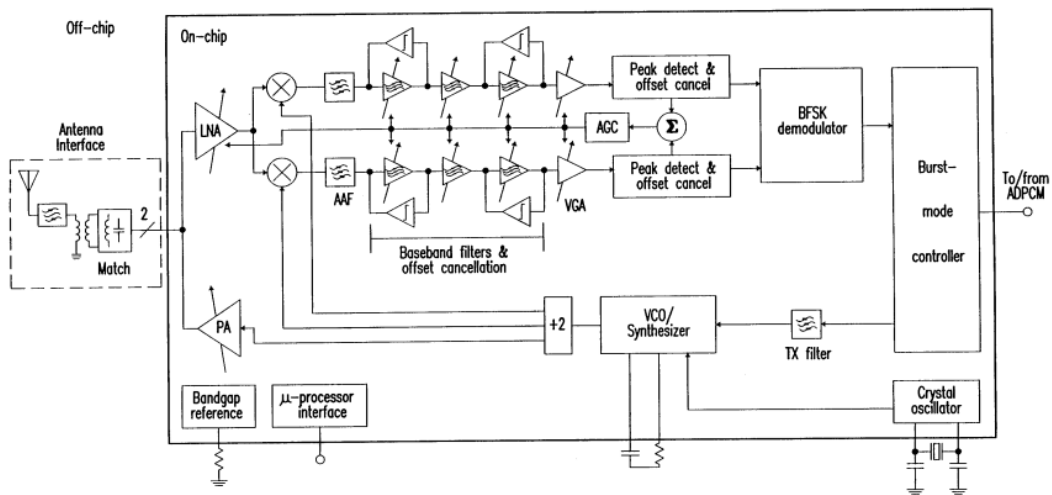


Figure 1 illustrates a fully-integrated transceiver 100 that includes, among other things, RF circuits 102 and 104, synthesizer 106, baseband filters 108, demodulator 110, and digital signal processing. *Id.* at 8:21–24.

Figure 3 of Macnally, reproduced below, illustrates a circuit diagram of the mixer and antialias filter according to one embodiment. Ex. 1023, 3:14–15.

FIG. 3

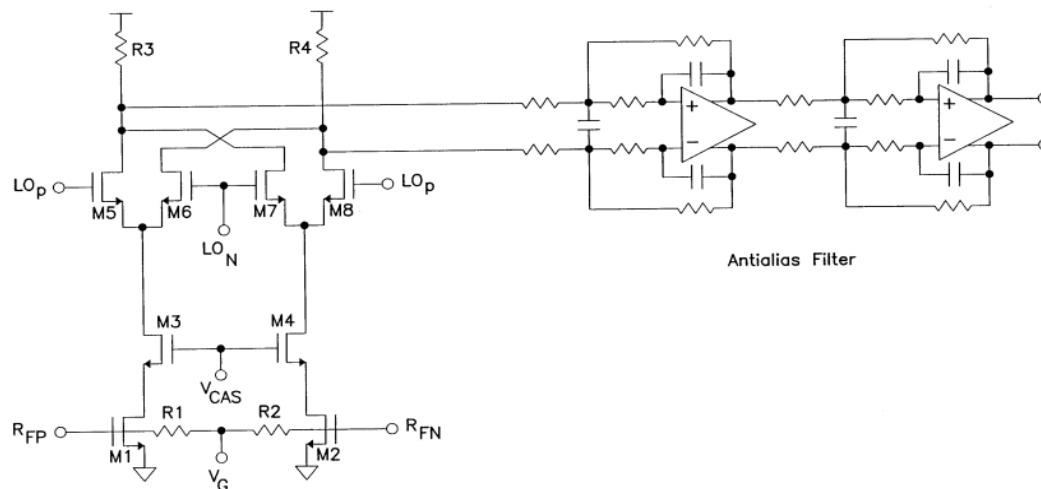


Figure 3 illustrates mixer 142 and antialias filter 144. *Id.* at 12:15.

Macnally discloses that “[t]he output of the mixer 142 is fed to a four-pole Butterworth antialias filter 144” formed by “[t]wo biquad stages.” *Id.* at 12:20–24.

2. *Claims 19–21*

Because TI has demonstrated a reasonable likelihood of success in demonstrating that at least one claim of the ’342 patent is unpatentable, we institute an IPR as to claims 19–21 of the ’342 patent and all the grounds challenging these claims raised in the Petition. *See* 37 C.F.R. § 42.108(a). Therefore, at this stage of the proceeding, it is not necessary for us to provide another assessment of dependent claims 19–21 under this asserted obviousness ground based on Macnally. Nevertheless, we separately address these dependent claims to provide additional guidance to the parties.

At the outset, we briefly address independent claim 18 because, by virtue of dependency, claims 19–21 include all the limitations of this independent claim. *See* Pet. 55–71. TI relies, at least in part, on partial versions of Figures 1 and 3 of Macnally with annotations that explain how Macnally teaches all the limitations of independent claim 18. *See, e.g., id.* at 56 (presenting an annotated version of Figure 1 of Macnally), 59 (presenting a partial, annotated version of Figure 3 of Macnally), 61–62 (presenting two other partial, annotated versions of Figure 3 of Macnally).

TI argues that Macnally’s direct-conversion transceiver receiving an RF signal at the antenna interface (illustrated in Figure 1) teaches the claimed “information signal,” the creation of a fully differential signal by inverting the RF signal received at the antenna interface (also illustrated in Figure 1) teaches the claimed “inverted information signal,” the first and second capacitors C1 and C2 located in the first biquad stage of the antialias

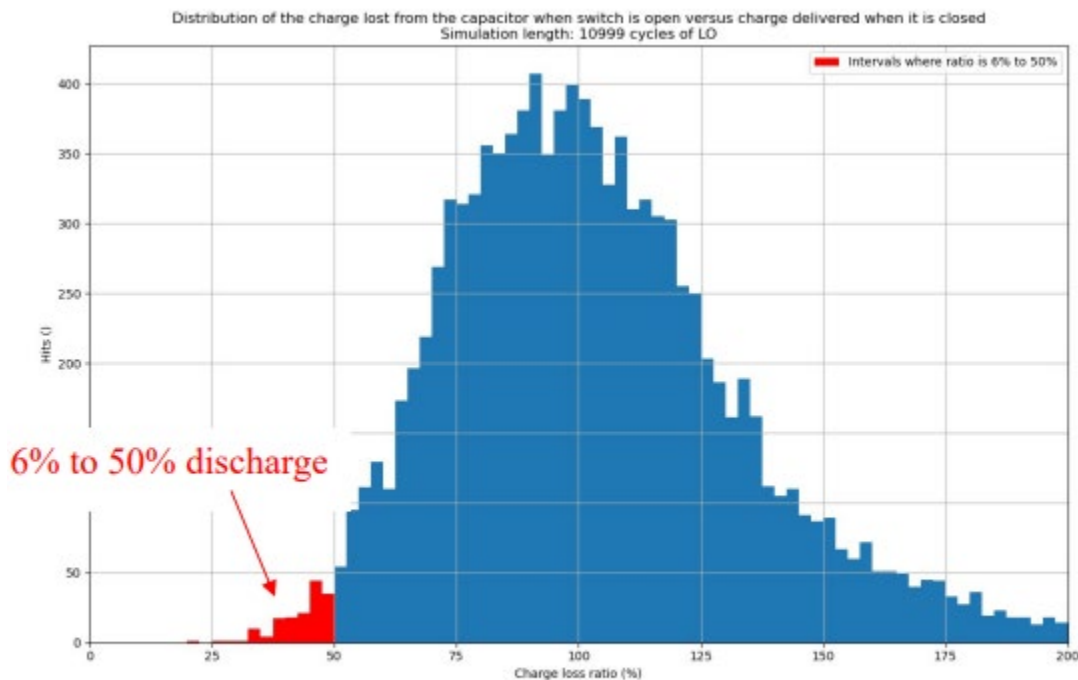
filter (illustrated in Figure 3) that receive the RF_P information signal and the RF_N inverted information signal, respectively, teach the claimed “first and second capacitors,” switching devices M1/M3/M5 and M2/M4/M8 located in the mixer (illustrated in Figure 3) collectively teach the claimed “first and second switches,” and resistors R18 and R19 (illustrated in simulation MACNALLY-SIM-FIG. 1) teach the claimed “first and second impedance devices.” Pet. 55–66, 69–71. Based on circuit simulations performed by Dr. Galton on a model of Macnally’s circuit diagram illustrated in Figure 3, TI argues that Macnally teaches “performing a plurality of charging and discharging cycles of the first and second capacitors to generate first and second down-converted information signals across first and second impedance devices, respectively.” *Id.* at 66–69. According to TI, the circuit simulations performed by Dr. Galton demonstrate that Macnally’s first and second capacitors C1 and C2 located in the first biquad stage of the antialias filter (illustrated in Figure 3) engage in “charging and discharging” cycles to generate first and second down-converted information signals across resistors R18 and R19, which, in turn, teach the first and second impedance devices, respectively. *See id.*

Claim 19 directly depends from independent claim 18 and further recites the following:

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.

Ex. 1001, 52:58–64. TI contends that Macnally teaches this limitation because “the mixer switches are driven by the full-swing LO clock signal,” thereby making “it is possible to compute the intervals of time when the switches are open versus closed.” Pet. 72 (citing Ex. 1003 ¶ 149).

According to TI, “[t]he identical post-processing script [that] was used to generate [simulation] DEMAW-SIM-FIG. 7 [was also] used to generate [simulation] MACNALLY-SIM-FIG. 4,” which is reproduced below. *Id.*



MACNALLY-SIM-FIG. 4 (annotated)

Id. MACNALLY-SIM-FIG. 4 illustrates “[d]istribution of the charge lost from the capacitor when switch is open versus charge delivered when it is closed.” *Id.* Relying on simulation MACNALLY-SIM-FIG. 4, TI asserts that “[a] region of occurrences within the 6% to 50% range marked in red” represents the discharging range required by dependent claim 19. *Id.*

Claim 20 directly depends from independent claim 18 and further recites the following:

wherein the first capacitor discharges between ten percent to twenty-five 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 ten percent to twenty-five percent of the total charge stored therein during a period of time that the second switching device is open.

Ex. 1001, 52:65–53:4. TI contends that, based on simulation MACNALLY-SIM-FIG. 4, “[t]here are cycles where the charge loss ratio is 25%, which satisfies the claimed range of 10% to 25%” required by dependent claim 20. Pet. 73 (citing Ex. 1003 ¶¶ 149, 150).

Claim 21 directly depends from independent claim 18 and further recites the following:

wherein the first capacitor discharges between fifteen percent to thirty 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 fifteen percent to thirty percent of the total charge stored therein during a period of time that the second switching device is open.

Ex. 1001, 53:5–54:2. TI contends that, based on simulation MACNALLY-SIM-FIG. 4, “[t]here are cycles where the charge loss ratio is 25%, which satisfies the claimed range of 15% to 30%” required by dependent claim 21. Pet. 73 (citing Ex. 1003 ¶¶ 149, 151).

Based on the preliminary record, we discern no deficiency in TI’s characterizations of Macnally, and the general background knowledge in the art, or in TI’s reasoning as to why a person of ordinary skill in the art would have understood that the circuit simulations performed by Dr. Galton on a model of Macnally’s circuit diagram illustrated in Figure 3 sufficiently teach

each of the discharging ranges required by dependent claims 19–21. At this stage of the proceeding, ParkerVision presents the following three arguments: (1) TI has not demonstrated that the discharging ranges required by dependent claims 19–21 are obvious in view of Macnally because TI improperly relies on inherency to bridge the evidentiary gap in Macnally; (2) TI has not demonstrated that Macnally teaches the discharging ranges required by dependent claims 19–21 because simulation MACNALLY-SIM-FIG. 4 illustrates a single histogram that only pertains to the first capacitor—there is no analysis regarding the discharge behavior of the second capacitor; and (3) the circuit simulations performed by Dr. Galton on a model of Macnally’s circuit diagram illustrated in Figure 3 are unsupported, fail to identify key underlying assumptions, and should be given no weight.

Prelim. Resp. 14–23. We address these arguments in turn.

a. Inherency

In its Preliminary Response, ParkerVision contends that, because “TI does not (and cannot)” rely on explicit disclosures in Macnally to teach the discharging ranges required by dependent claims 19–21, “TI attempts to bridge the evidentiary gap in Macnally” by relying on the doctrine of inherency. Prelim. Resp. 14. More specifically, ParkerVision argues that TI fails to establish that the first and second 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” and, as a result, “TI fails to establish inherency for [dependent] claims 19–21.” *Id.* at 15.

Based on the preliminary record, we do not understand TI to use language that would implicate inherency (e.g., necessarily, necessarily

present, etc.) when arguing that the circuit simulations performed by Dr. Galton on a model of Macnally's circuit diagram illustrated in Figure 3 teach the discharging ranges required by dependent claims 19–21. Instead, we understand TI to argue that, when viewing the teachings of Macnally through the perspective of a person of ordinary skill in the art as provided by the testimony of Dr. Galton, the circuit simulations performed by Dr. Galton on a model of Macnally's circuit diagram illustrated in Figure 3 indicate that the discharging rates of Macnally's first and second capacitors satisfy the discharging ranges required by dependent claims 19–21 during a period of time when Macnally's first and second switching devices are open. Pet. 71–73 (citing Ex. 1003 ¶¶ 149–151). Once again, TI's arguments and evidence with respect to this particular issue are consistent with the well-settled principle that “[w]hat a prior art reference discloses or teaches is determined from the perspective of one of ordinary skill in the art.” *Sundance*, 550 F.3d at 1361 n.3.

b. Discharging Ranges

In its Preliminary Response, ParkerVision contends TI fails to satisfy its burden of demonstrating that Macnally teaches the discharging ranges required by dependent claims 19–21. Prelim. Resp. 16. ParkerVision argues that TI relies on simulation MACNALLY-SIM-FIG. 4 plotted as a single histogram, which is titled “[d]istribution of the charge lost from the capacitor when the switch is open versus charge delivered when it is closed.” *Id.* at 17 (emphasis added) (citing Pet. 72). According to ParkerVision, this single histogram “pertains to only one capacitor” (i.e., the first capacitor) and does not address the “discharge behavior of the second capacitor.” *Id.* ParkerVision also asserts that TI does not argue, much less provide

evidence, that “[Macnally’s] first and second capacitors have identical or even similar charging/discharging cycles.” *Id.*

Based on the preliminary record, we disagree with ParkerVision’s arguments for two reasons. First, as we explain above, we understand TI to argue that, when viewing the teachings of Macnally through the perspective of a person of ordinary skill in the art as provided by the testimony of Dr. Galton, the circuit simulations performed by Dr. Galton on a model of Macnally’s circuit diagram illustrated in Figure 3 indicate that the discharging rates of Macnally’s first and second capacitors satisfy the discharging ranges required by dependent claims 19–21 during a period of time when Macnally’s first and second switching devices are open. Pet. 71–73 (citing Ex. 1003 ¶¶ 149–151). Although the title for simulation MACNALLY-SIM-FIG. 4 is “[d]istribution of the charge lost from the capacitor when the switch is open versus charge delivered when it is closed,” we understand TI to argue that Macnally’s first and second capacitors discharge at the same rate so only one histogram is required. *See* Pet. 72 (arguing that simulation MACNALLY-SIM-FIG. 4 generates “[a] region of *occurrences* within the 6% to 50% range” (emphasis added)). Moreover, even if we were to agree with ParkerVision that TI does not present arguments or evidence that Macnally’s first and second capacitors have an identical or similar discharging rate, this does not support ParkerVision’s underlying assertion that these capacitors are incapable of discharging at rates that satisfy the discharging ranges required by dependent claims 19–21 during a period of time when Macnally’s first and second switching devices are open.

Second, as we explain above in our preliminary analysis of the asserted obviousness ground based on DeMaw, the burden-shifting framework in the context of overlapping prior art ranges is well-established. *E.I. DuPont De Nemours & Co.*, 904 F.3d at 1006. Here, as set forth above, TI has shown that the general conditions of dependent claims 19–21 are disclosed in Macnally. The burden now shifts to ParkerVision to come forward with sufficient evidence to rebut TI’s “prima facie case of obviousness” by showing, for example, the first and second capacitors required by dependent claims 19–21 discharge at rates that demonstrate new and unexpected results such that each claimed discharging range can be deemed “a ‘critical’ range.” *Id.* Apart from mere attorney argument, ParkerVision does not present sufficient evidence at this stage in the proceeding to rebut the prima facie case of obviousness made by TI with respect to its asserted ground based on obviousness over Macnally. *See* Pet. 71–73 (citing Ex. 1003 ¶¶ 149–151). During trial, we invite ParkerVision to present rebuttal evidence in a timely response to the Petition.

c. Simulations Performed by Dr. Galton

In its Preliminary Response, ParkerVision contends that circuit simulations performed by Dr. Galton on a model of Macnally’s circuit diagram illustrated in Figure 3 “are flawed because they are not grounded in the actual disclosure of Macnally.” Prelim. Resp. 18. Instead, ParkerVision argues that the circuit simulations performed by Dr. Galton are based on “fabricated values and waveforms that are disconnected from Macnally’s actual disclosure to reach the specific claimed [ranges].” *Id.* ParkerVision further argues that the circuit simulations are unreliable because the

“Petition fails to provide critical information regarding the factual basis and assumptions underlying [the] simulations and plotted histogram.” *Id.* at 19. Next, ParkerVision challenges the specific parameters and methodology chosen by Dr. Galton to perform the circuit simulations, arguing that Dr. Galton fails to provide a sufficient explanation for those choices. *Id.* at 19–22 (citing Pet. 53–54, 72; Ex. 1003 ¶¶ 92–94, 149). ParkerVision concludes by asserting that “TI’s [circuit] simulations, histogram, and Dr. Galton’s declaration are unsubstantiated and unreliable and should be given no weight.” *Id.* at 23.

Based on the preliminary record, ParkerVision’s arguments regarding the circuit simulations performed by Dr. Galton on a model of circuit diagram illustrated in Figure 3 do not detract from TI’s evidence at this stage of the proceeding because ParkerVision’s arguments raise issues that are best resolved upon a complete record. In our view, Dr. Galton provides a sufficient explanation as to how he performs the circuit simulations on a model of Macnally’s circuit diagram illustrated in Figure 3 by using routine experimentation, including the selection of parameter values taught by Macnally together with reasonable choices that yield the simulation results. Ex. 1003 ¶¶ 92–94, 149–151. We note that ParkerVision will have an opportunity to cross-examine Dr. Galton regarding how he performed the circuit simulations should ParkerVision choose to pursue this argument further during trial. *See* 37 C.F.R. § 42.53.

d. Summary

In summary, TI has shown a reasonable likelihood that it would prevail on its assertions that the subject matter of dependent claims 19–21 would have been obvious over the teachings of Macnally.

III. CONCLUSION

Taking into account ParkerVision's Preliminary Response, we conclude that the information presented in the Petition demonstrates that there is a reasonable likelihood that TI would prevail in challenging at least one of claims 19–21 of the '342 patent as unpatentable. Accordingly, we institute an IPR as to claims 19–21 of the '342 patent and all the grounds challenging these claims raised in the Petition. *See* 37 C.F.R. § 42.108(a). At this stage of the proceeding, we have not made a final determination with respect to the construction of any claim term or the patentability of the challenged claims remaining for our consideration.

IV. ORDER

Accordingly, it is

ORDERED that, pursuant to 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a), an IPR is hereby instituted as to claims 19–21 of the '342 patent and all the grounds challenging these claims raised in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4(b), notice is hereby given of the institution of a trial; the trial will commence on the entry date of this Decision.

IPR2024-00934
Patent 7,496,342 B2

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