

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TEXAS INSTRUMENTS INC.,
Petitioner,

v.
PARKERVISION, INC.,
Patent Owner

Case IPR2024-00934
Patent 7,496,342

AUTHORIZED RESPONSE TO DIRECTOR REVIEW REQUEST

TABLE OF CONTENTS

I. Introduction.....1

II. Background.....1

III. Arguments.....3

 A. The Board’s Decision Granting Institution Was Proper 3

 B. The Board Properly Considered Dr. Galton’s Testimony 5

 1. The Board Correctly Refused to Impose Restrictions Absent from the
 Claims 8

 2. The Board Addressed PO’s Reliability Arguments 8

 C. The Board Addressed PO’s Arguments About the Second Set of
 Simulations 10

 1. The Second Simulations Were Produced at PO’s Request.....10

 2. TI Did Not Change Theories During the Trial.....11

 3. The Board Provided Legal Bases for Its Evidentiary Rulings 12

 D. The Board Correctly Applied *DuPont*.....13

 1. PO Seeks to Argue Burden Shifting Now.....13

 2. *DuPont* Is Not Restricted to Expressly Disclosed Ranges 13

 3. The Record Is Devoid of Evidence Showing Criticality 15

IV. Conclusion 15

TABLE OF AUTHORITIES

- Director Review Process,
<https://www.uspto.gov/patents/ptab/decisions/director-review-process> (last visited January 5, 2025) (“Director Review Process”)
- *E.I. DuPont De Nemours & Co. v. Synviana C.V.*, 904 F.3d 996 (Fed. Cir. 2018) (“*DuPont*”)
- *ModernaTx, Inc. v. Arbutus Biopharma Corp.*, 18 F.4th 1364 (Fed. Cir. 2021) (“*Moderna*”)
- *Novartis Corp. v. Ben Venue Labs.*, 271 F.3d 1043 (Fed. Cir. 2001) (“*Novartis*”)
- *WiTricity Corp. v. Inductev Inc.*, No. 2023-1916, 2025 WL 1147578 (Fed. Cir. Apr. 16, 2025)
- *Sundance, Inc. v. DeMonte Fabricating Ltd.*, 550 F.3d 1356 (Fed. Cir. 2008) (“*Sundance*”)
- *RPX Corp. v. ParkerVision Inc.*, PTAB-IPR2014-01107, Paper 7 (Jan. 8, 2015) (“*RPX*”)
- *Liquid Dynamics Corp. v. Vaughan Co., Inc.*, 449 F.3d 1209 (Fed. Cir. 2006) (“*Liquid Dynamics*”)

I. INTRODUCTION

Patent Owner's (PO) Request for Director Review ("the Request") (Paper 55) asks, again, for a wholesale re-do of the proceeding, merely rearguing many of the same points PO lost at the PTAB.¹ Moreover, PO's few new arguments, pertaining to burden shifting, should have been made to the PTAB first. Since these new arguments do not introduce issues of first impression or changes in the law or USPTO procedures, guidance, or decisions, pursuant to Director Review Processes, they should not be considered. Director Review Process, §3.E. The Board's 92 page FWD is well reasoned and follows the law. PO's Request should be denied.

II. BACKGROUND

Independent claim 18 of the '342 patent is directed to down-converting an electromagnetic signal by performing charging and discharging cycles of first and second capacitors to generate first and second down-converted information signals. Dependent claims 19-21 recite various capacitor discharge ranges: claim 19: 6-50%, claim 20: 10-25%, and claim 21: 15-30%.

¹ PO's request for a Director Review on July 24, 2025, essentially requesting a re-do of the Institution Decision, was denied as untimely.

The Federal Circuit had previously held claim 18 invalid as anticipated by DeMaw. Petition at 11 (citing *ParkerVision, Inc. v. Qualcomm Inc.*, 2014-1612, 2014-1655 (Fed. Cir. July 15, 2014), provided to the PTAB as Ex. 1031). The Federal Circuit determined that DeMaw discloses all structural and functional limitations of claim 18 because, among other things, DeMaw's first and second capacitors charged and discharged as claimed when its first and second switches were turned on and off. FWD at 21, 25 (citing Ex. 1031, 27). Petitioner, Texas Instruments ("TI"), subsequently challenged claims 18-21 of the '342 patent as being obvious over DeMaw (TI-1016) and obvious over Macnally (TI-1023) in this IPR.² Petition at 1 (Paper 2).

In its Institution Decision, consistent with the Federal Circuit's holding and the Petition's evidence and arguments, the Board determined that DeMaw taught the general conditions of claims 19-21. Institution Decision at 23. The Board likewise found the same for Macnally. *Id.* at 34. The Board added that, pursuant to the framework articulated by the Federal Circuit in *DuPont*, the burden of production had shifted to PO and invited PO to provide evidence of

² Petitioner challenged claim 18, despite it having been invalidated, because PO asserted claim 18 in the district court. Petitioner also challenged claims 22-23, which PO subsequently statutorily disclaimed. POPR at 1 (Paper 6).

criticality of the claimed ranges. Institution Decision at 22-23 (citing *DuPont*, 904 F.3d at 1006), 34. During trial, PO failed to provide evidence of criticality—no expert testimony or documentary evidence. Nor did PO challenge the Board’s application of the *DuPont* framework. Thus, in its FWD, the Board maintained its finding that DeMaw and Macnally each taught the general conditions of claims 19-21 and determined that the claimed ranges were obvious. FWD at 38, 45-46, 50, 71-72, 76, and 81.

III. ARGUMENTS

A. The Board’s Decision Granting Institution Was Proper

PO argues institution was improper because the Petition relied on unproved inherency. Yet TI never invoked inherency and the Board understood this.³

PO made similar arguments in its pre-institution briefing. But the Board did not rely on inherency to institute. First, the Board correctly recognized that the Petition did not implicate inherency, explaining the circuit simulations were used to show that “when viewing the teachings of DeMaw through the perspective of a person of ordinary skill in the art,” the challenged claims were obvious. PO’s Preliminary Response (Paper 6) at 5; Institution Decision at 20-

³ Petitioner’s grounds are based in obviousness. Petition at 1.

21 (explaining that “we do not understand TI to use language that would implicate inherency”), 33 (similar for Macnally). The Board found the Petition’s reliance on simulations were “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.’” Institution Decision at 21 (citing *Sundance*, 550 F.3d at 1361 n.3), 32.

Also consistent with the Federal Circuit’s decision and the evidence and arguments provided in the Petition, the Board determined “TI has shown that the general conditions of dependent claims 19-21 are disclosed in DeMaw” and so “claims 19-21 would have been obvious over the teachings of DeMaw.” Institution Decision at 23-24. The Board likewise found Macnally disclosed the general conditions of claims 19-21 and found the challenged claims obvious over Macnally. *Id.* at 34-35. In each instance, the Board concluded that “[a]part 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.” Institution Decision at 23, 34-35.

After institution, PO did not further argue unproved inherency. Still, the Board did not rely on inherency in its FWD. FWD at 15-16, 50, 81 (finding obviousness in view of DeMaw and Macnally), 28 & 78-79 (criticizing PO for failing to address obviousness under the *DuPont* framework). Thus, the Board

correctly applied well-established legal precedent to arrive at its institution decision and its determination that claims 19-21 were obvious. PO identifies no evidence the Board overlooked and no authority to contradict the Board’s reasoning or to show that the Board abused its discretion.

B. The Board Properly Considered Dr. Galton’s Testimony

PO argues the Board misjudged the credibility of TI’s expert, Dr. Galton, yet provides no evidence to support their assertion that Dr. Galton “*manipulated* the simulations to back into the claimed percentages.” Request at 4. In fact, both the first and second set of simulations were run over 50,000 cycles and show many instances of discharge percentages both within and outside the claimed ranges. FWD at 22 (citing Ex. 1003 ¶ 114), 30-31 (citing Ex. 1042 ¶¶ 10-11), 55 (citing Ex. 1003 ¶ 149), 58-60 (citing Ex. 1042 ¶¶ 149-150). Thus, a central premise behind PO’s argument lacks merit.

The Board previously considered—and rejected—each of PO’s arguments about the reliability of Dr. Galton’s first set of simulations. Request at 4; FWD at 36-43 (addressing the same modeling parameters and arguments in the Request), 70-79 (similar for Macnally). For example, in determining the challenged claims were obvious, the Board held that “in the field of circuit design, it was standard practice to use simulations such as this to predict DeMaw’s circuit behavior.” FWD at 39 (pointing to PO’s own expert, who

also ran simulations), 73 (similar for Macnally). The Board correctly observed that there “is nothing inherently unreliable or suspect” about TI using Dr. Galton’s first set of simulations “to demonstrate that DeMaw discloses the general conditions of dependent claims 19–21.” FWD at 38 (citing *Novartis Corp.*, 271 F.3d at 1054 and *WiTricity*, 2025 WL 1147578, at *3), 76 (similar for Macnally).

When considering the credibility of Dr. Galton’s first set of simulations, the Board again applied well-established precedent permitting the reliance on simulations that are “based on reliable scientific methodology and subject to cross examination and the proffering of further scientific analysis by [the opposing party].” FWD at 39 (quoting *Liquid Dynamics*, 449 F.3d at 1220–21), 72 (similar for Macnally). As the Board succinctly stated, “This is exactly what occurred here.” FWD at 39, 72.

The Board directly addressed PO’s arguments about the reliability of Dr. Galton’s first simulations. FWD at 38–43, 70–79. The Board explained that “Dr. Galton’s first set of simulations need not be perfect replicas of DeMaw’s circuit diagram illustrated in Figure 6.7, but the simulations must be based on reliable scientific methodology.” FWD at 38–39 (citing *Liquid Dynamics*, 449 F.3d at 1220–21), 76 (similar for Macnally). Indeed, the Board understood that, while Dr. Galton used “certain parameters identified in DeMaw,” there were

“other parameters not identified in DeMaw.” FWD at 39. The Board credited Dr. Galton’s testimony that “he engaged in routine experimentation to make minor adjustments to other parameters not identified in DeMaw.” *Id.* at 39, 72-73.

As mentioned above, “in the field of circuit design, it was standard practice to use simulations” to predict circuit behavior. FWD at 39 (pointing to Dr. Ricketts’s simulations (Ex. 2021 ¶¶ 257, 276, 279)), 73. The Board highlighted the selection of JFETs as one example of such routine optimization, pointing to “evidence of record” for support. FWD at 40-41 (citing Oxner, Ex. 1044, 6–33 (“How to Select the Proper FET”)). Thus, the Board correctly concluded that “Dr. Galton’s selection of certain operational parameters is nothing more than using routine experimentation to predict DeMaw’s circuit behavior.” FWD at 40, 78.

While the evidentiary record supports the Board’s finding that Dr. Galton engaged in appropriate routine optimization, PO had an opportunity—and failed—to offer evidence in rebuttal. *E.g.*, FWD at 39-41 (citing Ex. 1044), 48-50, 71-74. The Board observed that “the record is devoid of evidence indicating that the routine optimization of the three discharging ranges required by dependent claims 19–21 is anything other than the exercise of ordinary skill in the art.” FWD at 40, 73. In the absence of evidence to the contrary, the

Board correctly credited Dr. Galton’s testimony and the full evidentiary record to find that his simulations were the product of proper routine optimization. *Id.* at 39-41, 73-74.

1. The Board Correctly Refused to Impose Restrictions Absent from the Claims

The Board considered—and, again, rejected—PO’s arguments about aspects of the simulations not required by claims 19-21. FWD at 40, 73. The Board understood that the claims do not require “a specific JFET model, signal, bias configuration, and operating frequency.” *Id.* Likewise, the Board rejected the premise that the claims required a 12V bias voltage. *Id.* at 50. “Put simply, [the Board declined] to impose requirements on Dr. Galton’s first set of simulations that are not otherwise required by independent claim 18 and dependent claims 19–21.” *Id.* at 40, 73. Likewise, the Board refused to impose requirements on Dr. Galton’s second set of simulations, rejecting PO’s arguments faulting Dr. Galton for using simulation parameters that differ from his first set of simulations. *Id.* at 47, 78 (similar for Macnally).

2. The Board Addressed PO’s Reliability Arguments

The Board did not ignore PO’s reliability arguments; indeed, the Board addressed each one. *E.g.*, FWD at 39-47, 73-79 (similar for Macnally). And again, PO’s feckless attempts to shoehorn inherency into the Petition were handily batted down by the Board. *E.g.*, Institution Decision at 20-24, 31-32.

As mentioned above, TI did not invoke inherency in the Petition or elsewhere; the Petition’s legal basis for the prior art grounds is, and has always been, obviousness.

Also, contrary to PO’s argument, Dr. Galton provided testimony concerning his selection of parameters for the simulations. FWD at 39-40 (citing Ex. 1003 ¶¶72-74, 114-116), 42, 60, 71-73, 76-79. The Board also observed that Dr. Galton’s reliability was bolstered by the fact that “even under the narrow interpretation of dependent claims 19-21 provided by ParkerVision’s declarant, Dr. Ricketts, DeMaw still shows instances of the three discharge ranges required by these claims.” FWD at 45, 72, 77 (similar for Macnally).

Additionally, the Board addressed all of PO’s reliability arguments pertaining to Macnally. FWD at 51-80. For example, the Board considered—and rejected—PO’s argument about Macnally’s circuit performance. *Id.* at 75-79 (citing PO Repl. at 70-73). The Board also observed that Dr. Galton’s second set of simulations did not advance a new theory of unpatentability, but rather demonstrated that taking different approaches modeling Macnally’s circuit still teaches the three discharging ranges required by claims 19-21. FWD at 75. Moreover, Patent Owner waived arguments critical of Dr. Galton’s reliance on Macnally’s histograms by failing to raise such arguments in the

POR. *Id.* at 79-80. But the Board made sure to explain that histograms are just representations of data, which are helpful to visualize the discharging ranges of Macnally's capacitors. *Id.* For the reasons articulated above, the Board did not abuse its discretion or commit legal error in determining claims 19-21 unpatentable.

C. The Board Addressed PO's Arguments About the Second Set of Simulations

1. The Second Simulations Were Produced at PO's Request

TI's expert performed additional simulations (the "second simulations") to confirm for himself that the POPR's criticisms were immaterial. He disclosed the second simulations at his deposition, before the POR. PO's complaint that it was left in an untenable situation by the Board's failure to preemptively exclude the second simulations or grant PO a sur-reply declaration ignores that PO's request was premature – it was made before the POR, which would dictate the relevance and reply nature of the second simulations. What is more, by requesting the second simulations, PO received the response opportunity it originally requested and more. PO had requested only a sur-reply declaration, but PO received the opportunity to, and did, address the second simulations both its POR and sur-reply – not just its sur-reply; and PO deposed TI's expert on the second simulations both each. FWD

at 34; EX2032, 2036, 2039 and 2047 (TI expert transcripts). Indeed, TI “also agreed to multiple extensions of the POR deadline (originally due February 18, 2025 extended to April 21 2025 – over 2 months)” so that PO had ample time to respond. FWD at 24.⁴ PO, itself, filed the second simulations as an exhibit to the deposition transcript of TI’s expert. Ex. 2039; FWD at 15, n.11. PO also submitted its own expert’s testimony responding to the first and second simulations and providing his own competing simulations. POR at 37-41, 48-65; Ex. 2021; FWD at 34-35, 88. The Board did not err by allowing the parties to reach agreement. PO’s request rendered the issue moot for the Board, and put PO in a better position than it would have been otherwise.

2. TI Did Not Change Theories During the Trial

PO’s first complaint is that the second set of simulations amount to new theories of unpatentability. But as the Board acknowledged, “at no point did TI deviate from its initial position that simulations of this kind sufficiently

⁴ PO did not complain to the Board the simulations were “far more than what PO ‘agreed’ to.” PO received what it requested – a specific simulation and “all other simulations.” Ex. 1052 at 3. And TI complied by the 6th business day, after organizing the raw simulation data, compiling the needed plots, and format the simulation as a declaration.

demonstrate the discovery of optimal or working ranges under general conditions disclosed in DeMaw.” FWD at 35. The Board reached its determination that the claimed ranges lack inventiveness using the first set of simulations; the second set of simulations simply confirmed that through proper reply. *E.g.*, FWD at 35 (“TI merely used the Reply as a vehicle to respond to the arguments raised by ParkerVision in the PO Response.”), 36-50, 74-79 (discussing its use of Dr. Galton’s second set of simulations).

The Board also addressed—and rejected—PO’s transistor arguments. Request at 7-8, 10-11; FWD at 26, 42-43, 48-49, 69-70. First, the Board articulated that PO’s JFET argument “fails to appreciate the Federal Circuit’s crediting of Dr. Razavi’s testimony, as well as testimony from its own declarant, Dr. Ricketts, both of whom seem to appreciate that DeMaw’s JFETs turn on and off at a certain rate by opening and closing.” FWD at 26, 49. Second, the Board credited Dr. Ricketts and Dr. Galton for finding that Macnally’s transistors opened and closed. FWD at 69-70 (noting that PO’s arguments “strain credulity”).

3. The Board Provided Legal Bases for Its Evidentiary Rulings

The Board articulated the legal basis for its evidentiary ruling, and considered PO’s arguments supporting its motion to exclude. *E.g.*, FWD at 82-91. For example, the Board considered PO’s arguments pertaining to

admissibility under 37 C.F.R. §§ 42.23(b) and 42.123. The Board explained that these sections were directed to arguments properly raised in a reply. FWD at 85. The Board reiterated that PO agreed to receive the simulation information and Dr. Galton's Second Declaration, and that PO "presented arguments directed to Dr. Galton's second Declaration in its PO Response." FWD at 85 (citing PO Resp. 48-65, 70-78). The Board also noted that PO submitted Dr. Galton's Second Declaration as part of its own exhibits. FWD at 86 (citing Ex. 2039 (Ex. 1)). Last, the Board provided ample legal bases for finding portions of Dr. Galton's second Declaration relevant. FWD at 86.

D. The Board Correctly Applied *DuPont*

1. PO Seeks to Argue Burden Shifting Now

As an initial matter, PO first raises its new burden shifting argument in this Request, despite the Institution Decision having clearly placed the burden of production on PO over a year ago. Institution Decision at 23 ("The burden now shifts to ParkerVision," "the burden of producing such evidence falls on the patent owner"), 34. PO squandered its ample opportunities to bring this argument during the proceeding. PO's attempt to newly argue this now are untimely and should not be considered. Director Review Request §3.E.

2. *DuPont* Is Not Restricted to Expressly Disclosed Ranges

PO's narrow reading of *DuPont* lacks authority. Indeed, PO fails to cite any Federal Circuit case (or other authority) to support its position that the

DuPont framework is limited to prior art expressly disclosing ranges. Nor can it—the Federal Circuit has “never affirmatively decided whether or not the [*DuPont*] presumption could apply” where the prior art does not contain an express disclosure of a range. *Moderna*, 18 F.4th at 1373.

In *Moderna*, the Federal Circuit observed that “the presumption of obviousness could be applied...despite the lack of an express disclosure in the references, [if] a person of ordinary skill would have nevertheless understood that [the prior art references] teach or suggest a range [] that overlaps with the claimed range.” *Id.* at 1373-74. This principle has not changed.

Here, Dr. Galton’s simulations show that under all of the different modelling conditions, DeMaw’s circuit satisfies the claimed ranges. In addition, the Board’s determination was “based on the complete record,” that “Dr. Galton’s first set of simulations on DeMaw’s circuit evidence that DeMaw discloses the general conditions of dependent claims 19–21.” FWD at 38, 71 (similar for Macnally). The Board clearly stated that “taking into account Dr. Galton’s simulations of DeMaw’s circuit in his Declaration accompanying the Petition, ‘TI has shown that the general conditions of dependent claims 19–21 are disclosed in DeMaw.’” *Id.* at 27, 71-79 (similar for Macnally).

3. The Record Is “Devoid of Evidence” Showing Criticality

Despite the Board’s express invitation, PO failed to address criticality of the claimed ranges. FWD at 27-29 (“The record is devoid of evidence....”), 34-35, 76. The Board even conducted its own review and observed that the patent, itself, provides no evidence of criticality and even “states that the 6%–50% discharging range ‘*is provided for illustrative purposes.*’” *Id.* at 29 (citing ’342 patent, 38:15–16 (emphasis in FWD)). So, despite the Board’s attempt to fill evidentiary gaps for PO, the record remained devoid of evidence showing criticality.

Thus, the Board followed the *DuPont* framework by considering all of the evidence on record when determining that claims 19-21 were unpatentable as obvious in view of DeMaw and Macnally.

IV. CONCLUSION

PO’s Request amounts to a re-do of the entire proceeding, yet lacks any basis to unseat the Board’s well-reasoned 92 page FWD. PO’s Request should be denied.

Respectfully submitted,

Date: January 5, 2026

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CERTIFICATE OF SERVICE

Pursuant to 37 CFR § 42.6(e), the undersigned certifies that on January 5, 2026, a complete and entire copy of this Authorized Response to Director Review Request was provided by email, to the Patent Owner, by serving the correspondence addresses of record as follows:

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