

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD

SMA SOLAR TECHNOLOGY AMERICA, LLC,
Petitioner,

v.

TIGO ENERGY, INC.,
Patent Owner.

Case: IPR2023-00879
U.S. Patent No. 9,584,021 B2

PATENT OWNER SUR-REPLY

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TABLE OF EXHIBITS

Exhibit	Description
2001	Declaration of Stephen Ullmer ISO Unopposed Motion to Appear <i>Pro Hac Vice</i>
2002	Prosecution History of U.S. Patent No. 9,143,036
2003	Decision Denying Institution of <i>Inter Partes</i> Review, IPR2023-01175 Patent 9,966,848, Paper 12 (January 22, 2024) (“848ID”)
2004	Decision Denying Institution of <i>Inter Partes</i> Review, IPR2023-01133 Patent 10,333,405, Paper 10 (January 12, 2024) (“405ID”)
2005	Transcript of January 18, 2024 Remote Videoconference Deposition of Douglas R. Holberg, Ph.D.
2006	Gordon McComb and Earl Boysen, <i>Electronics for Dummies</i> , Wiley Publishing (2005) (“Electronics-for-Dummies”) ISBN 0-7645-7660-7 2004107905
2007	John Clayton Rawlins, <i>Basic AC Circuits</i> , 2d. ed., Newnes Press (2000) (“Rawlins”) ISBN-0-7506-7173-4 TK454 .R39 2000
2008	Darren Ashby, <i>Electrical Engineering 101</i> , 2d. ed., Newnes Press (2009) (“EE101”) ISBN 978-1-85617-506-7 TK146.A75 2009 2008045182
2009	Daniel W. Hart, <i>Power Electronics</i> , McGraw-Hill (2011) (“Hart”) ISBN 978-0-07-338067-4 TK7881.15 H373 2010 2009047266

Table of Authorities

Cases

<i>Ariosa Diagnostics v. Verinata Health, Inc.</i> , 805 F.3d 1359 (Fed. Cir. 2015)	3
<i>AstraZeneca LP v. Apotex, Inc.</i> , 633 F.3d 1042 (Fed. Cir. 2010)	11
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I. Introduction

This *inter partes* review proceeding is one of three Petitioner has brought challenging Patent Owner's patents relating to relating to the start-up of panel-powered electronic systems. The other two proceedings (IPR2023-01133; IPR2023-01175) were decided in Patent Owner's favor and for a simple reason—Petitioner's prior art fails to expressly or inherently disclose the micro-controller limitation of the claims. Indeed, Petitioner sought rehearing of the Board's institution decisions in those other IPRs and Petitioner lost on the same microcontroller arguments it presents here in Reply. Petitioner's arguments should again be rejected and for the reasons set forth in the Patent Owner Response ("POR," Paper 18).

Specifically, the POR explained how Petitioner relied on a single argument for the "micro-controller" limitations in the claims: Mieth's "load 20 is analogous to the claimed microcontroller." (POR at 11-12; *id.* at §IV.A.) This was Petitioner's entire argument for the claimed microcontroller, which is required by every independent claim. Since Mieth neither expressly nor inherently discloses a microcontroller, Petitioner failed to prove anticipation of any claim. (POR at 12-16.) This issue remains dispositive. (*See* POR at §VI.A.)

Petitioner's Reply (Paper 19) now attempts to raise impermissible new invalidity arguments and glosses over the logical and legal failures of its arguments. As explained in the POR and further below, Petitioner's arguments fail.

II. Ground A: Mieth does not anticipate any claim

The Reply presents two new theories regarding anticipation: (A) a “load” is a genus that anticipates a “microcontroller” because a POSITA would “at once envisage” every possible type of load; and (B) a POSITA would reasonably understand and infer that Mieth’s load discloses a “micro-controller.” (Reply at 5-11.) Both theories fail.

A. The Reply’s new “genus/species” argument is both new and inconsistent with the law and facts

The lead argument in the Reply is that Mieth discloses a genus “load” that anticipates the claimed “micro-controller” species because a POSTIA would “readily envisage” each member of the “load” genus. (Reply at 5-7.) Petitioner’s argument is wrong on the law on impermissible new argument, wrong on the law of anticipation, and wrong on the facts.

1. Petitioner’s genus/species argument is an impermissible new theory

New theories cannot be presented for the first time in Reply. PTAB Consolidated Trial Practice Guide [hereinafter “TPG”] at 73 (Nov. 2019) (“Petitioner may not submit new evidence or argument in reply that it could have presented earlier [in the petition], e.g., to make out a prima facie case of unpatentability.”); *Rembrandt Diagnostics, LP v. Alere, Inc.*, 76 F.4th 1376, 1384 (Fed. Cir. 2023) (“the very nature of the reply and sur-reply briefs are to respond (whether to refute, rebut, explain, discredit, and so on)...within the confines of 37

C.F.R. § 42.23(b).”); *Yita LLC v. MacNeil IP LLC*, 69 F.4th 1356, 1366-67 (Fed. Cir. 2023) (affirming the Board’s decision not to consider a new argument, and explaining that “Yita waited until its reply to present what in substance is an argument that it would have been obvious to a relevant artisan to modify Rabbe to arrive at the one-eighth limitation. This argument was a ‘meaningfully distinct contention,’ from those made in Yita’s petition, which focused (for the claim limitation at issue) only on what Rabbe discloses.”) (citing *Intelligent Bio-Systems, Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1370 (Fed. Cir. 2016); *Ariosa Diagnostics v. Verinata Health, Inc.*, 805 F.3d 1359, 1367 (Fed. Cir. 2015)).

The Board found the genus/species argument new in the two related IPR proceedings.¹ As explained previously, Petitioner filed three related IPR Petitions, one against the ’021 patent (this proceeding), and two against related patents. In the two related proceedings, Patent Owner filed preliminary responses explaining the dispositive microcontroller issue. The Board agreed, denying institution in both cases. (Ex-2003; Ex-2004.) The Board also denied Petitioner’s requests for reconsideration. *See* IPR2023-01133, Paper 13 & IPR2023-01175, Paper 14. In

¹ Pursuant to the Board’s order May 7, 2024 Order (Paper 20), Patent Owner also submitted a list identifying improper new arguments set forth in the Reply. (Paper 22.)

those decisions denying reconsideration, the Board explained:

“Petitioner’s argument that a micro-controller is a species of the generic term ‘load’ *was not presented in its Petition* or in any other motion before the Board. As such, Petitioner has not identified any arguments or evidence we overlooked or misapprehended, nor has Petitioner shown we abused our discretion when denying institution of this proceeding.”

IPR2023-01133, Paper 14 at 6-7 (emphasis added); *see also* IPR2023-01175, Paper 13 at 6-7 (same).

Petitioner’s new Reply arguments fail for the same reason here: the Petition argued that a load is analogous to a microcontroller without further explanation and without ever presenting the genus/species argument it now relies on in Reply. Petitioner’s genus/species argument is a meaningfully distinct contention from the Petition’s argument, and should not be considered. *Yita*, 69 F.4th at 1366-67; *see also* TPG at 73.

2. Petitioner misinterprets the law of anticipation

The Reply suggests that Mieth’s “load” is a genus that anticipates the claimed microcontroller species. (Reply at 6-7.) This argument misinterprets the law.

Petitioner did not and cannot cite any law that supports its characterization of genus-based anticipation. Petitioner relies on *Eli Lilly & Co. v. Zenith Goldine*

*Pharm., Inc.*² for the argument that “a disclosed genus does anticipate each species contained therein when the genus is of such a defined and limited class that one of ordinary skill in the art could ‘at once envisage’ each member of the genus.” (Reply at 6 (citing *Zenith*, 471 F.3d at 1376).) But *Zenith* does not support Petitioner’s position—indeed, the court in *Zenith* did not even find a claim anticipated by a genus. See IPR2023-01133, Paper 13 at 7 (explaining that *Zenith* and other cases do not support Petitioner’s argument); IPR2023-01175 at 7 (same).

Courts have routinely rejected the argument Petitioner urges here. In *Wasica Fin. GmbH v. Cont’l Auto. Sys., Inc.*,³ the Federal Circuit explained that it had previously “recognized instances where a prior art genus may anticipate a later species...but Continental has not shown how that situation exists here.” *Id.* at 1285 (internal citation omitted). The court continued:

“For example, we have explained that a disclosed genus may anticipate a claimed species when the genus is so small that one of ordinary skill in the art would ‘at once envisage each member of this limited class.’ But...Continental’s petition failed to set forth the necessary ‘factual component[s]’ needed to advance this legal theory. Continental’s petition did not identify the ‘any modulating scheme’ genus, did not establish its size, and did not name any of its

² 471 F.3d 1369, 1376 (Fed. Cir. 2006).

³ 853 F.3d 1272, 1285–86 (Fed. Cir. 2017).

modulation scheme species. In fact, the petition relied solely on Oselin’s ‘common’ working frequency embodiment that we now conclude is too ambiguous to anticipate claim 6.”

Id. at 1285-86 (internal citations omitted); *see also Enplas Display Device Corp. v. Seoul Semiconductor Co., Ltd.*, 2016 WL 454065, at *5 (N.D. Cal. Feb. 5, 2016) (rejecting Enplas’s oversimplification of potential LCD light locations, while noting that Enplas relied on cases that “referred to a limited number of closely related chemical compounds” and in which the prior art “specifically described the claim compound”) *aff’d*, 909 F.3d 398 (Fed. Cir. 2018).

Plainly, Mieth does not disclose “closely related compounds” or “expressly spell[] out a definite and limited class” thereof—the opposite exists. Mieth discloses a generic load, and there was no attempt in the Petition to even define a “load” genus or show that a microcontroller is a species of an adequately small or limited genus. Indeed, in denying Petitioner’s prior rehearing requests, the Board explained:

“[T]he [*Zenith*] court did note that prior art that described a genus with a ‘very limited number of closely related compounds’ and that ‘expressly spelled out a definite and limited class of compounds that enabled a person of ordinary skill in the art to at once envisage each member of this limited class’ could anticipate a species within that genus. *Zenith*, 471 F.3d at 1376. Here, Petitioner argues that Mieth’s load 20 is a generic disclosure of devices that consume electrical power. Req. 14. Petitioner has not shown that Mieth’s load is a ‘definite and limited class’ or contains a ‘very limited number’ of

class members. Rather, the class of things that consume electrical power is not necessarily definite and is not limited in scope.”

IPR2023-01133, Paper 13 at 7; *see* IPR2023-01175 at 7 (same). Thus, the Board has already determined in the related cases that Petitioner failed to make the showing necessary to rely on a genus/species argument. Pointedly, it is hard to envision a scenario where Petitioner’s use of Mieth’s generic “load” could be any further removed from the requirements of showing anticipation of a species by a genus.

3. Petitioner’s argument is inconsistent with its own admissions and the admissions of its expert

On the facts, Petitioner and its expert are attempting to supplement Mieth’s disclosure with testimony regarding microcontrollers and loads. Petitioner’s attempts to characterize loads as a “defined and limited” genus are incorrect, and Petitioner’s own statements show that it cannot win its genus/species arguments. Specifically, the Reply repeatedly asserts that a “load” is “any circuit, device or apparatus that, when connected to a source of electrical energy, consumes electrical energy.” (Reply at 6 (emphasis added).) Even a lay person would recognize that this definition of load captures an immeasurable number of things. Petitioner’s own statements thus show that Mieth’s load cannot meet the genus/species law Petitioner seeks to apply.

Cross-examination of Petitioner’s expert, Dr. Holberg, confirms that Petitioner cannot meet the requirements of showing anticipation of a species by a

genus. As explained in the POR, Dr. Holberg believes everything that dissipates power is a “power converter:”

“Q So can you think of anything that dissipates power that you would not consider a power converter in the context of the ’021 patent?

A Not offhand. You said that dissipates power?

Q Correct

A Yes, not offhand.” (Ex-2005-Holberg at 42:6-15.)

Petitioner now applies a similarly broad interpretation to Mieth’s “load” where anything that consumes electrical power is a “load.” Dr. Holberg’s prior testimony shows that a “load” is not the type of genus contemplated in *Zenith*: capacitors (Ex-2005-Holberg-Dep. at 51:21-24), resistors (*id.* at 38:20-39:13), diodes (*id.* at 39:23-40:8), Zener diodes (*id.* at 40:22-24), inductors (*id.* at 40:25-41:4), and transistors (*id.* at 41:5-9), light bulbs, long wires, and switches (*id.* at 41:10-42:8) are all components that dissipate power, and thus are also “loads” according to Petitioner’s definition. Mieth’s “load” cannot possibly disclose anything resembling a “defined and limited” class—as the Board previously noted in the related proceedings, “the class of things that consume electrical power is not necessarily definite and is not limited in scope.” IPR2023-01133, Paper 13 at 7; *see* IPR2023-01175 at 7 (same).

In sum, even if Petitioner’s improper new arguments are considered, those arguments fail because Mieth’s alleged generic load “genus” is so vast that it cannot possibly disclose the claimed microcontroller.

B. Petitioner’s new “reasonably understand and infer” argument also misunderstands the law (Reply at 5-11.)

1. Petitioner is improperly attempting to provide its anticipation analysis for the first time in reply

As previously explained, the Petition presented a one-sentence argument about the “microcontroller” limitation:

“A PHOSITA would understand that a load in a circuit can be or include a micro-controller, as such the load 20 is analogous to the claimed *micro-controller*[.]”

(Petition at 26 (emphasis in original); *see supra* §I; POR at §IV.A.) Now, Petitioner improperly attempts to argue that a POSITA would reasonably understand and infer that Mieth’s load is a microcontroller. (Reply at 8-11.) Petitioner’s argument is new. Beyond the simple fact that Petitioner is attempting to extend a one-sentence argument in the Petition to a four-page argument in the Reply, the Board has twice rejected Petitioner’s “analogous” argument while noting that Petitioner and its expert failed to provide any analysis under the applicable anticipation standard:

“We are not persuaded that Petitioner’s ‘analogous to’ argument comports with the standard for anticipation. Under the applicable standard for anticipation, neither Petitioner nor its declarant provides any analysis that would show that one skilled in the art would have reasonably understood or inferred from Mieth that load 20 is a micro-controller. Dr. Holberg testifies that ‘the load 20 is analogous to the claimed microcontroller (dashed-orange) as both the load 20 draws power from the second output and the micro-

controller of the '848 patent draws power from the second output.’
Dr. Holberg’s testimony is not persuasive to show that Mieth’s load 20 teaches a micro-controller. Merely because a load draws power from a particular source is not enough to establish that the load would have been reasonably understood as a micro-controller.” (IPR2023-01175 at 12-13 (internal citations omitted); *see* IPR2023-01133, Paper 10 at 11 (similar).)

The facts here are no different—Petitioner and Dr. Holberg did not even attempt to provide analysis under a proper anticipation standard. It cannot do so now. *TPG* at 73; *Yita*, 69 F.4th at 1366-67.

2. The facts of *L.A. Biomedical* show that Petitioner has failed to prove anticipation based on a “reasonable understanding or inference”

The Reply suggests that “a PHOSITA would *reasonably understand or infer from Mieth that a micro-controller is disclosed therein*, as required by *Eli Lilly/L.A. Biomedical*.” (Reply at 8 (emphasis Petitioner’s).) This argument misapplies the anticipation standard laid out in *L.A. Biomedical*.⁴

L.A. Biomedical involved an appeal from a Board decision in IPR2014-00693, where Eli Lilly and Co. (“Lilly”) failed to prove anticipation of any claims because the allegedly-anticipatory “Whitaker” reference did not disclose a limitation requiring taking a daily dose of an inhibitor for at least 45 days. *L.A. Biomedical*,

⁴ *Eli Lilly and Co. v. L.A. Biomedical Res.*, 849 F.3d 1073 (Fed. Cir. 2017).

849 F.3d at 1074. The Board rejected Lilly’s argument that Whitaker disclosed daily dosing for at least 45 days in its title (“Daily Treatment for Erectile Dysfunction Using a PDE5 Inhibitor”). *Id.* Likewise, the Board rejected Lilly’s argument based on studies in Whitaker that suggested subjects took doses “greater than 70% of the time” over 8-12 weeks, as well as Whitaker’s definition of “chronic administration” (“regular administration for an extended period, preferably daily for three or more days, and still more preferably daily as long as the patient suffers from erectile dysfunction...”). *Id.*

The court began its analysis by stating the standard for anticipation: “the question is not whether a prior art reference ‘suggests’ the claimed subject matter.... [T]he dispositive question regarding anticipation is whether one skilled in the art would reasonably understand or infer from a prior art reference that every claim element is disclosed in that reference.” *Id.* at 1074-75 (internal marks omitted, citing *AstraZeneca LP v. Apotex, Inc.*, 633 F.3d 1042, 1055 (Fed. Cir. 2010)). In rejecting Lilly’s argument, the court explained:

“Lilly’s argument boils down to saying that Whitaker’s definition of ‘chronic administration’ anticipates daily administration for 45 days or more because a [POSITA] would understand that erectile dysfunction...can last longer than 45 days. As the Board stated, however, that ‘at best, is an obviousness argument.’”

L.A. Biomedical, 849 F.3d at 1075. The court continued:

“Whitaker may ‘suggest’ long-term daily treatment by noting the beneficial effects of daily treatment..., but that is not enough. To anticipate, a reference must do more than ‘suggest’ the claimed subject matter.”

Id. at 1076. Thus, the court affirmed the Board’s decision of no anticipation.

The facts here are even more definitive. Unlike in *L.A. Biomedical*, where the prior art may have reasonably suggested the “for not less than 45 days” limitation, here Mieth’s “load” does not suggest any particular item, let alone a microcontroller. Indeed, even if Petitioner’s impermissible new arguments are considered, the Reply fails to show anticipation in the same way that Eli Lilly failed to do so in *L.A. Biomedical*. Petitioner’s arguments are nothing more than an attempt to identify a similar need for electrical power between Mieth’s load and the claimed “microcontroller.” (Reply at 8-9 (noting that Mieth’s load and the ’021 patent’s microcontroller both receive power from a potentially-fluctuating source).) The Reply concludes that because Mieth’s load and the claimed microcontroller receive and consume electrical energy to “perform[] a useful work function, ***a PHOSITA reasonably understands or infers that Mieth is disclosing the same element as recited in the claims of the ’021 patent.***” (Reply at 10.) Petitioner’s argument is not credible. By Petitioner’s flawed logic, electric drills, cars, toothbrushes, refrigerators, and flashlights, among other things, are also “microcontrollers” because they consume electric power and perform useful work functions. Of course,

that cannot be the case.

Petitioner also twists the law by suggesting that Mieth anticipates because the '021 patent's microcontroller operates as a load. (Reply at 9.) Petitioner's argument improperly inverts the anticipation analysis by arguing that a micro-controller is a load, rather than the other way around. *See, e.g.*, IPR2023-01133, Paper 13 at 6; *see* IPR2023-01175, Paper 14 at 6. The possibility that a microcontroller—like virtually every other circuit element—consumes power does not mean Mieth's "load" discloses a microcontroller.

Finally, the Reply asks the Board to look to Petitioner's reliance on Ex-1014, which allegedly shows that Mieth and the '021 patent have the same configuration. (Reply at 9-10.) It is unclear how this argument relates to any legally relevant conception of anticipation. Nonetheless, Patentee notes that Ex-1014 is cited three times in the Petition, each time without explanation or analysis, in support of Petitioner's one-sentence argument about Mieth's "load" being analogous to a microcontroller. (Petition at 26, 60, 71.) As the Board previously explained, the lack of argument or explanation in the Petition regarding Ex-1014 means Petitioner is raising a new argument. IPR2023-01133, Paper 13 at 5; *see* IPR2023-01175, Paper 14 at 5 (same). That is improper, for reasons previously explained. *See, e.g.*, TPG at 73; *Yita*, 69 F.4th at 1366-67. Moreover, Petitioner is attempting to rely on Ex-1014's Figure 5 to show that micro-controllers can act as a load. (Reply at 10.) That

characterization of Ex-1014 is misleading, because the reference expressly notes that the “load” in the circuit is a battery. (Ex-1014 at Figure 1, Figure 5, and §III [pages 1179-80].)⁵ Even if Petitioner were correct, however, its argument would fail to show anticipation because it is once again inverting the analysis by arguing that a microcontroller—like virtually anything else in a circuit—can be a load rather than showing that Mieth’s load inherently discloses a microcontroller.

III. Ground B: Petitioner did not rely on any obviousness arguments for the microcontroller limitations and cannot change course in Reply

Like the Reply’s anticipation arguments, the obviousness arguments raised by Petitioner in the Reply are impermissibly new. TPG at 73; *Yita*, 69 F.4th at 1366-67.

As Patent Owner previously explained (POR at §IV.A), the Petition relies exclusively on Mieth’s load for the microcontroller limitations. (POR at 11 (citing Petition at 26 [relying on Mieth in Ground A for the microcontroller limitation [1D]], 52 [relying on Mieth’s load 20 for the microcontroller in Petitioner’s combination with Balogh], 60 [relying on Mieth for the microcontroller “for at least the same

⁵ Petitioner also cites Ex-1012 (Reply at 10), which was listed in the table of contents in the Petition and referenced in the context of the file history analysis in the Petition (Petition at 5), but never discussed or analyzed. To the extent Petitioner is attempting to rely on this reference to support any invalidity theory, this is also impermissible new argument.

reasons Mieth discloses [1D],[1E]....”], 71 [relying on Mieth for the microcontroller “for at least the same reasons Mieth discloses [1D]....]”).) Stated differently, when Petitioner proposed combining Mieth and Balogh, Petitioner maintained its reliance on Mieth’s load for the microcontroller. Had Petitioner wanted to rely on something else, it was required to say so in the Petition. TPG at 73; *Yita*, 69 F.4th at 1366-67.

Petitioner now argues that it “is under no duty to show a modification” to Mieth’s load 20, but that does not mean it can now rely on something new—Petitioner is stuck with its reliance on Mieth’s load. (*See* Reply at 12.) Since that reliance is inadequate, Petitioner’s argument fails.

The obviousness arguments set forth in the Reply also depend on new theories, including new combinations of Mieth with references that were not part of any Ground raised in the Petition (e.g., Ex-1012, Ex-1014, and Ex-1022). (POR at 12-18.) Petitioner appears to contend that the Board must evaluate Petitioner’s new obviousness arguments regarding the microcontroller limitations because the POR pointed out that all of Petitioner’s arguments relied on Mieth’s load. (Reply at 12-13.) Petitioner’s attempt to flip the burden of proof on its head is improper. “In an *inter partes* review, the burden of persuasion is on the petitioner to prove ‘unpatentability by a preponderance of the evidence,’ 35 U.S.C. § 316(e), and that burden never shifts to the patentee.” *FanDuel, Inc. v. Interactive Games LLC*, 966 F.3d 1334, 1341 (Fed. Cir. 2020). At best, Petitioner raises entirely new arguments

that suggest a POSITA would understand Mieth's load could be a microcontroller:

“Upon evaluating Exs. 1012, 1014 and 1022 above, a PHOSITA understands that a microcontroller is a typical type of load ***that could be*** substituted into and replace whatever type of load is being employed by Mieth. For example, if the load 20 of Mieth was instead a memory, as a memory also requires a regulated low-voltage supply of electrical energy (Ex. 1021, p. 2), ***a micro-controller could be substituted for the memory*** without any circuit alterations and thus would have a reasonable expectation of success.” (Reply at 17 (emphasis added).)

But Mieth does not disclose a microcontroller, and the Petition did not include any argument directed to showing that Mieth's load is a microcontroller or could be substituted for a microcontroller in a manner that renders the claims obvious. (*E.g.*, Petition at §§VII.A-B.) Petitioner cannot belatedly raise such arguments in Reply. TPG at 73; *Yita*, 69 F.4th at 1366-67.⁶

⁶ Petitioner's improper obviousness arguments are also deficient because whether a POSITA ***could*** combine the teachings of any of Exhibits 1012, 1014, or 1022 with Mieth is irrelevant. *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 993-94 (Fed. Cir. 2017) (“But that reasoning seems to say no more than that a skilled artisan, once presented with the two references, would have understood that they *could be*

IV. Petitioner’s attacks regarding claim interpretation and the *Markman* order mischaracterize the record

Section IV.A in the Reply suggests that Patent Owner is misapplying or ignoring a district court claim construction relating to “first stage” power converters. (Reply at 19-20.) To support this argument, Petitioner cites pages 22-27 of the POR, suggests that the district court’s constructions are inconsistent with the POR, and maintains that a capacitor is a power converter. (Reply at 19-20.) Petitioner is confused.

First, regarding claim construction, Petitioner’s citation to pages 22-27 is telling. The next six pages (28-33) of the POR explicitly address the parties’ agreed construction in the district court case and show how applying that construction and the language of the claims shows that Petitioner cannot rely on a mere capacitor for the “Power Converter” limitations (as defined in the POR at 19-20).

Second, it appears that Petitioner is suggesting that the ability to use basic calculus to define the mathematical relationship between a capacitor’s voltage and current means that a capacitor satisfies the “Power Converter” limitations. That position is illogical—the equations cited in the Reply, like Ohm’s Law, merely indicate a physical relationship between voltage and current. More generally,

combined. And that is not enough: it does not imply a motivation to pick out those two references and combine them to arrive at the claimed invention.”).

Petitioner's argument that a capacitor converts power is wrong for the reasons explained in the POR. (POR at 19-33.)

V. Petitioner fundamentally misunderstands its proposed combination of Mieth and Balogh

The Reply suggests that Petitioner's combination of Mieth and Balogh uses Balogh's cascaded converters while maintaining all of Mieth's teachings regarding a switchable load, including the control circuitry. (Reply at 20-21 [§§IV.B-C.]) Patent Owner agrees with Petitioner's statement in §IV.C of its Reply that Petitioner is attempting to rely on Mieth/Balogh for limitations 1B-1D, while relying on Mieth alone for limitations 1A and 1E-1G. However, the POR showed that Petitioner's obviousness arguments for limitations 1B-1D rely on replacing some elements in Mieth (including bipolar transistor 16 and power supply 19) with Balogh's converters, which converters would also require different control circuitry than Mieth's elements. (POR at 35-39.) In doing so, Petitioner created an embodiment for which Mieth's control circuitry would not work, while simultaneously removing elements that Petitioner relied on in Ground A to meet limitations 1E-1G. Petitioner cannot reasonably propose removing elements for limitations 1B-1D in favor of Balogh's converters, while still relying on the removed components for limitations 1E-1G. (*See* POR at 33-40.)

VI. Conclusion

For at least the reasons set forth in the POR and above, Petitioner has failed

to show any Challenged Claim is unpatentable and the Petition should be rejected.

Dated: June 10, 2024

Respectfully submitted:

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CERTIFICATION OF WORD COUNT UNDER 37 C.F.R. §42.24(d)

Patent Owner certifies that the word count in this Patent Owner Sur-Reply is 4,169 words, as counted by the word-processing program (Microsoft® Word for Microsoft 365 MSO Microsoft Word for Office 365) used to generate this Patent Owner Sur-Reply, where such word count excludes the table of contents, table of authorities, mandatory notices, certificate of service, appendix of exhibits, and this certificate of word count. This Patent Owner Response complies with the 5,600 word limit set forth in 37 C.F.R. §42.24(c)(4).

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§ 42.6(e)—CERTIFICATION OF SERVICE

In accordance with § 42.6(e)(1), the undersigned certifies that on the 10th day of June, 2024, the above **PATENT OWNER SUR-REPLY** was served, via electronic mail, upon the following counsel for Petitioner:

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