UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MONOLITHIC POWER SYSTEMS, INC.,

Petitioner,

v.

REED SEMICONDUCTOR CORP.,

Patent Owner.

Case No. IPR2026-00165
U.S. Patent No. 7,960,955

PATENT OWNER'S PRELIMINARY RESPONSE TO PETITION

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Patent Owner's Exhibit List

Exhibit	Description
Ex. 2001	Order Granting Joint Motion for Entry of Scheduling Order Deadlines - Case No. W-25-CV-00449-ADA
Ex. 2002	Judge Albright's Statistics Regarding Motion to Transfer Venue for Convenience
Ex. 2003	Plaintiff's Preliminary Invalidity Contentions - Case No. 6:25-cv00449-ADA-DNM
Ex. 2004	2025.03.26 Memorandum to PTAB Judges Regarding Interim Processes for PTAB Workload Management
Ex. 2005	ROHM Integrated Report 2024
Ex. 2006	Monolithic Power Systems 10-K for FYE December 31, 2008
Ex. 2007	Monolithic Power Systems 10-Q for QE March 31, 2010
Ex. 2008	Rohm 60V Synchronous Step-down Switching Regulator (Controller Type) – BD9611MUV Datasheet
Ex. 2009	Rohm 3.9 to 30V, 2ch Synchronous Rectification Step-Down Controller – BD9015KV-M Datasheet
Ex. 2010	Rohm 4.5V to 18V Input, 3.0A Integrated MOSFET 1ch Synchronous Buck DC/DC Converter – BD9D320EFJ Datasheet
Ex. 2011	***Preliminary Invalidity contentions (Excerpts pages 1, 37-43)***
Ex. 2012	***MPS proposed claim terms***

I. INTRODUCTION

Pursuant to 37 C.F.R. § 42.107(a), Reed Semiconductor Corp. ("Patent Owner") hereby submits the following Preliminary Response to the Petition for *Inter Partes* Review of U.S. Patent No. 7,960,955 ("'955 Patent").

Petitioner asserts three grounds of invalidity for certain claims of the '955 Patent. All three grounds are flawed. As shown below, Petitioner fails to make even a cursory showing as to a reasonable likelihood of prevailing on these grounds with respect to even one of the challenged claims.

First, Petitioner advances inconsistent claim construction positions in the Petition as compared to the positions that Petitioner is actively advancing in co-pending parallel litigation. These inconsistencies undermine the arguments and grounds that Petitioner makes in the Petition. In the parallel litigation, Petitioner is asserting both (1) that numerous terms of the challenged claims are indefinite under 35 U.S.C. § 112; and (2) that certain claim terms need to be construed by the Court, showing that it seeks to rely on narrower, or at the very least different, interpretations of claim terms in the District Court than it is relying upon in its Petition. Yet, the Petition wholly fails to acknowledge, let alone grapple with and explain the bases for Petitioner's different claim construction positions and indefiniteness allegations in these parallel proceedings. Instead, the Petition rests solely on its inconsistent representation that no terms need construction and that "Petitioner has applied the

claim terms' ordinary meanings as understood by POSITAs." Pet. at 11. Petitioner fails even to attempt to reconcile its different District Court positions from those that it now takes before the Board.

Second, in Grounds 1 and 1A, Petitioner fails to present evidence that the prior art discloses all claim limitations of the independent claims. Of course it cannot present evidence because with respect to Grounds 1 and 1A, the prior art simply does not teach that, "the input voltage is not directly supplied to the controller as a power supply voltage," as required by all claims. Rather, as described below, in an attempt to manufacture prior art teachings that do not in fact exist, Petitioner is forced to draw artificial boxes around certain components in the prior art while ignoring other components in that same prior art in a manner that is inconsistent with the prior art's teachings.

Third, Petitioner's obviousness analysis is deficient across all asserted grounds. In Ground 1, Petitioner fails to perform the required obviousness analysis because it fails to identify the differences between the claimed invention and prior art and to explain why those differences would allegedly be obvious. In Ground 1A, Petitioner likewise fails to establish any motivation to combine Lofti with Kha, relying instead on unsupported assertions that it was "well known" to use the teachings of Kha to fill gaps, where in fact a POSITA would have had no reason to

splice together these disparate teachings. In Grounds 2 and 2B, Petitioner fails to explain why a POSITA would have combined the architecture of Doluca with the regulator circuitry of Burstein. Finally, the addition of Kha in Ground 2B does not cure these deficiencies, as Petitioner again relies on unsupported generalized knowledge rather than on an articulated rationale grounded in the prior art's teachings.

For each of these reasons, and as explained below, Petitioner fails to demonstrate a reasonable likelihood that any claim is unpatentable, and, therefore institution must be denied.

II. LEVEL OF ORDINARY SKILL

Under Petitioner's definition of the level of ordinary skill in the art, Petitioner's challenges fail to establish a reasonable likelihood of prevailing as to any claim of the '955 Patent. As such, and for the purposes of this Preliminary Response only, Patent Owner forgoes offering a competing definition of the level of ordinary skill in the art and reserves the right to offer one in the unlikely event that the Board institutes review.

III. PETITIONER ADVANCES INCONSISTENT CLAIM CONSTRUCTION POSITIONS BETWEEN THE PARALLEL PROCEEDING AND THIS PROCEEDING

Petitioner identifies a parallel district court lawsuit between the same parties in which the '955 Patent is the sole asserted patent pending in the Western District

of Texas ("WDTX Proceeding"). Pet. at 50. Petitioner is taking materially different claim interpretation positions in the WDTX Proceeding than those that it seeks to advance in this proceeding. Petitioner's reliance on different claim construction positions, combined with its failure to provide any rationale or justification for doing so, undermines Petitioner's arguments and grounds set forth in the Petition and warrant denial.

Petitioner asserts in the WDTX Proceeding that six terms of the challenged claims are indefinite under 35 U.S.C. § 112. Ex. 2011 at 39-41 (Petitioner's WDTX Invalidity Contentions). In particular, Petitioner identifies four terms from claim 1, one term from claim 7, and one term from claim 9 that it contends are indefinite and not capable of being understood. *See id.* Petitioner argues that these terms "fail to inform those skilled in the art with reasonable certainty about the scope of the claimed inventions . . . ." *Id.* at 40. Yet, here, inconsistently, Petitioner has no qualms about offering interpretations of these same terms and applies them to the prior art without ever addressing any perceived indefiniteness issues.

Petitioner's expert declaration of Mr. McAlexander confirms these inconsistent positions. Despite this, in the WDTX Proceeding, Petitioner asserts that the limitations identified above fail to inform a POSITA of the scope of the invention with reasonable certainty. Ex. 2011 at 40. At the same time, in this proceeding,

Petitioner's expert expressly states that he applied the "ordinary and customary meaning" of the claim terms "**as they would have been understood** by a POSITA at the time of the alleged inventions" when mapping the prior art. Ex. 1003 ¶¶26–27 (emphasis added). Like the Petition, he then proceeds to interpret and apply those same allegedly indefinite limitations when analyzing the prior art in support of the Petition. *See generally* Ex. 1003.

Petitioner and its expert thus inconsistently rely on a POSITA's (supposedly Mr. McAlexander's) express ability to understand the claim limitations in this proceeding while Petitioner simultaneously asserts that a POSITA cannot determine the scope of these claim limitations with reasonable certainty in the WDTX Proceeding. Petitioner fails even to acknowledge or much less explain this inconsistency. Petitioner also cannot justify its inconsistent positions by noting that indefiniteness challenges cannot be raised in an *inter partes* review ("IPR") as the Board has rejected that very argument. In *Tesla Inc. v. Intellectual Ventures II LLC*, the Board held that the fact that Petitioner "cannot raise indefiniteness challenges in an inter partes review is not a sufficient explanation" for advancing conflicting claim construction positions in parallel proceedings because "it amounts to an assertion that a petitioner should be permitted to raise inconsistent invalidity challenges in the two forums." IPR2025-00340, Paper 18 at 3 (PTAB Nov 5, 2025).

Petitioner also asserts other inconsistent claim construction positions in the WDTX Proceeding. Although Petitioner asserts in the Petition that "[n]o formal claim constructions are necessary," Pet. at 11, Petitioner has identified two terms that purportedly require construction in the WDTX Proceeding: (1) "a power supply apparatus for use with an input voltage provided from outside (Claim 1)"; and (2)"power supply voltage (claim 1)." Ex. 2012 (Petitioner's Proposed Terms for Construction in WDTX Proceeding). However, Petitioner nowhere acknowledges, reconciles, or explains in the Petition how these terms could conceivably require construction in the WDTX Proceeding but not in this proceeding. Instead, the Petition simply applies the terms' purported "ordinary meanings as understood by POSITAs" without further explanation. Pet. at 11.

The Board has held that while its rules do not categorically prohibit a Petitioner from advancing different constructions across forums, a Petitioner must explain why such alternative positions are warranted. As the Director explained, "when a petitioner takes alternative positions before the Board and a district court, that petitioner should, at a minimum, explain why alternative positions are warranted."*Revvo Techs., Inc. v. Cerebrum Sensor Techs., Inc.*, IPR2025-00632, Paper 20 at 3-4 (Director Review Nov. 3, 2025) (precedential) (citing *Cambridge*

Mobile Telematics, Inc. v. Sfara, Inc., IPR2024-00952, Paper 12 at 8–9 (PTAB Dec. 13, 2024) (informative)).

In *Cambridge Mobile*, the Board denied institution where the Petitioner argued plain meaning before the PTAB while simultaneously advocating a different construction in district court, concluding that the petitioner failed to satisfy its burden under 37 C.F.R. § 42.104(b)(3) because it omitted necessary claim-construction analysis. *Cambridge Mobile*, Paper 12 at 8–9. The Board held that when claim scope is disputed elsewhere, a petitioner must either apply the same construction or explain why a different construction applies in the IPR. Similarly, the Director denied institution of the Petition in *Sun Pharm. Indus. Inc. v. Nivagen Pharm., Inc.*, since the Petitioner did not sufficiently explain why it advanced a narrow construction in district court and advanced a broader construction in its Petition. IPR2025-00893, Paper 18, at 2–3 (P.T.A.B. Sept. 19, 2025) (Director discretionary decision) (informative).

This same defect is present here. By providing no explanation as to why Petitioner is proposing constructions in the District Court while asserting in the Petition that no constructions are necessary, Petitioner fails to satisfy the requirements, and the Petition should therefore be denied under 35 U.S.C. § 314(a).

This omission is not merely procedural. Petitioner's obviousness theories—particularly its mapping of the claimed "controller"—depend on an unstated interpretation of "power supply voltage" that materially affects how the prior art maps to the claim elements. In particular, as discussed below, Petitioner seemingly leverages its failure to offer a particular construction for this term to ultimately allow it to map the claim elements to the prior art in a manner that is contrary to the prior art's teachings. Petitioner's choice not to offer a construction here thus appears to be a strategic choice that it has made aimed at allowing it to assert positions here that differ from the construction that it will propose in the District Court. Either way, Petitioner has chosen not to analyze the prior art under the constructions that it is advancing in the District Court, and in so doing, has failed to show that its analysis here meets its constructions in the parallel proceeding. The Petition therefore necessarily fails to demonstrate a likelihood of success under those constructions.

Under *Revvo* and *Cambridge Mobile*, the Board is not required to reconcile inconsistent litigation positions or supply missing claim construction analysis on Petitioner's behalf. Because Petitioner has failed to explain its inconsistent constructions or to analyze the claims under a construction necessary to resolve the controversy, the Petition fails to meet Petitioner's burden to demonstrate a

reasonable likelihood of prevailing. Institution should therefore be denied under 35 U.S.C. § 314(a) and 37 C.F.R. § 42.104(b)(3).

IV. PATENTABILITY OVER THE LOFTI GROUNDS

In Ground 1, Petitioner alleges that claims 1 and 7 would have been obvious over Lofti alone. Pet. at 7. In Ground 1B, Petitioner alleges that dependent claims 8 and 9 would have been obvious in view of Lofti and Kha. *Id*. With respect to both grounds and all claims, Petitioner relies upon Lofti alone as allegedly disclosing a power supply apparatus that comprises "a controller of the switching power supply … and the input voltage is not directly supplied to the controller as a power supply voltage." In Ground 1B, Petitioner alleges that Kha discloses other claim limitations, but it does not argue that Kha teaches the aforementioned power supply apparatus and controller limitations. *See* Pet. at 24-28.

With respect to its obviousness theories in Grounds 1 and 1A, Petitioner relies on Lofti's PWM comparator 255 as allegedly constituting the claimed "controller of the switching power supply." Pet. at 11, 12, 16–19. However, that identification is inconsistent with Lotfi's teachings. When Lotfi is read in its entirety—and particularly as described in the only embodiment relied upon by Petitioner—it can be seen that Lofti's PWM comparator 255 neither generates "controller" output signals nor controls aspects of the switching power supply. Rather, to the extent that Petitioner seeks to rely on PWM comparator 255 as the claimed "controller," Lofti's

express teachings in fact teach that—at the very least —the level shift and crossover control 237 is needed as well. In doing so, as described below, Petitioner has artificially drawn the box around only PWM comparator 255, which is contrary to Lofti's teachings and has done so in a transparent effort to avoid running afoul of the claim requirement that "the input voltage is not directly supplied to the controller as a power supply voltage." Moreover, even under Petitioner's own characterizations, Lotfi fails to satisfy claim 1.

A. Petitioner Relies On Inconsistent Interpretations of The Claimed Controller

When discussing Element 1[D1] in connection with Ground 1 based on Lofti, the Petition characterizes the claimed "controller" as being one that "controls the base voltage of the switching transistor Tr1, and controls ON and OFF states thereof." Pet. at 18 (*quoting* Ex. 1001, 5:1–3). The Petition simultaneously argues that Lofti's "PWM comparator 255" is the claimed "controller." *Id.* at 16. Petitioner's analysis of the claimed "controller" is thus fundamentally inconsistent.

For Element 1[D1], Petitioner relies on Lofti's embodiment illustrated in Figure 2. Pet. at 17. In connection with Figure 2, Lotfi describes that its "***driver*** (*e.g.*, a level shifting gate driver) ***220 provides gate drive signals*** S_{DRV1}, S_{DRV2} for the main and auxiliary switches Q_{mn}, Q_{aux}…" Ex. 1004, 8:38-41. Thus, according to Lofti, driver 220 is the component that controls "the base voltage of the switching

transistor" through the S_{DRV1} and S_{DRV2} signals. Yet, Petitioner ignores Lofti's description of driver 220 in its analysis and relies instead solely on Lofti's "PWM comparator 255" as allegedly being the claimed "controller."

The Petition fails to explain any reason or justification for disregarding Lofti's description of driver 220. Lofti's teachings are consistent that the gate drive signals produced by driver 220 are voltages that are generated to control the gate voltage of switching transistors (Q_{mn} and Q_{aux}), which configure the switches to operate in a conducting or non-conducting state. Petitioner acknowledges that the conducting and non-conducting states of the switches correspond to the "ON and OFF" control. Pet. at 16-17. Lotfi teaches how controller generated PWM signals, S_{PWM} and $S_{1\text{-}PWM}$, are provided to the driver, how internal circuitry within the driver responds to those generated PWM signals, and how the driver correspondingly adjusts the gate drive signal to a "sufficient voltage to transition the switch such as the main switch Q_{mn} … to conduct," and to "a sufficient voltage to enable a switch such as the main switch Q_{mn}…to a non-conducting state." Ex. 1004, 15:19-22, 40-42. Under Petitioner's logic for asserting that "PWM comparator 255" is allegedly the claimed "controller," Lofti's disclosure confirms that it is driver 220 that controls the gate voltage of the switching transistors through the generation of gate control signals. Petitioner fails

to provide any credible basis for disregarding these teachings in favor of limiting its analysis solely to PWM comparator 255.

Petitioner's mapping of the claimed "controller" ignores Lofti's express teachings and instead artificially isolates a component (*e.g.*, the PWM comparator 255) that is both: (1) independent from driver 220 and (2) a single component within the broader component that Lofti expressly labels "controller 210." Notably, the Petition does not address driver 220 in its "controller" mapping, despite Lotfi's explicit teaching (and corresponding depiction in Figure 2) that driver 220 outputs the S_{DRV1} and S_{DRV2} gate drive signals to the switching transistors, Q_{mn} and $Q_{aux.}$

This omission is significant. If, as Petitioner contends, the "controller" is responsible for controlling the gate voltage of the transistor, thereby controlling the ON and OFF states, then driver 220 necessarily falls within Petitioner's reasoning as well. But if, according to Petitioner's own analysis, driver 220 is included within the "controller," Lotfi no longer satisfies Claim 1's requirement that "the input voltage is not directly supplied to the controller as a power supply voltage," because the input voltage (Vin) is directly supplied as a power supply voltage. Petitioner's analysis thus conveniently disregards a component that Lofti expressly teaches controls the gate voltage of the switching transistor and that is visibly powered by Vin as depicted in Figure 2—the very embodiment on which Petitioner relies.

Petitioner apparently does so because consideration of that component would undermine its attempt to map Lofti to the claim requirement that the input voltage is not directly supplied to the controller as a power supply voltage.

In this way, Petitioner is ignoring fundamental teachings of the prior art on which it relies in favor of misleadingly drawing boxes around single components in a manner that is contrary to Lofti's teachings. According to Lofti's teachings, the driver 220 controls the gate voltage of the switching transistor (Q_{mn} and Q_{aux})—the same functionality that Petitioner pointed to in the '955 Patent.

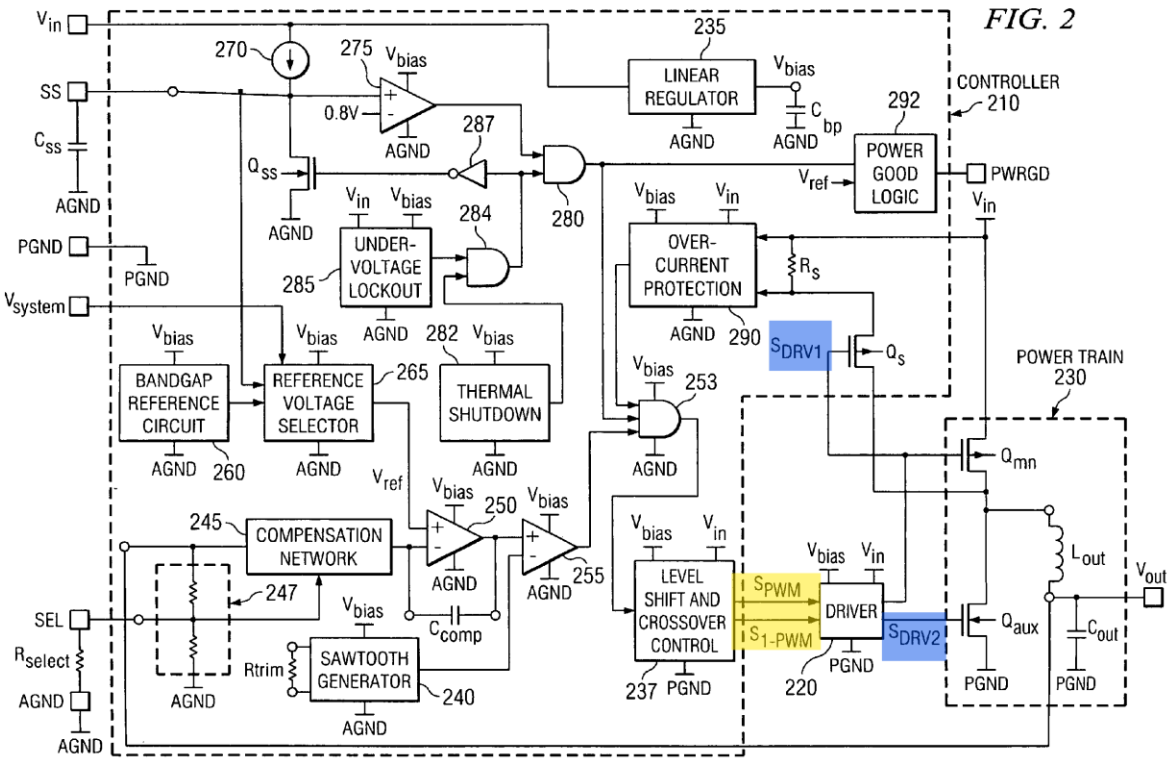
B. Under Petitioner's Contrived Claim Mapping, Lofti's "Controller" Would Include the Circuitry That Generates the Coordinated PWM Output Signals

Irrespective of the foregoing, even if the function of driver 220 were disregarded, Petitioner's position still fails because it improperly narrows the Petitioner's "controller" mapping to PWM comparator 255 alone without explanation or justification for doing so in view of Lofti's teachings. The Petition briefly states that to the extent that Patent Owner were to argue that other internal components, which Petitioner conveniently ignored in its initial analysis of the claim limitations, should be included in Petitioner's mapping of the "controller," then that would not affect Petitioner's analysis. Notably, however, Petitioner identifies only the sawtooth generator and error amplifier as possible components that could be included in the alleged "controller" while ignoring others. Pet. at 18. Petitioner thus

selectively identifies only those additional "straw man" components that avoid the "controller" directly receiving Vin as a power supply voltage, because inclusion of the other components that Lofti describes as making up its controller circuitry would violate the requirement that "the input voltage is not directly supplied to the controller as a power supply voltage."

Moreover, at page 18, Petitioner separately argues that controller 210 as a whole corresponds to the control circuit 110 of the '955 Patent. This is again inconsistent with Petitioner's alternative attempt to isolate PWM comparator 255 alone as the claimed controller. Regardless, even accepting Petitioner's characterization that Lofti's controller 210 is akin to the "controller circuit 110" of the '955 Patent, the claim requirements would not be met as Vin is supplied directly to controller 210 as a supply voltage, which is contrary to the claim language. Similarly, this further confirms that Petitioner's alternative attempt to isolate PWM comparator 255 alone as the claimed controller is incorrect because Lofti expressly teaches that controller 210's operative outputs (*e.g.,* S_{PWM} and $S_{1\text{-}PWM}$) are used by driver 220 to generate the gate drive signals. Thus, regardless of which of Petitioner's arguments one follows to its logical conclusion, the result is the same. Lofti's express disclosures teach that components beyond just the PWM comparator 255 must be considered.

For example, Lofti explicitly teaches that there is a controller 210 within the integrated circuit that outputs a pulse width modulated (PWM) control signal (*e.g.*, S_{PWM}) and a complimentary PWM control signal (*e.g.,* $S_{1\text{-}PWM}$) (collectively referred to herein as "coordinated PWM signals") (yellow below) to the corresponding driver.



Based on the embodiment of Figure 2, which is the only embodiment relied upon by Petitioner, the coordinated PWM signals (yellow) (1) are the only output signals leaving controller 210 as inputs to driver 220 and (2) the only outputs from the controller 210 in general. As described above, Lofti's disclosure teaches that

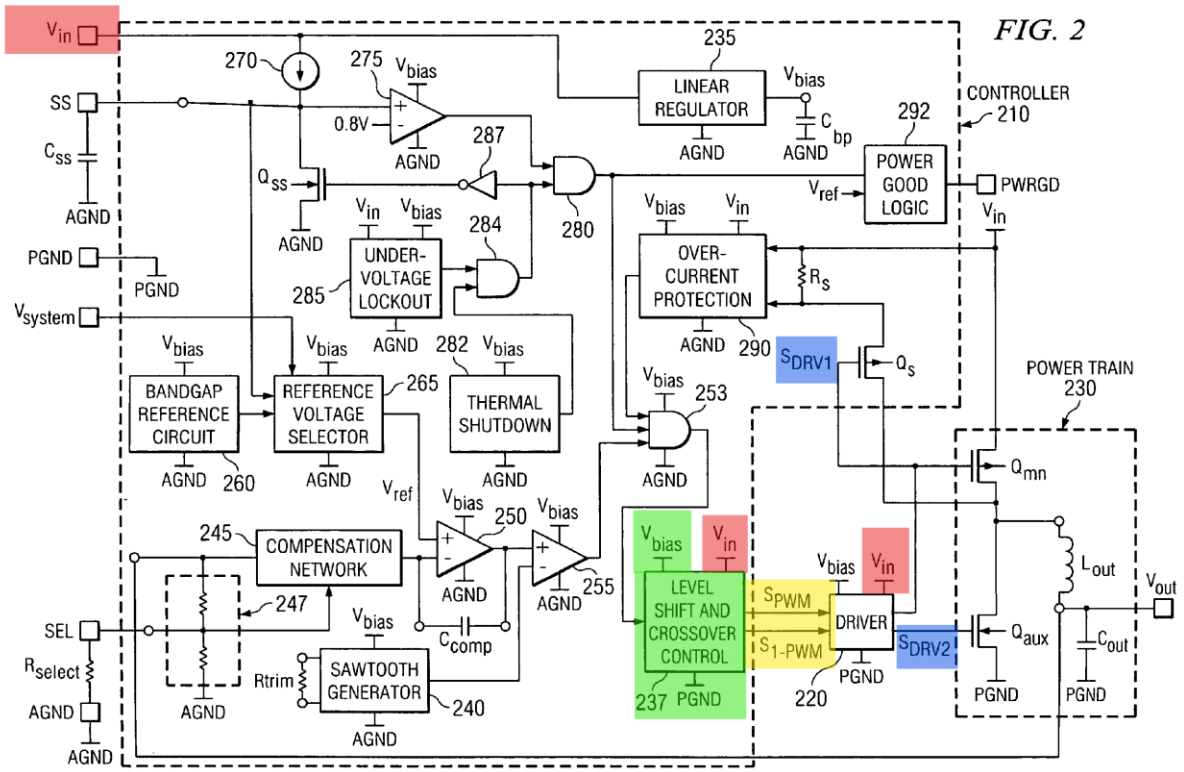
driver 220 uses the coordinated PWM signals to generate the S_{DRV1} and S_{DRV2} signals (blue above), which ultimately control the main and auxiliary switches. *Supra* § IV; Ex. 1004, 13:54-58 ("The driver (*e.g.*, a level shifting gate driver) 220 provides gate drive signals S_{DRV1}, S_{DRV2} for the main and auxiliary switches Q_{mn}, Q_{aux}."). Figure 2 therefore shows that Lotfi identifies controller 210 as producing the coordinated PWM signals S_{PWM} and $S_{1\text{-}PWM}$ as its operative outputs. Accordingly, there is no justification for Petitioner to identify an internal component of controller 210 that does not generate these coordinated PWM signals when that component does not produce the very outputs that Lotfi defines as controller 210's outputs and driver 220's inputs. This highlights the misleading nature of Petitioner's box drawing.

> Moreover, Lofti's disclosure teaches:
> The **controller 210 provides a signal** (e.g., a pulse width modulated signal **S_{PWM}**) to control a duty cycle and a frequency of main and auxiliary switches … of the power train 230 to regulate an output characteristic thereof. The controller 210 may also provide **a complement of the signal** (e.g., a complementary pulse width modulated signal **$S_{1\text{-}PWM}$**) **via a level shift and crossover circuit 237**.

Ex. 1004, 8:24–36. (emphasis added).

This passage from Lofti further describes that S_{PWM} and $S_{1\text{-}PWM}$ are not generated directly by PWM comparator 255. Instead, Lotfi teaches that the coordinated PWM signals are provided via the level shift and crossover control

circuit 237 (green below). Importantly, to the extent that individual components within controller 210 are isolated and identified as responsible for producing signals that "controls the base voltage of the switching transistor Tr1, and controls ON and OFF states thereof," as Petitioner describes (*see* Pet. at 18 (*quoting* Ex. 1001, 5:1–3)), the level shift and crossover control circuit 237 would necessarily also be included, as Lofti expressly identifies them as providing coordinated PWM signals to controller 210.



Lotfi further teaches that controller 210 is powered from the input voltage, Vin (red above). The specification explains that controller 210 is "coupled to the Vin

and the output voltage Vout of the power converter," and further discloses that "[t]he active devices of the power converter are powered from the Vin or from an internal, regulated voltage source, configured as a linear regulator 235 coupled to the Vin." Ex. 1004, 8:64–9:8. Figure 2 teaches that controller 210 forms part of the integrated circuit containing these active devices and operates using power sourced from Vin, both directly and through an internal regulator supplied by Vin, confirming that the controller is powered by Vin, using it as a power supply voltage. This conflicts with claim 1's requirement that "the input voltage is not directly supplied to the controller as a power supply voltage." Notably, the Petition does not address this disclosure or contemplate the inclusion of the level shift and crossover control 237 component because, if considered, it would foreclose Petitioner's proposed mapping by showing that Vin supplies power to the controller in a manner inconsistent with the claim limitation.

In sum, Petitioner fails to explain or analyze how PWM comparator 255 could reasonably be independently designated as the claimed "controller," especially given that it does not generate the coordinated PWM signals that Lotfi identifies as controller 210's operative outputs that are used by driver 220 to create the gate drive signals at the proper voltage levels necessary to operate the output transistors. Rather, Petitioner's analysis is at odds with Lotfi's express teachings that those

signals are produced through other circuitry, including the level shift and crossover control circuit 237, before being provided to driver 220. Petitioner's unjustified attempts to isolate PWM comparator 255 as the controller is thus inconsistent with Lotfi's teachings. Petitioner therefore fails to demonstrate a reasonable likelihood that the prior art satisfies the claim requirement that "the input voltage is not directly supplied to the controller as a power supply voltage."

C. Petitioner Overreads Lofti's Disclosure Regarding PWM Comparator 255

Lastly, Petitioner relies on the following disclosure from Lofti to argue that PWM comparator 255 itself constitutes the claimed "controller of the switching power supply":

> "An output of the PWM comparator 255 is high during a primary interval when the main switch Q_{mn} of the power train is configured to conduct' and '[t]he output of the PWM comparator 255 is low during a complementary interval when the main switch Q_{mn} of the power train is transitioned to a non-conducting state and the auxiliary switch Qaux is configured to conduct.'"

Ex. 1004, 10:19–25; Pet. at 17–18.

Petitioner's interpretation incorrectly treats this passage as though it states that PWM comparator 255 alone causes the switches to transition between conducting and non-conducting states. This disclosure, however, does not support Petitioner's attempt to limit its focus to the PWM comparator 255 alone. Instead, the language

describes what the value of the PWM comparator 255 outputs are during intervals when the switches are configured in particular operating states. The passage therefore reads as a temporal or descriptive correlation—not a teaching that the comparator output alone configures the switches.

The grammatical structure of the disclosure confirms this reading. Lotfi explains that the comparator output is "high during a primary interval when the main switch … is configured to conduct," and "low during a complementary interval" when "the main switch Q_{mn} of the power train is transitioned to a non-conducting state and the auxiliary switch Q_{aux} is configured to conduct" (*i.e.*, when the switching configuration transitions have already occurred. Ex. 1004, 10:19–25. This statement simply states that the comparator output corresponds to operating intervals defined by the switching behavior of the converter. It does not state that PWM comparator 255 output alone drives or enforces those configurations, nor does it otherwise support Petitioner's attempt to limit its consideration of the claimed "controller of the switching power supply" to PWM comparator 255 in exclusion of the other components discussed above.

Petitioner attempts to avoid Lofti's teaching that other control components are powered by Vin by asserting that any arguments by Patent Owner would inherently "mischaracterize Lotfi." Pet. at 20. Yet, in support, Petitioner selectively cites

statements that "[l]ower voltages (e.g., 2.5 volts) are employed with the control and signal processing devices." Ex. 1004 at 7:40-49; *see also id*. at 1:34-37 ("More specifically, lower voltages (e.g., 2.5 volts) are employed with the control and signal processing devices."). But it is Petitioner that fails to address Lofti's teachings as a whole. Lotfi expressly teaches that controller 210 is coupled to both the Vin and the Vout of the power converter and further teaches that "[f]or a representative power converter, the input voltage Vin is unregulated and falls within the operational range of 2.5 to 6.5 volts." Ex. 1004 at 8:64-9:1. Thus, Lotfi confirms that Vin itself operates within the same voltage range relied upon by Petitioner and is capable of supplying the lower operating voltages used by control circuitry.

Moreover, Petitioner never analyzes whether the level-shift and crossover control 237 and driver 220 fall within the "control and signal processing devices" allegedly powered by lower voltages. Ex. 1004 at 7:40–49. Regardless, Lotfi teaches that Vin functions as a power supply voltage capable of providing the operating voltage required by the 'control and signal processing devices." The Petition therefore does not rebut Lofti's plain teaching that the claimed "controller" remains powered, at least in part, by Vin, which is contrary to the claim requirement that "the input voltage is not directly supplied to the controller as a power supply voltage."

Additionally, as shown above, Lotfi teaches that switching control occurs only *after* the coordinated PWM signals are received by driver 220 to generate gate drive signals that place the switches into conducting or non-conducting states. *Supra* §IV.A; Ex. 1004, 13:54–58; 15:19–22, 40–42. Thus, even accepting the above quoted passage at face value, PWM comparator 255 outputs, at most, an intermediate signal associated with switching intervals that are used in the production of the coordinated PWM signals. This is contrary to Petitioner's characterization of the function of the claimed "controller" as controlling an output that directly "controls the base of the switching transistor." Pet. at 18 (*quoting* Ex. 1001 at 5:1-3).

Accordingly, Petitioner's reliance on this disclosure to equate PWM comparator 255 with the claimed controller rests on an incorrect reading of Lotfi. The passage upon which Petitioner relies actually teaches correspondence between comparator output and switching intervals, not control of the configuration of the states of the switches themselves, and therefore does not support Petitioner's mapping of PWM comparator 255 as the claimed "controller of the switching power supply."

D. Kha Does Not Cure the Defect in Lofti

Ground 1A adds Kha, but Petitioner relies upon Kha only for general teachings regarding converter topologies. Petition at 24-28. Kha does not even address – much less teach – the structure or definition of a controller within Lotfi,

nor does Kha suggest redefining its integrated controller block as Petitioner does. Kha therefore does not remedy the deficiencies of Ground 1A.

V. THE PETITION FAILS TO ESTABLISH OBVIOUSNESS FOR THE LOFTI GROUNDS

Even if Lofti– alone or in view of Kha–taught the limitation "the input voltage is not directly supplied to the controller as a power supply voltage" (it does not), the Petition independently fails because Petitioner does not articulate a legally sufficient motivation to modify Lofti. Both Ground 1 and Ground 1A lack the required reasoned analysis for obviousness under 35 U.S.C. §103.

A. Petitioner Fails to Conduct the Required Obviousness Analysis (Ground 1)

At the outset, Petitioner fails to conduct the required obviousness analysis altogether. An obvious inquiry requires evaluating the scope and content of the prior art, identifying differences between the claimed invention and the prior art, and explaining why any missing claim elements would have been obvious to a POSITA in light of the level of ordinary skill. *See Ryko Mfg. Co. v. Nu-Star Inc.*, 950 F.2d 714, 717 (Fed. Cir. 1991) ("When analyzing a patent claim for obviousness, . . . the differences between the claim and the prior art need to be identified to place the obviousness analysis into proper perspective."). The Petition does not perform that analysis. Instead, it repeatedly makes the bald assertion that "Lotfi discloses and renders obvious" the claim limitations without identifying what, if anything, is

missing from Lotfi or why a POSITA would have supplied those missing elements. *See* Pet. at 14–19.

This omission alone renders the obviousness theory legally deficient. Conclusory statements that a reference "renders obvious" a limitation are not a substitute for identifying the specific gap and articulating a reasoned basis for filling it. *See In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006) ("Rejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning."); *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007) (there must be "a reason" for a skilled artisan "to combine the elements in the way the claimed new invention does."). The Petition never explains why or how a POSITA would have modified Lotfi's disclosed architecture to satisfy the challenged claim language.

Nor can Petitioner rely on its expert declaration to cure this defect. The Board's rules prohibit incorporation by reference of arguments not presented in the Petition itself. 37 C.F.R. § 42.6(a)(3). The Federal Circuit has expressly affirmed the Board's enforcement of this rule, holding that a Petitioner may not supply missing obviousness reasoning through expert testimony where the petition itself fails to articulate the argument. *3M Co. v. Evergreen Adhesives, Inc*., 844 F. App'x 321, 324–25 (Fed. Cir. 2021) (nonprecedential) (affirming PTAB rejection of arguments

presented only through expert declarations and not adequately developed in the petition). In any event, the Petitioner's expert declaration merely parrots the Petition's conclusory assertions rather than providing the required analysis, and therefore cannot remedy the Petition's failure to present a legally sufficient obviousness theory.

B. Ground 1A Fails to Establish a Motivation to Combine Lofti with Kha

Petitioner asserts that a POSITA would have substituted a boost converter for Lotfi's disclosed buck converter because switching topologies were "well known" and topology selection was a "routine design choice." Pet. at 25–26. That argument is insufficient.

Demonstrating that alternative topologies were "well known" does not establish why a POSITA would have modified Lotfi's disclosed system. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1073 (Fed. Cir. 2015) (it is insufficient to show that a modification "could" be made; petitioner must show why it "would" be made). The Petition never explains why a POSITA working from Lotfi's integrated buck-converter controller would have replaced its power train 230 with a boost configuration, particularly where Lotfi already achieves its stated objective of "reducing inherent parasitic losses in the switches of a power converter," though

stable internal biasing (Vbias) to produce a regulated output. Ex. 1004, at 3:62-64, Fig. 3.

As explained above, a petitioner may not cure a deficient petition by offering post hoc reasoning through expert testimony where the Petition itself fails to articulate the required motivation. *See 3M Co.*, 844 F. App'x at 324–25. Conclusory expert assertions that a modification would have been "routine" or "straightforward" do not substitute for an articulated explanation grounded in the prior art. *See* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *Rohm & Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997) (nothing in the Federal Rules of Evidence or Federal Circuit jurisprudence requires the fact finder to credit unsupported assertions of an expert witness). Here, the expert declaration merely repeats the Petition's generalized statements about known topologies and does not identify any teaching in Lotfi that would have prompted the proposed redesign.

1. **Kha is Used only as Background Knowledge.**

Petitioner relies on Kha solely to show that boost converters were generally known before the priority date. Pet. at 25–26. But Kha does not address Lotfi's specific circuitry architecture, its integrated controller design, or any limitation in Lotfi's buck topology. Kha is not tied to any specific teaching in Lotfi that would prompt modification.

Using Kha merely as a catalog of general knowledge does not supply a motivation to combine. Demonstrating that a reference is analogous art or relevant to the field of endeavor of the challenged patent is not sufficient to establish that one of ordinary skill would have had reason to combine its teachings with other prior art in the manner set forth in the claim. *See Securus Techs., Inc. v. Global Tel Link Corp.*, 701 F. App'x 971, 977 (Fed. Cir. 2017) ("a broad characterization of [prior art references] as both falling within the same alleged field . . . without more, is not enough for [Petitioner] to meet its burden of presenting a sufficient rationale to support an obviousness conclusion"). Mere compatibility of the references is likewise not sufficient. *Personal Web Techs., LLC v. Apple, Inc.*, 848 F.3d 987, 993 (Fed. Cir. 2017) (it is not enough to show that "a skilled artisan, once presented with the two references, would have understood that they could be combined"). Obviousness requires "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR*, 550 U.S. 398, 418. Here, Kha is invoked only after the fact to show that boost converters exist in the same field of power converters, not to explain why Lotfi (or how) would be modified.

This reasoning reflects an impermissible hindsight reconstruction: starting from the claimed step up regulator and working backward to identify a known

topology capable of satisfying the claim language. *See KSR,* 550 U.S. 398 at 421 ("distortion [may be] caused by hindsight bias and be cautious of arguments reliant upon ex post reasoning.").

2. **Proposed Modification Would Undermine Lofti's Intended Function**

Petitioner's proposed modification is not merely unsupported – it would fundamentally alter Lofti's disclosed operation. If a proposed modification renders the prior art inoperable for its intended purpose or destroys its core function, the requisite motivation to make that modification cannot exist. *See In re Fritch*, 972 F.2d 1260, 1265 n. 12 (Fed. Cir. 1992); 1959); *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984).

Lofti is expressly directed to a buck (step down) switching regulator architecture. Ex. 1004, 6:10-11, 20-21, 8:37-38. Its power train lowers the input voltage to generate a regulated output while a linear regulator supplies a controlled bias voltage (Vbias) throughout the controller circuitry and the driver. Ex. 1004. Fig. 3. That architecture is premised on step down operation. Replacing Lofti's buck topology with a boost (step up) converter would not be a minor substitution of interchangeable parts. It would reverse the fundamental voltage conversion function around which Lofti's system is designed.

Petitioner does not analyze how Lofti's Vbias scheme would operate if the power stage were converted to a step-up topology, nor does it explain how the control circuitry would maintain stable operation under such a redesign. Instead, Petitioner assumes that because boost converters were known, one could simply replace Lofti's buck converter with a boost converter. But where a modification would alter or undermine the primary reference's intended operation, the law does not presume a motivation to make that change. *See Gordon,* 733 F.2d at 902.

Moreover, Lofti's focus on regulated step-down conversion reinforces that it does not contemplate, and in effect discourages, step-up operation within its disclosed architecture. A reference teaches away where it would "discourage" a POSITA from following a particular path or would "lead[] in a direction divergent from the path that was taken by the applicant." *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994); *see also In re Geisler*, 116 F.3d 1465, 1469 (Fed. Cir. 1997) (quoting *In re Malagari*, 499 F.2d 1297, 1303 (CCPA 1974)); *Allergan, Inc. v. Sandoz Inc.*, 796 F.3d 1293, 1306 (Fed. Cir. 2015). While the standard is strict, it is satisfied where the prior art criticizes, discredits, or otherwise discourages the proposed modification - not merely where it fails to mention it. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004).

Here, Lofti's disclosed objective is to provide a controlled, step-down power architecture with internally regulated biasing. Its design is built around lowering voltage, not boosting it. Petitioner's theory would require discarding that foundational operating principle and reconstructing the power stage in a manner inconsistent with Lofti's disclosed purpose. The law does not support finding a motivation to combine where doing so would undermine the reference's intended function or redirect it away from its disclosed design goals.

Accordingly, Petitioner's proposed substitution of a boost topology into Lofti's buck-based architecture lacks both evidentiary support and legal foundation. Grounds 1 and 1A fail for lack of a properly articulated motivation to modify the prior art.

3. **The Alleged "Straightforward" Modification Is Unsupported**

Petitioner asserts, without analysis, that implementing a boost converter would have been a "straightforward and well-understood modification." Pet. at 26. That statement is conclusory. Petitioner provides no analysis to support this statement.

Petition relies onto architecture in Lotfi that it contends implements a linear regulator supplying a regulated bias voltage to both the reference circuit and the switching controller. Petitioner never analyzes whether replacing the disclosed buck

topology would alter controller operation, startup behavior, Vbias stability, or system performance. It simply assumes interchangeability.

Conclusions that a modification would have been "straightforward" cannot substitute for an articulated reasoning with rational underpinnings. *Kahn*, 441 F.3d at 988; *KSR*, 550 U.S. at 418.

Petitioner's theory reduces to the assertion that because boost converters existed, a POSITA could have substituted one into Lotfi. That shows only that the modification was possible - not that it would have been motivated by Lotfi's teachings, objectives, or design constraints.

The Board has repeatedly rejected obviousness theories based on generic interchangeability untethered from the primary reference's purpose. Because Petitioner fails to articulate a reason grounded in Lotfi itself for modifying its disclosed buck-based architecture, Ground 1A lacks the required rational underpinning.

VI. PATENTABILITY OVER THE DOLUCA GROUNDS

A. Ground 2 Fails to Establish a Motivation to Combine Doluca and Burstein

Petitioner fails to meet its burden to demonstrate a reasonable likelihood of prevailing on its obviousness challenge based on Doluca in view of Burstein. When an obviousness theory relies on multiple references, the Petitioner must analyze the

scope and content of the prior art, identify the differences between the prior art and the claimed invention, and explain why a POSITA would have modified the prior art to include the missing claim limitations. *Ryko* 950 F.2d at 717 ("When analyzing a patent claim for obviousness, … the differences between the claim and the prior art need to be identified to place the obviousness analysis into proper perspective.").

Merely identifying individual claim elements across separate references is not enough. A petitioner must provide a reasoned explanation connecting the teachings of the prior art to the claimed invention. *Kahn*, 441 F.3d at 988.

1. **Doluca Addresses a Fundamentally Different Problem than Burstein**

Doluca addresses a narrow objective: improving light load efficiency in a switching regulator by initially powering the converter controller through a first regulator during startup and then switching the controller to operate from the converter output once sufficient voltage is available. Ex. 1005, 1:56-64. In other words, Doluca teaches a temporary startup configuration designed to reduce "improve the efficiency of the regulator." *Id.* Its operating principle depends on transitioning away from regulator supplied controller power once "the converter output reaches an adequate voltage level. Ex. 1005, 2:19-25

Burstein, by contrast, concerns improving voltage regulator stability and DC accuracy through gain boosting and feedback amplification using a bandgap

reference circuit. Ex. 1006, 2: 28-36. Burstein's disclosure is directed to loop gain, regulation accuracy and stability, and feedback behavior in when "the supply voltage drifts and the load changes drastically." Ex. 1006, 2:56-62. It does not address startup efficiency.

Indeed, Burstein introduces the prior-art regulator configuration relied upon by Petitioner precisely to demonstrate its deficiencies. As Burstein explains, the prior-art regulator does not provide a "highly accurate voltage potential across resistor 24 and at the output of the regulator." Ex. 1006, 2:9–12. Burstein then proposes a different design to overcome those shortcomings. Petitioner nevertheless attempts to combine Doluca with this criticized prior-art configuration from Burstein. The Petition never explains why a POSITA would modify Doluca's efficiency focused architecture to incorporate a regulator configuration that Burstein itself identifies as deficient. Modern obviousness precedent makes clear that such unexplained motivation to implement a modification of a reference's operating principle cannot support a 35 U.S.C. §103 theory, as mere compatibility of the references is not sufficient. *Personal Web Techs,* 848 F.3d at 993 (it is not enough to show that "a skilled artisan, once presented with the two references, would have understood that they could be combined").

2. The Petition Fails to Provide a Sufficient Motivation to Combine

Petitioner asserts that "a POSITA would have been motivated to implement Burstein's 'prior art' linear regulator with Doluca's 'very common DC-DC converter topology'" because Doluca allegedly provides no implementation details for the regulator identified as powering the controller and thus functions as a "black box," motivating a POSITA to "look to other references … for implementation details." Pet. 32–33. Critically, however, the Petition never explains *why* a POSITA would combine Burstein's prior art regulator with Doluca's startup efficiency architecture. At most, Petitioner asserts that Burstein provides additional "implementation details." Pet. at 33. However, obviousness requires an explanation grounded in known design incentives, technical problems, or industry pressures existing at the time of the invention—not hindsight reconstruction derived from the challenged patent itself. *See KSR* 550 U.S. 398 at 421. The Federal Circuit has repeatedly emphasized that obviousness cannot rest on conclusory assertions or expert testimony that references *could* be combined; the analysis must explain *why* a skilled artisan would have done so. *See* 37 C.F.R. § 42.65(a); *see also Rohm,* 127 F.3d at 1092.

Here, Petitioner identifies no contemporaneous technical problem that Burstein purportedly solves within Doluca, nor any reason why a POSITA would

replace Doluca's efficiency-focused architecture with Burstein's stability-focused regulator design. The absence of such reasoning is dispositive.

Viewed as a whole, Petitioner's analysis first attempts to equate Doluca and Burstein as analogous, then simply proceeds limitation-by-limitation by selectively extracting components from Doluca and Burstein only after consulting the challenged claims. Analogous art is merely a threshold inquiry as to whether a reference can be considered in an obviousness analysis. Demonstrating that a reference is analogous art or relevant to the field of endeavor of the challenged patent is not sufficient to establish that one of ordinary skill would have had reason to combine its teachings with other prior art in the manner set forth in the claim. *See Securus Techs.*, Inc., 701 F. App'x at 977. The Petition never demonstrates that the combined references themselves suggest the claimed configuration or provides an articulated reasoning supporting its selective extraction of components from the references. Instead, the claimed invention serves as the blueprint for assembling disparate teachings from unrelated disclosures.

Federal Circuit precedent rejects such hindsight reasoning, requiring instead an articulated rationale grounded in the prior art itself. *See KSR,* 550 U.S. at 421; *TQ Delta*, *LLC v. Cisco Sys., Inc.,* 942 F.3d 1352, 1360 (Fed. Cir. 2019) (*quoting Kahn*, 441 F.3d at 988). Because Petitioner supplies no explanation reconciling the

conflicting purposes and operating principles of Doluca and Burstein, its theory amounts to an impermissible reconstruction of the invention using the patent as a roadmap.

3. Ground 2 Therefore Cannot Support Institution

Because Petitioner fails to (1) reconcile conflicting operating principles, (2) account for Burstein's stated objective of correcting deficiencies in prior regulator designs, and (3) provide an evidence based motivation explaining why a POSITA would combine Doluca and Burstein to disprove hindsight bias, Ground 2 does not demonstrate a reasonable likelihood that Petitioner would prevail under §314(a).

B. Ground 2B Fails to Establish a Motivation to Combine Doluca and Burstein and Kha

Ground 2B fails for the same reasons as Grounds 1A and 2. Adding Kha does not cure the Petition's core defect: it still does not identify the missing claim elements with specificity and does not articulate an evidence based rationale explaining why a POSITA would have combined Doluca, Burstein, and Kha in the manner required by the claims. *See Ryko* 950 F.2d at 717; *TQ Delta* 942 F.3d at 1360; *Kahn*, 441 F.3d at 988. The Petition instead proceeds limitation-by-limitation, selecting features from three references only after consulting the challenged claims, an approach that reflects impermissible hindsight reconstruction. *KSR* 550 U.S. at 421.

First, as explained above, Doluca and Burstein are directed to different technical problems and incompatible design objectives. Doluca's core teaching is a startup to steady state power sequencing scheme intended to improve light-load efficiency by switching the controller's supply from a startup regulator to the converter output once the output reaches an adequate level. Ex. 1005, 1:56–64; 2:19–25. Burstein, by contrast, focuses on regulator loop gain, stability, and DC accuracy under supply drift and drastic load changes. Ex. 1006, 2:28–36; 2:56–62. Importantly, Burstein introduces the regulator configuration Petitioner relies upon precisely to criticize it as deficient - *i.e*., not providing a "highly accurate voltage potential." Ex. 1006, 2:9–12. The Petition relies on alleged compatibility of the references, and never explains why a POSITA would modify Doluca's architecture by importing a regulator configuration that Burstein itself identifies as inadequate, nor does it reconcile how the proposed combination preserves Doluca's taught operation. *Personal Web Techs.*, 848 F.3d at 993 (it is not enough to show that "a skilled artisan, once presented with the two references, would have understood that they could be combined"). Obviousness requires "a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR*, 550 U.S. at 418.

Second, Kha does not supply the missing explanation as to **why** a POSITA would modify Doluca in view of Burstein and Kha. Petitioner cites Kha only for generalized propositions about converter topologies or background knowledge *i.e.*, that certain approaches were "known." But the existence of a known topology does not establish a reason to incorporate it into Doluca's specific controller architecture or to graft Burstein's regulator scheme into Doluca's efficiency focused operation. See *Belden Inc. v. Berk-Tek LLC*, 805 F.3d at 1073 (Fed. Cir. 2015). Petitioner does not identify any deficiency in Doluca that Kha purportedly addresses, nor any design pressure that would have driven a POSITA to make the particular set of modifications Petitioner proposes. That is fatal: showing a combination is conceivable does not show a POSITA would have made it. *TQ Delta*, 942 F.3d at 1360.

Third, Ground 2B amplifies the Petition's hindsight problem. If there were a genuine, non-hindsight rationale grounded in the prior art, Petitioner would explain (i) what is missing from Doluca, (ii) why Burstein supplies that specific missing element in a way that would be adopted in Doluca, and (iii) why Kha would further motivate or shape that combination. Instead, Petitioner uses Kha as a third-source patch, invoked only after the claims are consulted, to rationalize the end result. That is exactly the kind of "ex post reasoning" *KSR* cautions against. 550 U.S. at 421.

And to the extent the Petition relies on "well known" or common sense knowledge to bridge gaps, it must provide a sound explanation tied to record evidence, not a conclusory assertion. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362–63 (Fed. Cir. 2016) (The court found that the PTAB cannot rely on "common sense" to fill in a missing limitation unless it provides a sound explanation for why that component is common sense.)

Finally, Petitioner cannot salvage Ground 2B by shifting the missing analysis into its expert declaration. The Petition must contain the complete obviousness theory, and Petitioner may not incorporate reasoning by reference to expert testimony. 37 C.F.R. § 42.6(a)(3). The Federal Circuit has affirmed the Board's enforcement of this rule. *3M Co.*, 844 F. App'x at 324–25; *See also* 37 C.F.R. § 42.65(a) ("Expert testimony that does not disclose the underlying facts or data on which the opinion is based is entitled to little or no weight."); *Rohm*, 127 F.3d at 1092.

VII. CONCLUSION

For the reasons set forth above, the Petition fails to satisfy Petitioner's burden to demonstrate a reasonable likelihood of prevailing with respect to any challenged claim.

The Petition is predicated on inconsistent positions regarding claim scope between this proceeding and the parallel WDTX Proceeding without the explanation

required by 37 C.F.R. § 42.104(b)(3) and the Board's guidance in *Revvo*, *Cambridge Mobile*, and *Tesla*.

Independently, Petitioner's Lofti grounds fail because Petitioner's contrived "controller" mapping cannot be reconciled with Lofti's disclosure and does not satisfy the requirement that "the input voltage is not directly supplied to the controller as a power supply voltage."

And across all grounds, Petitioner fails to present a legally sufficient obviousness case: it does not identify the missing claim elements with particularity, does not articulate an evidence-based motivation to modify or combine the references, and relies on generalized "well known" information and hindsight reconstruction rather than an articulated rationale with a rational underpinning.

Accordingly, Patent Owner respectfully requests that the Board deny institution of inter partes review under 35 U.S.C. § 314(a).

Dated: March 5, 2026

Respectfully Submitted,

/Andrew J. Gray IV /
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CERTIFICATION OF COMPLIANCE WITH TYPE-VOLUME LIMITS

This Patent Owner's Preliminary Response includes 8,506 words, as counted by Microsoft Word, and is therefore in compliance with the 14,000 word limit established by 37 C.F.R. § 42.24(b)(1). Accordingly, pursuant to 37 C.F.R. § 42.24(d), lead counsel for Patent Owner hereby certifies that this paper complies with the type-volume limits established for a patent owner preliminary response to petition.

Dated: March 5, 2026

Respectfully Submitted,

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CERTIFICATE OF SERVICE

I hereby certify that a true and correct copy of **PATENT OWNER'S PRELIMINARY RESPONSE and EXHIBITS 2011-2012** is being served on March 5, 2026, via email pursuant to 37 C.F.R. § 42.6(e), to counsel for Patent Owner as addressed below:

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