

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NINTENDO CO., LTD. AND NINTENDO
OF AMERICA INC.,
Petitioners,

v.

AMERICAN GNC CORPORATION,
Patent Owner.

Case IPR2024-00667
Patent No. 6,508,122 B1

**PETITIONERS' REPLY IN SUPPORT OF ITS
PETITION FOR *INTER PARTES* REVIEW**

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I. INTRODUCTION

The Petition cited extensive, detailed—now un rebutted—expert testimony and evidence from Dr. Young, showing that challenged claims 1 and 3 of the ’122 patent are unpatentable based on two independent grounds. In response, Patent Owner (“PO”) provides empty attorney argument and two irrelevant declarations.

Both of PO’s declarations are non-responsive and untethered to the claim language. PO’s expert offered generalized, conclusory *ipse dixit*, and his declaration mistakenly focuses on concepts not required by the challenged claims. During deposition, he also admitted that “high-performance MEMS devices and control circuits existed for at least **ten years** before the priority date,” EX1046, 23:19-24 (emphasis added), and corroborated Petitioner’s motivations to combine. PO also submitted a declaration from a named inventor of the ’122 patent, who admitted that he offered no opinions about the validity of the claims, did not apply the POSITA standard, and offered no evidence tied to the claims. On this record, the challenged claims are amply proven to be unpatentable.

Nothing in PO’s brief compels a different result. Although PO makes unsupported arguments, chides Petitioner for citing the specification as a “roadmap,” and uses grossly exaggerated diagrams, all of PO’s arguments fail. Attorney argument is not evidence. Petitioner properly cited the specification to corroborate

that nothing more is claimed than technologies known in the art. And PO offers no specific evidence undermining Dr. Young’s analysis.

The claims are unpatentable.

II. ARGUMENT

A. The Challenged Claims Are Obvious Based on Ground 1

1. “Capacitive Pickoff Excitation Signals”

Fujiyoshi discloses an angular rate sensor unit using capacitive sensing, which Mr. McCall (a ’122 patent named inventor) confirmed was known in the prior art. (EX1002, ¶¶135-136; EX1048 (McCall Depo.), 26:14-16.) The Petition demonstrated that it would have been obvious that Fujiyoshi’s capacitive sensing would have been implemented by receiving capacitive pickoff excitation signals modulated based on moving capacitor plates. (Pet., pp.18-23; EX1002, ¶¶135-140.) Petitioner’s expert not only explained that this would have been basic knowledge of a POSITA, but also cited two textbooks to demonstrate this knowledge—Slater and Ristic. (Pet., pp.18-23; EX1002, ¶¶135-140.)

PO erroneously contends there is insufficient evidence that Slater or Ristic would have been within a POSITA’s background knowledge. (POR, p.21.) *First*, PO ignores the fact that Petitioner and Dr. Young cited Slater and Ristic merely to corroborate the broader point that the “capacitive pickoff excitation signals” limitation would have been basic knowledge of a POSITA. The evidence in the Petition is un rebutted, with PO relying on mere attorney argument in response.

ParkerVision v. Vidal, 88 F.4th 969, 982 (Fed. Cir. 2023) (“Attorney argument is not evidence.” (citation omitted)).

Second, PO ignores that Slater and Ristic are textbooks from years *before* the asserted 1999 priority date—Slater from 1964, and Ristic from 1994. (Inst. Dec., pp.35-36.) These textbooks reflected general knowledge of POSITAs. (EX1011 (Slater), p.iv (“a supplement to general treatises on inertial guidance”), p.vi (“background” that will “aid in understanding existing instruments”); EX1061 (Ristic supplement), p.xiv (“intended for practicing engineers, scientists, and advanced graduate students who seek a broader understanding on important subjects in the sensor field”); EX1045, ¶¶60.)

Third, Petitioner did not just rely on Fujiyoshi and general knowledge of a POSITA; Petitioner also cited evidence explaining why the receipt of “capacitive pickoff excitation signals” would have been obvious based on Kumar. (Pet., pp.23-26; EX1002, ¶¶141-148.) Kumar discloses capacitive sensing by providing a sensing capacitor with (1) a DC bias signal or (2) a high-frequency AC signal. (Kumar (EX1005), 3:62-4:2, 4:19-25, 6:29-34.)

PO argues that the preferred embodiment of Kumar “discloses only a DC bias voltage.” (POR, p.21.) But PO fails to provide evidence that a DC bias signal cannot be a “capacitive pickoff excitation signal[.]” Petitioner’s evidence is un rebutted. (EX1002, ¶¶142-145.)

PO also argues that Kumar’s disclosure of a sensing capacitor receiving a high-frequency AC signal is insufficient, because it relates to “other types of sensors.” (POR, pp.21-22.) But Kumar indicates that instead of DC biased capacitive pickoffs, “high frequency carrier signal capacitive pickoffs” can be used, confirming that the high-frequency signals are used as the claimed “capacitive pickoff excitation signals.” (Kumar, 6:29-34; EX1002, ¶84.) Petitioner’s expert opined that Kumar’s disclosures would have rendered obvious high-frequency signals for capacitive sensing in Fujiyoshi’s angular rate sensor unit. (EX1002, ¶¶141-147.) PO’s expert does not dispute this evidence.

The Petition also demonstrated that a POSITA would have been motivated to combine Fujiyoshi and Kumar. (Pet., pp.24-26; EX1002, ¶¶143-147.) Petitioner’s expert opined that given the similarity of the inertial sensors and capacitive sensing systems disclosed by Fujiyoshi and Kumar, a POSITA would have looked to the more-detailed Kumar to implement Fujiyoshi’s capacitive sensors. (EX1002, ¶¶143-147; *Unified Patents v. DataCloud Techs.*, IPR2021-00361, Paper 21, at 54-57 (P.T.A.B. June 30, 2022) (“the skilled artisan would have turned to Dunsmuir’s more detailed teachings of usage and techniques”); *Outdry Techs. v. Geox S.p.A.*, 859 F.3d 1364, 1370-71 (Fed. Cir. 2017) (sufficient for motivation to combine to be supported “by evidence of the knowledge of a skilled artisan”).) PO again provides only attorney argument. But attorney argument cannot overcome expert testimony.

The claimed “capacitive pickoff excitation signals” are obvious over Ground 1. (EX1002, ¶¶135-148.)

2. “Digital Low Frequency Inertial Element Displacement Signals” (Fujiyoshi and Townsend)

Fujiyoshi discloses a feedback loop for controlling the amplitude of dither motion of a proof mass, including amplitude control circuit 177, which “controls in such a manner as to make the amplitude of the vibration constant” using signals indicating motion of the proof mass. (Fujiyoshi (EX1003), 20:2-11; EX1002, ¶177.)

Townsend discloses digital circuitry (and associated circuitry for conversion between analog and digital signals) for use in the control loops of a vibrating structure gyroscope like Fujiyoshi discloses, including in the loop for maintaining vibration at a “natural frequency determined by the mechanical vibratory structure.” (Townsend (EX1004), pp.1-2; EX1002, ¶¶178-181.)

Petitioner’s expert opined that a POSITA would have been motivated to apply the type of digital and supporting circuitry in Townsend to Fujiyoshi’s system, because among other reasons (1) it would allow for digital outputs and allow for integration with “modern systems” such as the ones Townsend discloses and (2) digital circuitry is more configurable than analog circuitry, enabling easier application of “calibrations” and further compensations “to enhance performance.” (EX1002, ¶185 (citing Townsend, p.3); EX1045, ¶¶20-30, 61-65.) Petitioner’s expert opined that the desire to reject noise would have provided a further reason to

implement Fujiyoshi's circuit using the supporting circuitry disclosed by Townsend (e.g., sample and hold devices). (EX1002, ¶186.)

PO's expert corroborated Petitioner's expert's opinion, confirming the advantages of using digital circuitry within analog circuits, including in the dither drive loop of a MEMS vibratory gyroscope. PO's expert testified that in inertial systems, "various errors" and "frequency changes evolve over time" and "with temperature" so "a sophisticated digital control algorithm is a very useful thing to be able to effectively control these systems." (EX1046, 38:23-39:25.) PO's expert acknowledged the advantages of digital systems over analog systems included "accuracy, flexibility, programmability, and modularity," which he recognized in his 1988 article predating the '122 patent. (EX1044, p.1655.)

PO ignores most of Petitioner's evidence and suggests that the only motivation to combine Fujiyoshi and Townsend is reducing noise. (POR, pp.24-26.) Although reducing noise would alone have provided a sufficient motivation to combine, Petitioner provided more. Petitioner's expert opined that a POSITA would have been motivated to combine Fujiyoshi with Townsend for other reasons, such as the many advantages of digital vibrating structure gyroscope circuitry over analog implementations. (E.g., Pet., pp.41-42 (citing EX1002, ¶185); EX1045, ¶¶61-65.) Indeed, when questioned by PO in deposition, Petitioner's expert confirmed that he provided various reasons why a POSITA would have been motivated to combine

Fujiyoshi and Townsend—not just noise. (EX2020, 64:12-23; EX1002, ¶¶185-186; EX1045, ¶66.)

Using mere attorney argument, PO also criticizes the use of sample-and-hold devices in the Fujiyoshi and Townsend combination. (*Compare* POR, pp.24-25, *with* EX1002, ¶¶182-186 (evidence); *ParkerVision*, 88 F.4th at 982.) Yet, PO itself acknowledges that Townsend’s disclosures regarding “noise reduction” are “meaningful” if one has decided to “digitize.” (POR, p.26.) Townsend’s sample-and-hold devices are part of the disclosed circuitry for sampling analog signals to convert from analog to digital signals. (EX1002, ¶¶77 (describing role of sample-and-hold devices in analog-to-digital conversion), 185-186.) Townsend further discloses that its sample-and-hold devices allow for lower sample/conversion times than in the prior art, enabling “simple low cost precision analogue to digital converters to be used which can more readily be integrated into a monolithic integrated circuit.” (Townsend, p.12 (sample-and-hold devices enable “interleaving of the samples to ensure no loss of information”); EX1045, ¶64; *see also* Townsend, pp.4-5 (describing issues with higher sample/conversion rates in the prior art).) Accordingly, PO appears to agree that if it were obvious to combine Fujiyoshi and Townsend (which the evidence supports), then it would have been obvious to include Townsend’s sample-and-hold devices in the combination. PO’s expert also agrees. (EX1046, 44:21-45:20 (“before the signals themselves get converted into digital

form, these high frequency signals have to be removed”).) Indeed, the evidence shows that a POSITA would have been motivated to use sample-and-hold devices as part of incorporating digital processing circuitry like Townsend discloses into Fujiyoshi’s circuit. Furthermore, PO’s attorney argument citation to an alternative embodiment of Townsend without sample-and-hold devices does not overcome the ample evidence that a POSITA would have been motivated to use these devices in Petitioner’s combinations. (POR, p.38; EX1045, ¶65; *In re Mouttet*, 686 F.3d 1322, 1334 (Fed. Cir. 2012) (“[M]ere disclosure of alternative designs does not teach away.” (citation omitted)).)

PO also argues that the combination of Fujiyoshi and Townsend would not have rendered the “digital low frequency inertial element displacement signals” limitation obvious, because “[n]either *Fujiyoshi* nor *Townsend* are asserted to contain any suggestion of low-pass filtering.” (POR, p.26.) But PO offers no evidence that low-pass filtering is necessary to satisfy the “digital low frequency inertial element displacement signals” limitation. *Perfect Web Techs. v. InfoUSA*, 587 F.3d 1324, 1332 (Fed. Cir. 2009) (rejecting position as “merely attorney argument lacking evidentiary support”). Attorney argument cannot overcome unrebutted expert testimony confirming that the sample-and-hold devices in the Fujiyoshi-Townsend combination would have provided “digital low frequency inertial element displacement signals” by “output[ting] a low frequency form” of the

dither motion signals. (EX1002, ¶165.)

PO also makes general arguments that the combination is “complicated” and that Fujiyoshi’s circuit “worked fine.” (POR, pp.31-32.) But a POSITA would not have seen the combination as complicated. (EX1002, ¶¶168-175; EX1045, ¶¶8-30.) At best, PO’s arguments speak to design tradeoffs—not evidence of any lack of a motivation to combine. (EX1045, ¶28.)

3. “Digital Low Frequency Inertial Element Displacement Signals” (Fujiyoshi, Townsend, and Cox)

Petitioner provided substantial evidence that the “digital low frequency inertial element displacement signals” limitation would have been obvious. (Pet., pp.32-35; EX1002, ¶¶163-175.) Petitioner provided evidence that it would have been obvious based on Cox to include a resistive element with Townsend’s sample-and-hold devices in the combined circuit, since this would have provided low-pass filter functionality that would have filtered out high-frequency noise. (EX1002, ¶167; *see also* EX1045, ¶¶24-30.) Petitioner also provided evidence that a POSITA would have recognized that a low-pass filter would serve as an anti-aliasing filter for Townsend’s analog-to-digital converter circuitry.¹ (EX1002, ¶171.)

During deposition, PO’s expert reinforced the motivations to combine

¹ The Irwin textbook was in a POSITA’s background knowledge. (EX1062, p.v; EX1045, ¶60.)

Fujiyoshi, Townsend, and Cox. PO's expert authored a 1988 article that discussed the use of digital signal processing in analog circuits. The article described various analog circuits—"the S/H preamplifier, input/output buffers, pre- and post-filter equalizers, multiplexer/demultiplexer stages, and A/D and D/A converters"—that were "necessary for conditioning an analog input signal for digital manipulation[.]" (EX1044, p.1655.) PO's expert testified that "high frequency signals have to be removed" using analog circuits prior to the analog-to-digital conversion. (EX1046, 44:21-45:20.) PO's expert testimony thus confirms that more than a decade before the asserted priority date of the '122 patent, aliasing was a known problem that would have motivated a POSITA designing analog-to-digital converter circuitry.

PO argues that a POSITA would not have been motivated to combine Cox with the mixed analog and digital circuitry of the combined Fujiyoshi and Townsend circuit because Cox is an analog circuit. (POR, p.27.) But that argument misconstrues Petitioner's combination. Cox discloses using a resistor with a sample-and-hold circuit to yield a low-pass filter. (Cox (EX1006), Abstract, 1:27-30, 3:50-4:8; EX1002, ¶167.) Petitioner's expert opined that a POSITA would have been motivated to use such a resistor in the *analog* circuitry for converting from analog to digital signals disclosed by Townsend. (EX1002, ¶¶167-173.) Thus, it is immaterial that Cox discloses analog circuitry, since the evidence indicates that a POSITA would have combined Cox's teachings with other analog circuitry in the

Fujiyoshi-Townsend-Cox combination.

PO also suggests that it is inconsistent for Petitioner to argue that a POSITA would have been motivated by Cox to minimize the number of components in the combined system—apparently suggesting that Cox teaches adding more circuits. (POR, pp.27-28.) But Cox discloses that “the capacitor performs the two functions of holding the sampled signal and serving as a component of the RC low-pass filter,” thereby “minimiz[ing] the total number of components needed.” (Cox, 3:68-4:8; EX1002, ¶172.) PO’s criticism is misplaced.

4. “Digital Signal Processing System Analyzing Said Digital Low Frequency Inertial Element Displacement Signals”

PO argues that ground 1 does not satisfy a “digital signal processing system analyzing said digital low frequency inertial element displacement signals,” because Petitioner does not show what analysis the digital signal processing circuitry would have performed in the combined circuit. (POR, pp.28-29.) PO ignores the evidence.

Petitioner’s expert opined that a POSITA would have been motivated to incorporate digital circuitry based on Townsend’s teachings into the “amplitude control circuit **177**” of Fujiyoshi. (Pet., pp.37-39; EX1002, ¶¶177, 181.) This circuit analyzes an “excitation control signal” derived from “capacity detecting circuit **170**” to “control[] in such a manner as to make the amplitude of the vibration constant.” (EX1002, ¶¶177, 181.) Thus, in the combined circuit, digital circuitry in the

amplitude control circuit **177** would have “analyz[ed] said digital low frequency inertial element displacement signals[.]” (*Id.*, ¶ 179.)

Petitioner also provided evidence that a POSITA would have been motivated to implement the Fujiyoshi-Townsend combination to enable “calibrations and compensations” using digital circuitry. (EX1002, ¶185 (quoting Townsend, p.3).) Townsend itself discloses implementing “more complex and ‘in loop’ compensations” than the analog control loops in the prior art. (*Id.*, ¶75 (quoting Townsend, p.4).) Petitioner’s expert thus opined that the “digital signal processing system analyzing said digital low frequency inertial element displacement signals” limitation would have been obvious in light of ground 1. (EX1002, ¶179.)

PO’s argument that Petitioner does not show “analysis” by digital circuitry is belied by its own expert’s testimony that “Claim 1 does not require a particular analysis” from the exemplary options disclosed in Figure 7 of the ’122 patent. (EX2019, ¶47; EX1045, ¶¶42-48.) PO’s expert testified that there are further “types of analysis” that would satisfy claim 1, including a variety of other “control things that have to be done or that might have to be done,” including “additional blocks that are added to Figure 7 to correct for those errors.” (EX1046, 29:17-30:10.) Such discussion of control and error correction functions confirm that either Fujiyoshi’s discussion of “amplitude control circuit **177**” or Townsend’s discussion of applying calibrations and compensations is sufficient to render claim 1 obvious over ground 1.

**B. The Challenged Claims Would Have Been Obvious Over Ground
2**

**1. “Digital Signal Processing System Analyzing Said Digital Low Frequency Inertial Element Displacement Signals”
(Mitamura)**

Petitioner provided evidence that the “digital signal processing system analyzing said digital low frequency inertial element displacement signals” limitation would have been obvious based on Mitamura. (Pet., pp.71-73; EX1002, ¶¶237-238.) Mitamura discloses arithmetic unit **91**, where “the amplitude information [is] calculated as modulation amounts of the drive voltage, ... based on a deviation from a set reference level for the amplitude information.” (Mitamura (EX1009), [0046].) Petitioner’s expert opined that it would have been obvious to implement arithmetic unit **91** as digital circuitry, including based on Mitamura’s description of “set[ting]” a reference level—which suggests digital circuitry. (EX1002, ¶¶237-238; EX1045, ¶¶8-19, 31-35.) The motivations to combine included: (1) “performing calculations and setting reference levels would have been simpler, less time-consuming, and less expensive via a digital system than an analog one”; (2) digital circuitry would allow “more complex calculations”; and (3) digital circuitry would have allowed for more flexible adjustment based on reprogramming. (EX1002, ¶237; EX1045, ¶¶31-41, 61-65.)

PO argues that a POSITA would not have been motivated to implement Mitamura’s analog arithmetic unit **91** as digital circuitry, because it is a “simple”

calculation. (POR, pp.41-47.) PO's assertion that arithmetic unit **91** is analog and that a digital implementation would be a "wholesale redesign" is meritless. (POR, p.44.) What Mitamura discloses would have rendered a digital implementation of arithmetic unit **91** obvious to a POSITA. (EX1002, ¶¶232, 237; EX1045, ¶¶31-35.)

PO also suggests that citing the '122 patent is using hindsight. (POR, p.42.) But the '122 patent was cited to show *consistency* with Mitamura's disclosures. (Pet., p.69.)

2. "Digital Signal Processing System Analyzing Said Digital Low Frequency Inertial Element Displacement Signals" (Mitamura and Townsend)

Petitioner provided evidence that a digital implementation of Mitamura's arithmetic unit **91** would have been obvious in light of Townsend, including because (1) it would allow for digital outputs and integration with "modern systems" like Townsend and (2) digital circuitry is more configurable than analog circuitry, enabling easier application of "calibrations" and further compensations "to enhance performance." (EX1002, ¶¶244-245; EX1045, ¶¶35-41, 61-65.) PO argues that this is "general disparagement of analog systems." (POR, p.49.) That is incorrect. Petitioner's expert opined that a POSITA would have known that the use of digital circuitry in Mitamura's circuit would have expanded options for compensation and analysis, leading to a more flexible system. (EX1002, ¶¶244-245, 237; *see also* EX1046, 41:22-44:6.)

PO otherwise reverts to the same arguments raised above. (POR, pp.47-50.)

For the same reasons described above, PO's arguments fail.

C. No Evidence of Nonobviousness

PO raises two alleged secondary considerations: alleged commercial success and failure of others. (POR, pp.32-34.) But PO fails to provide the requisite evidence.

First, PO fails to show nexus. To rely on secondary considerations such as commercial success, the Federal Circuit requires PO to show that “the evidence of secondary considerations is the ‘direct result of the unique characteristics of the claimed invention.’” *Fox Factory v. SRAM*, 944 F.3d 1366, 1373-74 (Fed. Cir. 2019) (citation omitted); *Ormco v. Align Tech.*, 463 F.3d 1299, 1311-12 (Fed. Cir. 2006). PO provides no evidence that it had a product that embodied the challenged claims—let alone that any alleged success was due to the claimed features.

Second, PO provides no relevant evidence of its alleged success or the failure of others. PO cites to its own allegations in an unsworn complaint filed in the underlying litigation—which are not evidence. (POR, p.33 (citing EX2007).) PO cites to generalized statements by its inventor about Draper Labs and Analog Devices—with no indication of the basis for his beliefs. (EX2023, ¶¶21-23; EX1048, 18:16-17, 17:7-19.) PO also relies on a generalized inventor declaration,

which is untethered to the claim limitations. (*Compare* POR, pp.32-33, with EX2023; *see also* EX1045, ¶¶53-59.)

PO's reliance on its own inventor declaration highlights another problem—the lack of any *objective* evidence of secondary considerations. As the Federal Circuit has explained, “[i]nstead of ascertaining what was subjectively obvious to the inventor at the time of invention, the court must ascertain what would have been objectively obvious to one of ordinary skill in the art at such time.” *Ryko Mfg. v. Nu-Star*, 950 F.2d 714, 718 (Fed. Cir. 1991); *Hoechst Celanese v. BP Chems.*, 846 F. Supp. 542, 547 (S.D. Tex. 1994) (“‘subjective obviousness’ to the inventor ... is direct evidence of nothing”).

And that subjective evidence carries no weight here, as the inventor admitted that he was offering no opinions about invalidity and did not apply the POSITA standard. (EX1048, 15:7-15, 23:23-24:19; EX1002, ¶14.) Nothing in the declaration is tied to the claim limitations either. *Enova Tech. v. Seagate Tech. (US) Holdings*, 706 F. App'x 987, 994 (Fed. Cir. 2017) (PO “did not provide sufficient evidence tying the purported success of its own products to the claimed invention”).

PO also relies on conclusory statements that it supposedly would not have been obvious to use digital signal processing in the control loop of a MEMS gyroscope. (POR, pp.33-34.) But the prior art was replete with such examples—PO's witnesses were simply unaware of them. (*E.g.*, EX1045, ¶¶49-52.)

For instance, PO's expert had never seen prior art teaching "microfabricated gyroscopic sensors," including embodiments where a "[p]hase-locked loop 100 produces extremely accurate digital signals" that "ensure[] that the position signals are exactly in phase with the position of proof mass 22."² (EX1057, 1:5-7, 29:13-21, Fig. 9; EX1046, 31:12-32:15; *see also* EX1048, 22:8-25; EX1045, ¶¶49-52.) PO offered no evidence of nonobviousness.

D. No Hindsight is Necessary to Find the Claims Unpatentable

PO incorrectly argues that the Petition hinges on "hindsight" and mere "conclusory statements of generalized advantages," and used the '122 patent as a "roadmap." (POR, pp.51-55.) To the contrary, Petitioner's expert provided extensive analysis showing what a POSITA knew, and how and why a POSITA would have been motivated to combine the identified references. (*E.g.*, EX1002, ¶¶143-147, 168-172, 182-186, 241-247.) Petitioner's expert explained in detail *how* the proposed combination would have been implemented, *what* a POSITA would

² While Petitioner's expert had directly relevant experience with mixed-signal MEMS inertial sensors before the '122 patent, EX1045, ¶¶4-6; EX2020, 23:7-24:14, 26:13-27:6, PO's expert "never designed a MEMS device for inertial navigation applications" and his experience was in the unrelated field of RF MEMS. (EX1046, 24:15-18, 23:25-24:14.)

have appreciated with respect to concrete benefits from the combination, and *why* a POSITA would have been motivated to combine the references, including based on contemporaneous corroborating evidence. (*Id.*) Petitioner’s expert’s analysis was rooted in the “teachings” of the asserted art and other cited references and the knowledge of a POSITA. (*E.g.*, Inst. Dec., pp.42-44, 32, 34, 54; *Voice Tech v. Unified Pats.*, 110 F.4th 1331, 1344 (Fed. Cir. 2024) (rejecting patentee’s “hindsight bias” argument, where petitioner’s expert explained why a “skilled artisan at the time of the invention would have been motivated to combine” the references); *NuVasive v. Hirshfeld*, No. 2020-1708, 2021 WL 3661208, at *5 (Fed. Cir. Aug. 18, 2021) (rejecting patentee’s hindsight reconstruction criticism, where there was an identified “teaching or motivation to combine in the prior art”).)

PO fails to identify any specific problem with Petitioner’s expert’s analysis. Instead, PO concedes that MEMS gyroscopes were available, but supposedly “difficult and unsuitable for the claimed use.” (POR, p.52.) But nothing PO cites supports PO’s alleged difficulty argument. PO cites a project to create a “wearable component” in military “environments where there is no GPS signal” where the “funding was lost [for] about maybe four/five years.” (EX2020, 32:14-35:6; EX1045, ¶¶67-68.) PO also cites two conclusory paragraphs from its expert, who suggests that the specification expressed a desire for certain goals. (POR, p.52 (citing EX2019, ¶¶53-54).) And PO cites an inventor declaration, but that inventor

explained that he was not offering any opinions. (EX1048, 23:23-24:19; EX2023, ¶3.) None of the cited testimony undermines the specific motivations to combine identified by Petitioner and its expert.

None of PO's cases support its argument either. *Belden v. Berk-Tek*, 805 F.3d 1064, 1074 (Fed. Cir. 2015), supports *Petitioner*; the Board found a POSITA would have understood the benefits of modifying the art. In contrast, the *Personal Web* declarant did not explain how the references *would* be combined. *Pers. Web Techs. v. Apple*, 848 F.3d 987, 993 (Fed. Cir. 2017). The *Virtek* petitioner rested on "common sense" with no evidence. *Virtek Vision Int'l v. Assembly Guidance Sys.*, 97 F.4th 882, 888-89 (Fed. Cir. 2024). *Beasley* lacked evidence. *In re Beasley*, 117 F. App'x 739, 744-45 (Fed. Cir. 2004). And *Contentguard* involved "many particular" unexplained changes. *Apple v. Contentguard Holdings*, IPR2015-00442, 2015 WL 4467397, at *7, *9-10 (P.T.A.B. July 13, 2015).

E. The Petition is Supported by Extensive Analysis by Petitioner's Expert

Petitioner's expert's declaration contains 250+ paragraphs of detailed analysis, annotated figures, cited evidence, and opinions. (EX1002.) As is common in IPRs, Petitioner cited that analysis in the Petition. PO now complains that because the Petition did not paraphrase the declaration but reproduced sentences "verbatim," the declaration must be "attorney argument" to be "ignored." (POR, pp.55-61.) PO's argument is meritless. None of PO's cited decisions bear any resemblance to

the facts here. (*See* Inst. Dec., pp.4-5.) All of the cited cases related to conclusory testimony, not detailed factually supported testimony like offered here.

F. PO's Time-Bar Argument Fails as a Matter of Law

PO argues the Petition is time barred under § 315(b) for failure to identify alleged real parties in interest (“RPIs”), *i.e.*, STMicroelectronics N.V. and STMicroelectronics S.R.L. (POR, pp.61-64.) PO claims that the time bar applies because these entities were defendants in *American GNC v. OnePlus Technology (Shenzhen) Co., et al.*, No. 6:20-cv-00171-ADA (W.D. Tex.) (“2020 action”). This argument fails. PO made an undisputed deliberate decision not to accuse STMicroelectronics N.V. or STMicroelectronics S.R.L. of infringing the challenged ’122 patent in 2020.

1. Because the Challenged Patent Was Never Previously Asserted Against Any STMicroelectronics Entity, § 315(b) Cannot Apply

Section 315(b) states: “[a]n *inter partes* review may not be instituted if the petition requesting the proceeding is filed more than 1 year after the date on which the petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.” 35 U.S.C. § 315(b) (emphasis added). The statute on its face only applies to the extent the *challenged patent* was actually asserted against the petitioner, or an RPI or privy of the petitioner. *Id.*

The statute does not apply here because the challenged patent was **never**

asserted against STMicroelectronics N.V. or STMicroelectronics S.R.L. in any previous litigation. PO relies entirely on the 2020 action. (POR, p.62.) But the complaint from that action confirms that PO only sued the STMicroelectronics entities of infringement with respect to two *different* patents. (EX2012, ¶48.) PO also admitted that it “did not include allegations of infringement of the ’122 patent and the ’648 patent by STMicro” in the 2020 case. (EX1049, ¶13 (emphasis added).) The complaint from the 2020 case only accused OnePlus of infringing the challenged patent, and PO does not contend OnePlus is an RPI or privy of Petitioner. Because the complaint from the 2020 action does not qualify as “a complaint alleging infringement of the patent” against STMicroelectronics N.V. or STMicroelectronics S.R.L. under § 315(b), PO’s time-bar argument fails.

Despite the fact that the 2020 complaint did not include any claim of infringement of the challenged patent against any STMicroelectronics entity, PO argues that the complaint nevertheless “provided STMicro with notice sufficient to trigger application of the time bar statute[.]” (POR, p.62.) This unprecedented expansion of § 315(b) is unsupported and would lead to absurd results. *See IPDatatel v. ICN Acquisition*, IPR2018-01823, 2019 WL 1753603, at *5 (P.T.A.B. Apr. 17, 2019) (“[M]ere notice is not legally effective service.”) (cleaned up).

PO cites three cases, but all are inapposite because they involved complaints that actually accused the petitioner, RPI, or privy of infringing the specific patent

challenged in the later-filed IPR. (POR, pp.61-62 (citing *Ventex Co. v. Columbia Sportswear N. Am.*, IPR2017-00651, 2019 WL 764130, at *2 (P.T.A.B. Jan. 24, 2019); *GoPro v. 360Heros*, No. IPR2018-01754, 2019 WL 3992792, at *1-2 (P.T.A.B. Aug. 23, 2019); *Facebook v. Windy City Innovations*, 953 F.3d 1313, 1317 (Fed. Cir. 2020)).)

No authority supports expanding § 315(b) to cover entities that were not subject to a claim of patent infringement in prior litigation. Expanding § 315(b) to cover any party that happened to be named in a multi-party and multi-patent complaint—irrespective of which specific patents were asserted against which parties—would lead to absurd results. Under PO’s reading, a party could lose all rights to file an IPR petition with respect to a patent for which it was never sued for infringement, simply because it was a party to a lawsuit in which *another* party was accused of infringing that patent.

The Supreme Court has observed that “[p]redictability” is a “primary goal of statutes of limitations[.]” *Owens v. Okure*, 488 U.S. 235, 240 (1989). The goal of predictability is best served here by applying § 315(b) in the way in which the statute was intended, *i.e.*, as only applying to an IPR petitioner (or its alleged RPI or privy) who was **actually sued** for infringement of the challenged patent—and not extending it to an IPR petitioner (or its alleged RPI or privy) who happened to have been named in a complaint in which **other defendants** were sued for infringement of the

challenged patent. This would promote legal certainty and uniformity by allowing parties to determine whether the § 315(b) time bar applies by simply consulting the pleadings in the litigation which, in this case, show that no STMicroelectronics entity was ever sued for infringement of the challenged patent. Any other rule would not invite certainty and complicate § 315(b) inquiries by potentially requiring that the PTAB delve into intricate questions of federal civil procedure and the potentially complex relationships between the parties named in multi-defendant patent lawsuits. The rule urged by PO would also increase the workload of the PTAB by forcing a defendant to file an IPR petition against a patent that was not actually asserted against it in litigation, for fear that the defendant could be sued for infringement in a later suit but would be forever barred under § 315(b) from challenging the patent in IPR. Finally, the rule PO urges would encourage plaintiffs to tactically and selectively assert patents in multi-defendant cases in an attempt to unreasonably expand the scope of the 315(b) bar.

2. PO Does Not Present Any Evidence That Either of the STMicroelectronics Entities Named in the 2020 Complaint is an RPI of Petitioner

Even if PO could overcome the substantial threshold obstacles to application of § 315(b), it has failed to make the requisite showing that any STMicroelectronics entity that was both named and served with the complaint qualify as RPIs or privies of Petitioner. “[A] patent owner must produce some evidence to support its

argument that a particular third party should be named a real party in interest.” *Worlds v. Bungie*, 903 F.3d 1237, 1242 (Fed. Cir. 2018) (emphasis added).

PO’s prior complaint was directed only to STMicroelectronics, N.V. (in the Netherlands) and STMicroelectronics, S.R.L. (in Italy). But PO fails to show that the prior complaint was even served on both of these entities.³ The time-bar under § 315(b) requires proof that the “petitioner, real party in interest, or privy of the petitioner is served with a complaint alleging infringement of the patent.” 35 U.S.C. § 315(b) (emphasis added); *Wargaming Grp. v. Game & Tech.*, IPR2017-01082, 2018 WL 4278986, at *7 (P.T.A.B. Sept. 7, 2018) (no time bar where “no evidence”

³ PO asserts that “[b]oth parties were subsequently served under the Hague Convention,” citing “D.I. 33 at 7, 2 fn. 2” from the 2020 action. (POR, p.62 & n.3.) But that citation merely refers to PO’s *own brief*. (*Id.*) PO also cites EX2013, but it merely shows papers dropped off in New York. (*Id.*) None of the citations confirms proper service on both entities. Indeed, STMicroelectronics N.V. filed a motion to dismiss based on (among other issues) lack of proper service. (EX1050 at 7-8.) Tellingly, at Dkts. 48 and 49, PO requested another issuance of a summons against STMicroelectronics N.V., mere days before *dismissing* STMicroelectronics N.V. and STMicroelectronics S.R.L. (EX1051-EX1052.) No proof of summons was filed. Attorney argument is not evidence of successful service.

of proper service). Even if one or both entities were served, PO does not present evidence of any relationship between Petitioner and the served entity that would render Petitioner an RPI or privy with them.

PO instead focuses on an entirely *different* entity—the “U.S. entity STMicroelectronics, Inc.,” which was not named in the prior suit, and makes vague representations about an unidentified “STMicro” entity. (*Cf.* EX1050, pp.1, 7-8 (“non-existent entity”).) There is no monolithic entity “STMicroelectronics.” (*E.g.*, EX2014 at 7; EX1050, pp.1, 7-8.) PO provides no evidence of how or why claims of infringement against STMicroelectronics N.V. and STMicroelectronics, S.R.L. are relevant to a different STMicroelectronics entity.

PO attempts to rely on a supplier agreement between Petitioner and yet another different STMicroelectronics entity. (POR, p.64.) But such an agreement is legally insufficient to show a RPI relationship—especially here, where “STMicro has not agreed to indemnify” Nintendo and “[t]here was no coordination on IPRs.” (EX2018, 13:13-14); *ASSA ABLOY AB v. CPC Patent Techs. Pty.*, IPR2022-01094, Paper 19, at 24 (P.T.A.B. Feb. 2, 2023) (“[T]he Board has held repeatedly that an indemnification agreement, without something more, is insufficient to establish a RPI relationship.”); *Luminex Int’l v. Signify Holdings B.V.*, IPR2024-00101, Paper 20 at 11 (P.T.A.B. Nov. 21, 2024) (“[A] customer-indemnitee’s request for indemnification by a manufacturer-indemnitor under a standard, non-exclusive,

manufacturer-customer indemnification agreement relating to patent infringement [cannot] be sufficient to support a finding of real party in interest and trigger the one-year time bar.”); *Wi-Fi One v. Broadcom*, 887 F.3d 1329, 1341 (Fed. Cir. 2018). Because this different STMicroelectronics entity was never sued (let alone served) with the prior complaint, any relationship that other entity has with Petitioner is irrelevant. There is no time bar and PO’s futile motion for discovery should be denied.

III. CONCLUSION

Claims 1 and 3 are unpatentable.

Dated: April 15, 2025

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CERTIFICATE OF COMPLIANCE WITH WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), I certify that this reply complies with the type-volume limits of 37 C.F.R. § 42.24(a)(1)(i) because it contains 5,591 words, according to the word-processing system used to prepare this reply, excluding the parts of this reply that are exempted by 37 C.F.R. § 42.24(a) (including the table of contents, a table of authorities, mandatory notices, a certificate of service or this certificate word count, appendix of exhibits, and claim listings).

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CERTIFICATE OF SERVICE

I hereby certify, pursuant to 37 C.F.R. Section 42.6, that a complete copy of the attached **PETITIONERS' REPLY IN SUPPORT OF ITS PETITION FOR *INTER PARTES* REVIEW** and related documents, are being served via electronic mail on the 15th day of April, 2025, upon Patent Owner by serving Patent Owner's counsel of record in this proceeding as follows:

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