

Patent Owner's Brief in Support of Request for Discretionary Denial
IPR2025-01032 (U.S. Patent No. 9,414,635)

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

REVELYST SALES LLC
Petitioner,

v.

BRAINGUARD TECHNOLOGIES INC.
Patent Owner.

Case IPR2025-01032
Patent 9,414,635

**BRIEF IN SUPPORT OF PATENT OWNER'S REQUEST
FOR DISCRETIONARY DENIAL**

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PATENT OWNER’S EXHIBIT LIST

No.	Exhibit Description
2001	USPTO rescinds memorandum addressing discretionary denial procedures (dated Feb. 28, 2025), <i>available at</i> https://www.uspto.gov/about-us/news-updates/uspto-rescinds-memorandum-addressing-discretionary-denial-procedures
2002	Scott R. Boalick, Chief Administrative Patent Judge, Guidance on USPTO’s rescission of “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation” (dated Mar. 24, 2025)
2003	CDCA Median Time to Trial Statistics
2004	<i>BrainGuard Tech. Inc. v. Revelyst Sales LLC.</i> , No. 8:24-cv-02652, Complaint, Dkt. 1 (CDCA, Dec. 6, 2024)
2005	<i>BrainGuard Tech. Inc. v. Revelyst Sales LLC.</i> , No. 8:24-cv-02652, Defendant’s Initial Invalidity Contentions, (CDCA, June 24, 2025)
2006	<i>BrainGuard Tech. Inc. v. Revelyst Sales LLC.</i> , No. 8:24-cv-02652, Scheduling Order, Dkt. 37 (CDCA, April 9, 2025)
2007	Coke Morgan Stewart, Acting Under Secretary of Commerce for Intellectual Property and Acting Director of the USPTO, Interim Processes for PTAB Workload Management (dated Mar. 26, 2025)
2008	FAQs for Interim Processes for PTAB Workload Management, <i>available at</i> https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management
2009	Maintenance Fee Record from the USPTO for U.S. Patent No. 9,414,635
2010	WO2017213711A1
2011	US20160044983A1
2012	Oakland Magazine, BrainGuard Guards the Brain That Nature Provided

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No.	Exhibit Description
2013	UC Berkeley Psychology, Robert Thomas Knight
2014	BrainGuard Helmets Designed by Neurologists, Neurosurgeons and Engineers, Science Team
2015	UC Berkeley Research, Six UC Berkeley Faculty Elected AAAS Fellows

I. INTRODUCTION

Patent Owner BrainGuard Technologies Inc., respectfully requests that the Board exercise its discretion and deny institution of this Petition for *inter partes* review of U.S. Patent No. 9,414,635 (Ex. 1001) under 35 U.S.C. § 314(a).

First, the Board should exercise its discretion and deny institution based on application of the *Fintiv* factors. Owing in part to Petitioner Revelyst Sales LLC's delay in filing the Petition, the final written decision will not have issued by the time of the district court trial and the parties will have substantially invested in the parallel court proceedings by the time of the institution decision. The Petition and the parallel proceedings also raise substantially overlapping issues, and Petitioner's stipulation does not quell concerns of inefficiency and inconsistent rulings. Finally, none of the grounds asserted by Petitioner render the claims unpatentable.

Second, the Board should also exercise its discretion and deny institution under the factors that Director Stewart outlined in her March 26, 2025 memorandum.

Each of these factors further support discretionary denial. The merits of the Petition are weak; the Petition relies extensively on expert opinion to fill gaps in the prior art references; the claims have been in force for many years and despite Petitioner having notice of the claims for over seven years, were never previously subjected to challenge; Patent Owner has expended significant economic resources to develop, maintain, and license the patented technologies; and Patent Owner's

technologies have contributed to improvements in helmet design, which greatly benefits the public as those who participate in sports can do so more safely.

II. INSTITUTION SHOULD BE DENIED UNDER *FINTIV*

The Board should exercise its discretion to deny institution under *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv I*”); *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 (PTAB Dec. 1, 2020) (precedential as to § II.A) (“*Sotera*”); and their progeny, in accordance with the USPTO’s February 28, 2025 guidance. *See* Ex. 2001 (withdrawing former Director Vidal’s June 21, 2022, memorandum entitled “Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation”; citing *Fintiv I* and *Sotera*); *see also* Ex. 2002 (March 24, 2025 memorandum by Chief APJ Boalick providing further guidance on the rescission).

Under those authorities, the Board may deny institution of petitions when related litigation is co-pending and an IPR would not be “an effective and efficient alternative to district court litigation.” *NHK Spring Co. v. Intri-Plex Techs., Inc.*, IPR2018-00752, Paper 8 at 20 (PTAB Sept. 12, 2018) (precedential) (quoting *Gen. Plastic Indus. Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 at 16-17 (PTAB Sept. 6, 2017) (precedential)). In evaluating whether to deny a petition under *Fintiv*, the Board balances six factors. *Fintiv I* at 5-6. “These factors relate to whether

efficiency, fairness, and the merits support the exercise of authority to deny institution in view of an earlier trial date in the parallel proceeding.” *Id.* When analyzing these factors, the Board takes “a holistic view of whether efficiency and integrity of the system are best served by denying or instituting review.” *Id.*

As addressed below, all six factors weigh in favor of denying the Petition.

A. *Fintiv* Factor 1: Petitioner has not indicated that it intends to file for any pre-institution or post-institution stays.

Petitioner has not requested a pre-institution stay in the parallel district court proceeding, nor has it indicated it plans to do so. Petitioner has also not indicated if it intends to request a post-institution stay. Because there is no evidence indicating that a pre- or post-institution stay would be sought, or that it would be granted if later pursued, the first *Fintiv* factor weighs in favor of denying institution.

B. *Fintiv* Factor 2: Trial in the district court is estimated to occur approximately one month before the Board's deadline for a final written decision.

“If the court's trial date is earlier than the projected statutory deadline, the Board generally has weighed this fact in favor of exercising authority to deny institution.” *Fintiv I* at 9.

Based on the Notice of Filing Date Accorded issued on July 18, 2025, the deadline for a final written decision in this IPR is January 18, 2027, which may be extended to July 18, 2027 for good cause or in the case of joinder. 37 C.F.R.

§ 42.100(c). Although the district court in the parallel proceeding does not yet have a set trial date, a March 24, 2025 memorandum by Chief APJ Boalick states that “in applying *Fintiv*, the Board may consider any evidence that the parties make of record that bears on the proximity of the district court’s trial date . . . including median time-to-trial statistics for civil actions in the district court in which the parallel litigation resides.” *See* Ex. 2002. Data from the Central District of California (“CDCA”) provides median time to trial statistics. *See* Ex. 2003 The CDCA data from the last six years shows: a median of 22.5 months to trial in 2020, 17.4 months in 2021, 23.5 months in 2022, 25.8 months in 2023, 29.6 months in 2024, and now 27.8 months in 2025. Therefore, the average median time-to-trial from the last six years is approximately 24.4 months.¹ Given the parallel matter’s filing date of December 6, 2024 (*see* Ex. 2004), the trial will therefore likely be set for December 2026. This means that final written decisions will likely issue one month after trial.

The Board has weighed this factor as favoring denial for similar gaps between trial in the parallel proceeding and a final written decision. *See, e.g., Shenzhen Tuozhu Tech. Co., Ltd. v. Stratasys, Inc.*, IPR2025-00354, Paper 11 at 2 (PTAB June 12, 2025) (Stewart, Acting Director) (denying institution where district court trial was set to occur ***one-and-a-half months*** prior to the projected final written decision due

¹ $(22.5 + 17.4 + 23.5 + 25.8 + 29.6 + 27.8)/6 = 24.433$

date because “[e]xercising discretion to deny the petition in this case reduces the inefficiencies and burdens on the parties to maintain two parallel proceedings”); *EClinicalWorks, LLC v. Decapolis LLC*, IPR2022-00229, Paper 10 at 9 (PTAB Apr. 13, 2022) (finding this factor weighed in favor of discretionary denial and denying institution where “the beginning of the jury trial in the WDTX Cases is roughly *one or two months* before any final decision would have been due had inter partes review been instituted”); *Samsung Elecs. Co. v. SiOnyx, LLC*, IPR2025-00064, Paper 16 at 11 (PTAB June 6, 2025) (denying institution in part because the trial date was *two months* earlier than the final written decision deadline); *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 15 at 13 (PTAB May 13, 2020) (“*Fintiv II*”) (same); *NXP USA, Inc. v. Impinj, Inc.*, PGR2022-00005, Paper 17 at 9 (PTAB May 2, 2022) (same), *reh’g denied*, Paper 20 (PTAB Aug. 25, 2022) (all emphases added).

Because the district court’s trial is approximately one month before issuance of the final written decision, the second *Fintiv* factor weighs in favor of denial.

C. *Fintiv* Factor 3: The court and the parties have substantially invested in the parallel proceeding, and Petitioner delayed in filing the Petition.

Factor 3 relates to the “amount and type of work already completed in the parallel litigation by the court and the parties *at the time of the institution decision.*” *Fintiv I* at 9 (emphasis added). For example, “if, at the time of the institution decision, the district court has issued substantive orders related to the patent at issue

in the petition,” this factor favors denial. *Id.* at 9-10. “Likewise, district court claim construction orders may indicate that the court and parties have invested sufficient time in the parallel proceeding to favor denial.” *Id.* at 10.

Here, Petitioner and Patent Owner have already invested substantial resources in the parallel proceeding, including providing infringement and invalidity contentions, producing documents, and serving and responding to written discovery. *See Ex. 2005*. Moreover, upon projected issuance of an institution decision, on or about January 18, 2026, the parties will have substantially completed all document production; the Court will also have held the *Markman* hearing on October 22, 2025, and likely issued its claim construction order. *See Ex. 2006*.

Because of the substantial investments that either have already been made or will have been made by the parties and the Court as of the time for the institution decision, the third *Fintiv* factor weighs in favor of denying institution. *See, e.g., Advanced Micro Devices, Inc. v. Concurrent Ventures, LLC*, IPR2025-00223, Paper 9 at 2 (PTAB June 12, 2025) (Stewart, Acting Director) (denying institution even though the district court trial would occur *after* the due date for a final written decision as a result “of the parties’ meaningful investment in the district court proceeding” - discovery was underway and *Markman* hearing was set to occur before the due date for an institution decision); *Roku, Inc. v. IOEngine, LLC*, IPR2022-01551, Paper 11 at 12 (PTAB May 5, 2023) (denying institution in part because

claim construction was complete and fact discovery was nearly completed); *10X Genomics, Inc. v. President & Fellows of Harvard College*, IPR2023-01299, Paper 15 at 18 (PTAB Mar. 7, 2024) (same); *Samsung Elecs. Co. v. Mojo Mobility Inc.*, IPR2023-01094, Paper 11 at 9 (PTAB Feb. 9, 2024) (same).

One reason that the District Court litigation will be so far along at the time of institution is because Petitioner delayed in filing the Petition. The Petition was filed on July 9, 2025, over seven months after the filing of the complaint in the parallel district court proceeding. The record additionally demonstrates Petitioner was aware of the '635 patent for at least seven and a half years before it filed the Petition. *See infra* § III.C. Petitioner could therefore have filed the Petition long before the parallel proceedings commenced. Petitioner offers no explanation for its extensive delay. Factor 3 accordingly weighs against institution because there has been substantial investment in the parallel proceeding, and Petitioner delayed in filing the Petition.

D. *Fintiv* Factor 4: The petition and the parallel proceeding raise substantially overlapping issues, and Petitioner's stipulation fails to quell concerns of inefficiency and inconsistent rulings.

This factor considers whether “all or some of the claims challenged in the petition are also at issue in district court” and the “petition includes the same or substantially the same claims, grounds, arguments, and evidence” as the parallel district court case. *Fintiv I* at 12-13. Here, all challenged claims and all prior art

references applied in the Petition are also asserted in the parallel court proceeding.

First, the Petition challenges claims 1-4, 6, 8-12, 14, and 16 -20 of the '635 patent, which includes all the claims currently asserted in the litigation and adds dependent claims 6, 12, and 14. Pet. at 1, 5. The substantial overlap of the claims at issue counsels against institution. *See, e.g., Pharaoh Energy Servs., LLC v. Flex-Chem Holding Co.*, IPR2024-00815, Paper 7 at 13-14 (PTAB Sept. 20, 2024) (denying institution in part because the same claims were challenged at the PTAB and asserted in litigation); *EClinicalWorks* at 12 (same). Furthermore, the small number of additionally challenged dependent claims do not meaningfully change the degree of overlap between the Petition and the invalidity contentions in the parallel litigation. *See e.g. Samsung Elecs. Co. Ltd. v. Secure Wi-Fi LLC*, IPR2024-01367, Paper 10 at 16 (PTAB Mar. 24, 2025) (finding that “challenging several dependent claims [did] not mitigate any of the concerns that guide [the *Fintiv*] analysis.”).

Second, at the district court, Petitioner relies on all seven of the references presented in this proceeding (Weber, Von Holst, Halldin-II, Kleiven, Puchalski, Dotsuko, and Madey). Pet. at 5-7. These common prior art challenges render “the overlap in issues between the two proceedings . . . substantial.” *See, e.g., Code200, UAB v. Luminati Networks, Ltd.*, IPR2020-01506, Paper 10 at 11-12 (PTAB Feb. 16, 2021) (Factor 4 weighed in favor of denial of institution in view of common prior art challenges between the proceedings); *see also U.S. Venture, Inc. v. Sunoco*

Partners Mktg. & Terminals LP, IPR2020-00728, Paper 10 at 11-12 (PTAB Oct. 1, 2020) (overlap of primary references, even without overlap of all secondary references, weighed against institution), *reh'g denied*, Paper 13 (PTAB Dec. 17, 2020).

Although the Petition presents a *Sotera* stipulation, that fact is not dispositive under the Office's discretionary denial policies; rather, "the Board will consider such a stipulation as part of its holistic analysis under *Fintiv*." *See* Ex. 2002. And here, the Board should give the stipulation, at best, little weight because Petitioner does not stipulate that it will not assert products or systems described by the references relied upon in the petition or in combination with prior art that it has raised or could have raised before the Board. *See* Ex. 1051. Rather, Petitioner reserves the right to rely on such equivalent product and system art by providing only the basic *Sotera* stipulation which omits such disclaimers. Specifically, the stipulation commits only that it will not pursue in the district court: (1) "the specific grounds asserted in the Petition," or (2) "any other ground that could reasonably have been raised before the Board in that instituted proceeding with respect to [the '635 Patent]." *Id.* Petitioner otherwise reserves its rights to assert unenforceability or invalidity of any claim of the '635 patent. *Id.* By not disclaiming it, Petitioner has accordingly reserved its rights to assert the product and system art already described by the references used in the Petition, and to use such art in combination with art already raised or which

could have been raised with the Board.

In fact, Petitioner's parallel invalidity contentions *do* allege the challenged claims are unpatentable in view of product art considered in combination with the prior art raised in the Petition invalidate the challenged claims. *See* Ex. 2005 at 141-176. In the "Identification of Invalidating Prior Art" section of its contentions, Petitioner includes a table titled "Items Offered for Sale, Sold or Publicly Known and Used." *Id.* at 37-38. This table lists products including but not limited to the Lazer P-Nut, Back on Track EQ2, POC Trabec Race, and Lazer Superskin helmets. *Id.* In the portion of its contentions alleging obviousness combinations, Petitioner at least alleges that (1) claims 1-4, 8-12 and 17-20 are obvious over any one of Weber, Von Holst, and Kleiven in view of the Lazer P-Nut MIPS, POC Trabec Race, Back on Track EQ2, Lazer Superskin, TSG Kraken, and Burton RED Hi-Fi Helmets; and (2) claims 1-3, 8-12 and 17-19 are obvious over any one of Dotsuko, Madey, Puchalski, and Halldin-II in view of the Lazer P-Nut MIPS, POC Trabec Race, Back on Track EQ2, Lazer Superskin, TSG Kraken, and Burton RED Hi-Fi Helmets. *Id.* at 146. Because of these alleged obviousness combinations, "Petitioner's [*Sotera*] stipulation does not ensure that these IPR proceedings would be a 'true alternative' to the district court proceeding. Petitioner's invalidity arguments in the district court [could be] more expansive and include combinations of the prior art asserted in these proceedings with unpublished system prior art, which Petitioner's stipulation is not

likely to moot.” *Motorola Solutions, Inc. v. Stellar, LLC*, IPR2024-01205, Paper 19 at 3-4 (PTAB Mar. 28, 2025) (Stewart, Acting Director) (citation omitted), *reh’g denied*, Paper 23 (PTAB May 23, 2025); *see also SiOnyx* at 14-16, 21; *Shenzen* at 2-3.

Because of the substantial overlap of claims and prior art at issue, as well as Petitioner’s failure to offer a *Sotera* stipulation quelling efficiency concerns stemming from that overlap, the fourth *Fintiv* factor weighs in favor of denying institution.

E. *Fintiv* Factor 5: Petitioner is the parallel proceeding defendant.

Petitioner concedes it is the defendant in the parallel proceeding, and thus “this factor weighs in favor of discretionary denial.” Pet. at 2; *Fintiv II* at 15.

F. *Fintiv* Factor 6: None of the grounds asserted by Petitioner render the claims unpatentable because they do not articulate the core limitations of the claims.

The Petition asserts six grounds and seven pieces of prior art to demonstrate alleged unpatentability. Many of the grounds challenge the same claims. All the challenged claims require a shear mechanism that (1) connects two shells together through the shear mechanism (Ex. 1001 at 11:24-25), (2) includes an energy transformer that absorbs/dissipates energy (*id.* at 11:27-28), and (3) allows the shells

to slide relative to one another (*id.* at 11:25-26). However, none of the grounds render the claims unpatentable because none articulate these limitations.

Grounds 1 both relies on Weber as a base reference challenging the independent claims. However, Weber does not teach the required sliding features of the challenged claims. All the challenged claims require “a shear mechanism allowing the outer shell layer to slide relative to the inner shell layer”. *E.g.* Ex. 1001, 11:25-26. Nowhere in discussing this limitation does the Petition identify portions of Weber that teach sliding. The closest the Petition comes to the required shell layer sliding relative to the other shell layer is as follows: Weber’s isolation dampers “flex, bend, and/or compress to absorb the energy of impacts..., and thereby enable the inner and intermediate liners 122 and 126 *to move relative to each other* and/or the outer liner 128.” Pet. at 32. “Mov[ing] relative to each other” does not teach sliding, and Weber’s isolation damper arrangement, which are fixedly-attached to the liners, shows that Weber’s system does not slide.

Grounds 2 both relies on Von Holst in combination with Halldin for the relevant limitations discussed below. However, neither Von Holst nor Halldin teach the required shear mechanism between the shells of the helmet providing an energy transformer for absorbing/dissipating energy and a connection between the shells through the shear mechanism. The Petition identifies the shear mechanism as Von Holst’s “sliding layers” Pet. at 55. However, Von Holst does not suggest these

“sliding layers 4” connect one shell to another shell, but rather, identify separate and distinct “connecting members” that are not part of the “sliding layer 4”, and therefore Von Holst’s shells do not connect “through” the “sliding layer 4” as required by the challenged claims. Pet. at 16 (“A connecting member 5 further connects the shells and absorbs energy.”). Furthermore, the Petition never argues that Halldin’s fixation members provide such a connection between shell layers. *See* Pet. at 59. Rather, the Petition alleges that Halldin’s fixation members absorb energy. *Id.* As a result, the Petition fails to cite to anything showing that Von Holst or Halldin teach “connecting through”, and thus fails to demonstrate that one or more claims are unpatentable based on Ground 2.

Ground 3 relies on Kleiven as a base reference for all challenged claims. Kleiven does not teach a helmet with sliding features at all, as expressly required by the challenged claims. In fact, Kleiven’s background section cites the Von Holst reference with its “sliding layer 4” but expressly rejects that approach because “none of the prior art describes the use of slim/thin projections or spikes to reduce angular forces.” Ex. 1007 at ¶ 18. The Petition identifies Kleiven’s “spike/beam layer with air compartments” as the energy transformer layer. Pet. at 71-72. Kleiven’s spikes/beams are designed to deform like a crush zone to absorb energy, not to allow sliding. Ex. 1007 at ¶ 48. In fact, Kleiven never suggests that these spike/beam layers provide for sliding at all. Instead, the Petition analogizes Kleiven’s spike/beam layer

to the '635 Patent's embodiment describing elastomeric trusses, which despite being only one of several embodiments disclosed in the patent, differ from Kleiven's plasticizing ("undergoing non-reversible changes of shape to applied forces") and yielding ("stress at which material begins to deform plastically") spikes/beams. Pet. at 72; Ex. 1007 at ¶¶ 43-44. Neither the Petition nor its expert declaration explains why plasticizing and yielding spikes are the same as elastomeric trusses described in the '635 Patent or how either allow the required sliding mechanism.

Grounds 4 and 5 alleges that Dotsuko discloses a shear mechanism for allowing the inner and outer shells to slide relative to one another. Pet. at 87-88. However, the Petition itself makes clear that Dotsuko's elastic bodies do not provide sliding but rather "displacing in the direction of the [impact] force" and "the shell 20 rotates with respect to the liner 30". Pet. at 88. Neither of these are sliding as required by all challenged claims.

Ground 6 asserts the Madey patent publication against claims 10, 16 and 17. Like Weber's isolation dampers and Kleiven's spikes/beams, Madey discloses a layer of "hyper elastic columns" in a layer fixedly-attached between two shells. Ex. 1047 at ¶ 37. As discussed in connection with Weber and Kleiven these layer structures do not allow the adjacent shells to slide relative to one another as required by the challenged claims. *E.g.* Ex. 1001 at 11:25-26. Rather, Madey explains that the bending and stretching of the "hyper elastic columns" cause "relative

displacement” of the helmet shells. Ex. 1047 at ¶ 37. Such relative displacement may entail translation of one layer relative to another, but because Madey’s “hyper elastic columns” are fixedly attached to both shell layers, they do not allow sliding as required by the challenged claims.

Because none of the six grounds asserted by Petitioner render the claims unpatentable, the sixth *Fintiv* factor weighs in favor of denying institution.

III. ADDITIONAL FACTORS SUPPORT DISCRETIONARY DENIAL

A. The Strength of the Unpatentability Challenge

Regarding “[t]he strength of the unpatentability challenge,” as previously explained above regarding *Fintiv* Factor 6, all grounds in the Petition are lacking, as the Petition fails to establish a reasonable likelihood of prevailing. *See supra* § II.F.

B. The Extent of the Petition’s Reliance on Expert Testimony

As instructed in the Director’s Memorandum, a relevant consideration for discretionary denial is “[t]he extent of the petition’s reliance on expert testimony.” *See Ex. 2007*. Here, the Petition extensively relies on the 243-page expert declaration of Dr. Duma (*see Ex. 1002*), and widely cites to his declaration for Petitioner’s analysis of each of the six grounds. *See Pet.* at 26-102. Such broad reliance is not “focused expert testimony.” *See Ex. 2008* (FAQs for Interim Processes No. 22).

Dr. Duma’s declaration also contains 233 pages paraphrasing essentially the same text as in the Petition. When a petition relies on an expert declaration that is

duplicative of the attorney arguments in the Petition, such circular citations are afforded little weight by the Board and favor discretionary denial. *See, e.g., Xerox Corp. v. Bytemark, Inc.*, IPR2022-00624, Paper 9 (PTAB Aug. 24, 2022) (precedential) (denying institution and noting that the petitioner's expert declaration "merely repeats, verbatim, the conclusory assertion for which it is offered to support . . . and is entitled to little weight"), *sua sponte Director Review*, Paper 12 at 5 (PTAB Feb. 10, 2023) (affirming denial of institution and "giving little weight to Petitioner's expert because the expert declaration merely offered conclusory assertions without underlying factual support and repeated, verbatim, Petitioner's conclusory arguments"), *POP Review denied*, Paper 13 (PTAB Feb. 10, 2023). Because the Petition cites to Dr. Duma's declaration 215 times, and essentially repeats Petitioner's attorney argument, such declaration should be accorded little weight here as well.

More importantly, many grounds asserting anticipation could not be argued without filling gaps in the reference with Dr. Duma's expert declaration. For example, Ground 1 relies entirely on Dr. Duma's declaration to show that the Weber reference anticipates the claim limitation "shear mechanism allowing the outer shell layer to slide relative to the inner shell layer." Pet. at 31; Ex. 1001 at 11:25-27. As stated in the Petition itself, Weber does not disclose sliding, but rather only "enable[s] the inner and intermediate liners 122 and 126 to move relative to each

other” Pet. at 32-33. Nowhere does Weber discuss sliding, and the Petition doesn't cite any material from the reference to demonstrate that. Instead, the Petition pivots to Dr. Duma's expert opinion to assert that Weber provides for “relative sliding”, essentially adding the required limitation through expert testimony. *Id.* at 33.

Another example of over-reliance on expert testimony to provide required claim limitations appears in Ground 2. This Ground asserts that the Von Holst reference discloses the limitation “the shear mechanism includes a first energy transformer having a first absorptive/dissipative material.” Pet. at 55. While the Petition identifies Von Holst's sliding layers as anticipating the energy transformer, nowhere does Von Holst teach that these layers absorb or dissipate energy. *Id.* at 58. Rather, the Petition relies on Dr. Duma's expert opinion to supply the absorptive/dissipative features of the sliding layers. *Id.* at 59.

Reliance on expert testimony is found throughout the Petition. As such, the Petition relies heavily on expert opinion not only to support its assertions, but also to supply limitations not taught by the cited references. Such expert support should thus be given little weight and favor denial.

C. Settled Expectations of the Parties

The Director's Memorandum also lists “[s]ettled expectations of the parties, such as the length of time the claims have been in force” as another factor based

upon which the Director may determine to deny institution. *See* Ex. 2007.

The expectations of the parties here are well settled. The '635 patent claims issued over nine years ago on August 16, 2016 (Ex. 1001), and Patent Owner has paid multiple maintenance fees (*See* Ex. 2009). Petitioner has known of the '635 patent since at least December 14, 2017, ***over seven and a half years*** before the Petition. Specifically, Petitioner's subsidiary Bell Sports, Inc. filed an international application that was subsequently published as WO2017213711. *See* Ex. 2010. The search report for that application identified US2016044983A1 (*See* Ex. 2011), a publication from inventor Robert Knight of BrainGuard and the earliest publication associated with U.S. Patent No. 9,289,022, issued March 22, 2016, which is a family member of the '635 Patent. *See* Ex. 1001. Thus Petitioner has for seven and a half years known of family of patents and common specification from which the '635 Patent issued. But it was not until its July 2025 Petition, well after the commencement of parallel litigation, that Petitioner ever sought to challenge the '635 patent (or any of its family members).

Thus, Patent Owner's nearly a decade of settled expectations in the '635 Patent claims and Petitioner's long knowledge of the '635 Patent weigh heavily in favor of discretionary denial. *See iRhythm Techs., Inc. v. Welch Allyn, Inc.*, IPR2025-00363, Paper 10 at 2-3 (PTAB June 6, 2025) (Stewart, Acting Director).

D. Compelling Economic Interests

Patent Owner has invested heavily in its inventions. As of December 31, 2024, the two founding members of BrainGuard had personally contributed a total of \$260,000 in paid-in Capital and had taken out a combined \$982,000 in loans in order to support their business. For over thirteen years they also contributed their working efforts, and built out a dedicated research and development lab in furtherance of developing the patented technology. *See Ex. 2012.*

Patent Owner thus holds a compelling economic interest in preserving its ability to license and sell its patented technology embodying those development efforts. In view of such dedication to the technology, and long-settled expectations around the patents, denying institution would permit Patent Owner to recoup some of its investment cost. This factor therefore weighs in favor of discretionary denial.

E. Compelling Public Health Interests

The '635 Patent was invented by Dr. Robert Knight, M.D. Dr. Knight is a professor of Psychology and Neuroscience and researches the contribution of the prefrontal cortex to human behavior. *See Ex. 2013; Ex. 2014.* Dr. Knight was elected as a Fellow of the American Association for the Advancement of Science for his distinguished contributions to cognitive neuroscience. His research relies on electrocorticography to investigate brain network properties and the neural-coding mechanisms supporting behavior in the neurocortex. *See Ex. 2015.*

Dr. Knight was inspired to improve helmet designs after one of his graduate students suffered a serious brain injury from a bicycle accident. Recognizing that a contributing factor in this student's brain injury was the inadequate protection against rotational and shearing impacts afforded by conventional sports helmets, Dr. Knight became inspired to work on helmet solutions that would provide better protection against such impacts. As recounted in the '635 Patent, shearing or rotational forces are a major contributing factor to the severity of traumatic brain injuries (TBI) arising from sporting or vehicular activities. *See, e.g.*, Ex. 1001 2:58-3:6; 4:40-47 (detailing the deleterious effects of TBI). “[M]any helmets do not protect against rotational forces that are a core cause of a shear injury and resultant long-term neurological disability in civilian and military personnel.” *Id.* 8:29-32.

Dr. Knight's research and inventions have led to improvement in helmet technology, which is beneficial to public health because safer helmets can reduce the severity of traumatic brain injuries. As a result, there is a compelling public health interest in encouraging continued investment in helmet technology research. Inventors in this field should be able to rely on the patents issued for their inventions, and be incentivized to recover their investments through the licensing and sale of such patents and technologies. This factor weighs in favor of discretionary denial.

IV. CONCLUSION

The Board should exercise its discretion to deny institution of the Petition.

Patent Owner's Brief in Support of Request for Discretionary Denial
IPR2025-01032 (U.S. Patent No. 9,414,635)

Respectfully Submitted,

Dated: September 18, 2025

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**CERTIFICATION UNDER INTERIM DIRECTOR DISCRETIONARY
PROCESS (II)(C)(iii)**

Under the provisions of 37 C.F.R. § 42.24(d), the undersigned hereby certifies that the page count for all portions of the foregoing Patent Owner's Brief in Support of Request for Discretionary Denial totals 20 pages per Microsoft Word, which complies with the requirement of 20 pages allowed under the Interim Director Discretionary Process. *See* Interim Director Discretionary Process (II)(C)(iii) (<https://www.uspto.gov/patents/ptab/interim-director-discretionary-process>).

Dated: September 18, 2025

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CERTIFICATE OF SERVICE

As authorized by Patent Owner's Mandatory Notice, I hereby certify that on September 18, 2025, a copy of this document has been served in its entirety by electronic mail on Petitioner's lead and backup counsel.

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