

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ZHUHAI COSMX BATTERY CO., LTD.,
Petitioner

v.

NINGDE AMPEREX TECHNOLOGY LTD.,
Patent Owner

IPR2025-00385
U.S. Patent No. 10,964,927

PATENT OWNER'S DISCRETIONARY DENIAL BRIEF

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2002	Scheduling Order, <i>Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.</i> , No. 2:24-cv-00728-JRG (E.D. Tex. Feb. 6, 2025), ECF 27.
2003	CosMX Invalidity Contentions Cover Sheet, <i>Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.</i> , No. 2:24-cv-00728-JRG (E.D. Tex. Jan. 7, 2025)
2004	German Order 1, proceedings concerning file number 3 Ni 12/23 (EP)
2005	German Order 2, proceedings concerning file number 3 Ni 12/24 (EP)
2006	Docket Navigator Statistics
2007	Docket, <i>Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.</i> , No. No. 2:22-cv-00232 (E.D. Tex.)
2008	Joint Motion for Entry of Protective Order, <i>Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.</i> , No. 2:24-cv-00728-JRG (E.D. Tex. Feb. 11, 2025), ECF 30.
2009	Amended Final Judgment, <i>Ningde Amperex Tech. Ltd. v. Zhuhai CosMX Battery Co.</i> , Case No. 2:22-cv-00232, ECF No. 427 (E.D. Tex.)
2010	Article, <i>Lithium battery manufacturer ATL won injunction against its Chinese rival COSMX in German Court</i> , China IP Today (April 6, 2024)

I. INTRODUCTION

Ningde Ampere Technology Ltd. (“ATL” or “Patent Owner”) respectfully submits this brief requesting that the Board deny institution of the Petition for *inter partes* review (Paper 1 or “Pet.”) filed by Petitioner Zhuhai CosMX Battery Co., Ltd. (“Petitioner” or “CosMX”) pursuant to the Acting Director’s March 26, 2025 Memorandum titled “Interim Processes for PTAB Workload Management” (hereafter “Director Memo”).

The Petition seeks *inter partes* review (“IPR”) of claims 1-10 (the “Challenged Claims”) of U.S. Patent No. 10,964,927 (the “’927 Patent,” Ex. 1001). The ’927 Patent and five other patents are the subject of a patent infringement action that ATL has brought against CosMX that is currently pending in the Eastern District of Texas as Civil Action No. 2:24-cv-728 (the “Second Texas Litigation”). The Petition should be rejected and institution should be denied for numerous reasons.

First, the Second Texas Litigation involves six patents in a single unified district court proceeding. Ex. 2001 (Second Amended Complaint) at 1. However, Petitioner has filed (to date) seven different IPR petitions¹ on six patents over the

¹ See IPR2025-0405; IPR2025-00432; IPR2025-00385; IPR2025-00431; IPR2025-00389; IPR2025-00722; and IPR2025-00524.

span of three months in an attempt to avoid or delay a single streamlined district court trial, which would frustrate the intended efficiencies of the America Invent Act (“AIA”). In essence, Petitioners are attempting to convert (A) a single district court proceeding into (B) the same district court proceeding, *plus* seven separate IPR trials (involving invalidity determinations by potentially *up to twenty-two* factfinders), a classic example of the type of waste and inefficiency (and potential for inconsistent results) that the Director’s new interim guidance suggests avoiding. A single Article III proceeding has the strong potential to be the fastest and most efficient resolution of the Parties’ many disputes, which favors denial of institution.

Second, as will be explained in detail in Patent Owner’s Preliminary Response, the technical merits of Petitioner’s arguments are weak. As one example, none of the prior art references Petitioner cites disclose or suggest one of the explicit claim requirements, absolute plastic deformation rate. Specifically, these references fail to disclose or suggest the claimed requirement that “absolute plastic deformation rate is calculated according to an equation $(\underline{L2}-L0)/L0 \times 100\%$, where $L0$ refers to a length of the porous substrate before stretching and $\underline{L2}$ refers to a length of the porous substrate after the porous substrate is stretched to breakage and docked along the fracture caused by the breakage and flattened.” *See e.g.*, Claim 1. Ignoring the claim language, Petitioner argues that $\underline{L2}$ is not required. Next, Petitioner relies solely on expert testimony to fill in gaps in the cited references when arguing that

L2 was nonetheless obvious. Worse still, Patent Owner will show how the assumptions and estimates Petitioner's expert makes are incorrect. For these reasons and many others, it would be a waste of PTAB resources to argue the fruitless merits of this case, and any dispute by the experts regarding Petitioners assumptions and estimates is better resolved in an Article III proceeding where the trier of fact can better assess the credibility and methods of the experts.

Third, the Petition should be denied under § 314(a) based on the *Fintiv* and other discretionary factors identified by the Acting Director because, in the district court case where the '927 Patent is at issue, (1) the parties are the same as in this IPR,² (2) a stay has not been requested and is unlikely to be granted if requested,³ (3) trial in the district court is scheduled to occur over two months *before* the statutory final written decision deadline in this IPR (and at least five months *before* the statutory final written decision deadline in IPRs on other patents at issue in the

² Ex. 2001 (Second Amended Complaint).

³ See, e.g., *Force MOS Tech. Co., Ltd. v. ASUSTeK Computer, Inc.*, Case No. 2:22-cv-000460, ECF No. 74, (E.D. Tex. April 10, 2024) (stating it “has a consistent practice of denying motions to stay when the PTAB has yet to institute post-grant proceedings” as to all patents at issue).

same case, which makes the district court even less likely to grant a stay),⁴ and (4) the same prior art that is asserted in the Petition is asserted by Petitioner at the district court, in addition to unpublished system art.⁵

While Petitioner claims to have executed a *Sotera* stipulation, the effect of this stipulation is significantly reduced because Petitioner also asserts unpublished system prior art references against the '927 Patent in the district court proceeding (as well as asserting all the prior art references cited in the Petition). Ex. 2003 (Invalidity Contentions Cover Pleading). As a result, Petitioner has retained for themselves the option to try invalidity arguments in multiple fora, in contrast to the efficiency sought by the creation of *inter partes* review in the AIA. FAQs at Q.14 (“... The Director will take into account whether the stipulation materially reduces overlap between the proceedings. Where the petitioner is relying on corresponding system art in a co-pending proceeding and/or several other invalidity theories, a stipulation may not be particularly meaningful because the efficiency gained by any AIA proceeding will be limited.”).

⁴ Ex. 2002 (Second Texas Litigation Scheduling Order).

⁵ Ex. 2003 (Invalidity Contentions Cover Pleading).

Fourth, the desire for administrative efficiency and not risking inconsistent results favors denial. The underlying district court lawsuit at issue here follows an earlier district court lawsuit (the “First Texas Litigation,” Civil Action No. 2:22-cv-00232) in which CosMX was already adjudicated to be a willful infringer of three other ATL patents and was ordered to pay ongoing royalties on CosMX products for the one patent that was not found invalid. Ex. 2007 (First Texas Litigation Docket Control Order); Ex. 2009 (Amended Final Judgment in First Texas Litigation). That First Texas Litigation involves a parent application to one of the patents pending in the current district court litigation, and thus similar invalidity and infringement issues were already presented in the First Texas Litigation. *Id.* For example, documents about the same types of products were produced and depositions of multiple individuals were taken in that proceeding.

Fifth, the parties have invested significant effort, resources, and discovery not only in the prior and current U.S. proceedings but in other patent proceedings around the world, including patent infringement and validity proceedings in both Germany and China. CosMX has been found to be an infringer of ATL patents in the U.S., Germany, and China and has been ordered to pay a running royalty rate for sales of CosMX products on a different U.S. patent already while its products are already the subject of injunctions in Germany and China. *See e.g.*, Ex. 2007 (First Texas Litigation Docket Control Order); Ex. 2004 (German Order 1); Ex. 2005 (German

Order 2); Ex. 2010 (press release). The resolution of this single IPR proceeding and the six other co-pending IPR petitions related to the same district court case is therefore unlikely to effect a final resolution of the parties' worldwide dispute, but would require *significant* investment of resources by the PTAB to reach final written decisions in all seven IPR proceedings. Further, even if trial is instituted but ultimately the patent claims are found valid, this significant investment of effort would likely be duplicated in the district court because CosMX asserts invalidity theories including various system prior art references in the district court, meaning the district court will need to conduct an invalidity analysis regardless of the outcome of this IPR or the other six co-pending IPRs. Ex. 2003 (Invalidity Contentions Pleading). Efficient stewardship of the PTAB's limited resources requires allowing the U.S. district court to decide CosMX's validity challenges in a single streamlined district court proceeding, instead of holding seven separate PTAB proceedings *plus* a district court proceeding.

Sixth, Petitioner has filed a lengthy expert declaration purporting to address every single limitation of the asserted claims and every ground, rather than limiting expert testimony to a few key limitations where it is required. *See, e.g.*, Ex. 1003 ¶¶ 87-114 (providing detailed expert testimony for every limitation of claim 1). Moreover, significant portions of the expert declaration include unsupported testimony that is used in an attempt to fill significant gaps in the

references' own disclosures. Patent Owner intends to file an expert declaration with its Preliminary Response that will rebut this evidence and will underscore a fatal flaw of Petitioner's case: the lack of any discussion in the references of the absolute plastic deformation rate and/or the claimed L2 value. As such, there will be numerous complex issues disputed by the experts, and an Article III court is a more appropriate forum for resolving those disputes. FAQs at Q.21 ("While the Board may consider expert testimony, as a matter of efficiency, extensive reliance on expert testimony and/or reasonable disputes between experts on dispositive issues may suggest that the questions are better resolved in an Article III court.")

Seventh, one of the co-pending petitions (the Petition for the '910 Patent) fails to even attempt to set forth a prima facie ground for claim element 20.7 of independent claim 20 of the '910 Patent (as set forth in further detail in Patent Owner's discretionary denial and POPR briefs in IPR2025-00405). Therefore, even if every argument in this Petition and every other co-pending Petition were successful, trial would still need to proceed in the underlying district court action regarding the infringement and validity of claim 20 of the '910 Patent. Because trial cannot be avoided even with Petitioner's numerous IPR petitions, institution should be denied in the interest of efficiency.

Lastly, and perhaps most important to the efficient distribution of PTAB resources, the underlying district court trial is likely to proceed regardless of whether

the Board institutes review in this IPR proceedings because (to date) seven IPR petitions have been filed against the six different patents at issue in that district court proceeding, which were spaced out over the course of several months, resulting in final written decision deadlines that are likely to be five or more months after the scheduled jury trial in that case. *See, e.g.*, IPR2025-00405, Paper 1 (filed Jan. 3, 2025); IPR2025-00524, Paper 1 (filed Apr. 2, 2025); Ex. 2002 (Second Texas Litigation Scheduling Order). Further, this is after the denial of institution for three IPR petitions previously filed by Petitioner against ATL patents at issue in the First Texas Litigation. IPR Nos. 2023-00586; 2023-00587; 2023-00585. The significant amount of effort and resources required by the Board to address seven IPR petitions, where the district court is highly likely to proceed to trial anyway (at least because Petitioner has failed to even make a *prima facie* case as to claim 20 of the '910 Patent challenged in the '910 Patent Petition), counsels against further wasting the Board's resources for these numerous IPR petitions that will be resolved in a single trial before the Final Written Decisions by the Board.

The Board should therefore exercise its discretion to deny institution because Petitioner has not met its burden of demonstrating that it is more likely than not that any claim of the '927 Patent is unpatentable and because denial is warranted in the interests of efficiency and fairness. If CosMX has invalidity defenses to raise against the '927 Patent or against the five other patents at issue in the district court

proceeding, including defenses it intends to raise with either the asserted prior art references or the unpublished system prior art references, it may raise those all together in a single consolidated district proceeding where they may all be considered in view of all the evidence. This is the most efficient outcome and achieves the AIA's intended efficiency goals better than multiple serial IPR proceedings that trail the underlying district court proceeding and only add additional uncertainty and risk of inconsistent positions to the process.

II. BACKGROUND

A. Technology Overview

As Petitioner's expert, Dr. Pecht, explains, "batteries have a cathode and an anode, with a separator between them." Ex. 1003 ¶ 50. Separators are important because they keep the cathode and anode from touching and thus short-circuiting. *Id.* When a battery (and thus, its separator) are punctured, an explosion may result and cause safety issues. Ex. 1001 at 1:22-25.

B. The '927 Patent Claims a Porous Substrate Having Innovative Characteristics that Improve Its Use in a Separator

The '927 Patent solves the safety problems in the prior art by proposing a separator having a porous substrate with certain characteristics. *Id.* at 1:37-44. In particular, the '927 Patent describes and claims a porous substrate with a "high plastic deformation rate, such that when pierced by a hard object such as a steel nail, the separator around the steel nail will extend together with the steel nail, and

eventually create a wrapping effect around the steel nail, thereby reducing the probability of an internal short circuit and effectively preventing fire caused by large-area short circuit inside an electrochemical device (for example, a lithium ion battery).” *Id.* The ’927 Patent explains arriving at the claimed “absolute plastic deformation rate” by (1) measuring the initial length of a porous substrate sample (L0), (2) stretching the porous substrate until it breaks, (3) docking the sample at its breakage point, (4) measuring the length of the sample after breakage (L2), and (5) calculating absolute plastic deformation rate as $(L2-L0)/L0 \times 100\%$. *Id.* at 10:25-43. Independent claim 1 requires an absolute plastic deformation rate in a first direction of about 40% to about 1800%. *Id.* at 25:20-37. According to the ’927 Patent, this high plastic deformation rate ensures better protection from external forces. *Id.* at 4:41-58.

III. LEGAL STANDARDS

It is Petitioner’s burden to demonstrate unpatentability by a preponderance of the evidence. The Petition must establish, with particularity, the grounds and evidence that support invalidating the patented claims. 35 U.S.C. §312(a)(3). Petitioner “must ‘specify where each element of the claim is found in the [relied upon] prior art patents.’” *In-Depth Geophysical, Inc. v. ConocoPhillips Co.*, IPR2019-00850, Paper 56, *27 (Sept. 3, 2020) (quoting 37 C.F.R. § 42.104(b)(4)). And, as is the case here, Petitioner must demonstrate that the prior art (e.g.

Nishikawa) “discloses[] within the four corners of the document . . . all of the limitations claimed,” and that disclosure must be “arranged or combined in the same way as recited in the claim.” *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1371 (Fed. Cir. 2008). Petitioner cannot satisfy this burden by reliance on unsupported and unscientific assumptions, an unreliable method, and incorrect calculations that attempt to cover the glaring shortcoming of the prior art—it does not disclose L2 or the claimed absolute plastic deformation rate.

In addition, the Board makes its determination regarding institution based on what the Petition *actually presents* and not what it could have reasonably contained had it been drafted differently. *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1381 (Fed. Cir. 2016) (holding that the Board is *not* “free to adopt arguments on behalf of petitioners that could have been, but were not, raised by the petitioner during [a post-grant proceeding]”). The Board cannot “deviate from the grounds in the petition and raise its own” theories of invalidity. *Sirona Dental Sys. GmbH v. Institut Straumann AG*, 892 F.3d 1349, 1356 (Fed. Cir. 2018).

In addition to the underlying failures of the Petition, the Board should deny institution under *Apple v. Fintiv, Inc.*, No. IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) (“*Fintiv*”) and other discretionary factors committed to the Board’s discretion under § 314(b), including the factors identified by the Acting Director in the March 26 Memorandum and the Board’s latest guidance responding

to FAQs for Interim Processes for PTAB Workload Management at <https://www.uspto.gov/patents/ptab/faqs/interim-processes-workload-management>.

The *Fintiv* factors include:

1. Whether the court has granted a **stay** or evidence exists that one may be granted if an IPR is instituted.
2. The **proximity of the court's trial date** to the PTAB's projected statutory deadline for a final written decision.
3. The **investment** in the parallel proceeding by the court and the parties.
4. The **overlap** between issues raised in the petition and those in the parallel proceeding.
5. Whether the petitioner and the defendant in the parallel proceeding are the **same party**.
6. **Other circumstances** that impact the PTAB's exercise of discretion, **including the merits** of the petition

Fintiv at 6. The Board takes a “holistic view” of whether efficiency and integrity of the system are best served by denying or instituting review. *Id.*

Furthermore, the Director Memo identified a non-exhaustive number of additional factors that may be considered by the Board when evaluating how to apply the Board's discretion under § 314(b) (hereafter, the “Memo Factors”) including (but not limited to):

1. Whether the PTAB or another forum has **already adjudicated** the validity or patentability of the challenged patent claims;
2. Whether there have been **changes in the law** or new judicial precedent issued since issuance of the claims that may affect patentability;
3. The **strength** of the unpatentability challenge (related to *Fintiv* Factor 6, above);
4. The extent of the petition's **reliance on expert testimony**;
5. **Settled expectations** of the parties, such as the length of time the claims have been in force;
6. **Compelling** economic, public health, or national security **interests**; and
7. Any **other considerations** bearing on the Director's discretion.

Director Memo at 2-3. The Board's FAQs further indicate that "[t]he Process Memorandum includes a *non-exhaustive* list of issues that may be raised in discretionary briefing. Parties are encouraged to address *any* fact or circumstance they believe bears on the Director's discretion to institute, including reasons not discussed in current Board precedent or in the Process Memorandum." FAQs at Q.11 (emphasis added).

IV. THE BOARD SHOULD NOT INSTITUTE INTER PARTES REVIEW UNDER § 314(A) BASED ON THE *FINTIV* AND OTHER DISCRETIONARY FACTORS

A. *Fintiv* Factor 1: The District Court Has Already Stated It Will Not Issue a Stay In Similar Circumstances, Which Favors Denial

***Fintiv* Factor 1** favors denial of institution. Patent Owner has not requested a stay in the Second Texas Litigation pending institution of this IPR (or the *six other* co-pending IPR petitions), and even if a stay were requested, the evidence shows that it is unlikely to be granted. Petitioner presents no evidence in its Petition that it has requested a stay or that a stay is likely. When Petitioner presents no evidence that a stay is likely in parallel proceedings, the Board has found *Fintiv* Factor 1 to favor discretionary denial. *See Luxshare Precision Industry v. Amphenol Corp.*, IPR2022-00132, Paper 10 at 9 (PTAB May 3, 2022).

While six patents have been asserted in the underlying district court case, CosMX only filed its latest IPR petition on the final one of the six patents on April 2, 2025, and that Petition was accorded a filing date via notice on May 5, 2025. *See* IPR2025-00524. At the earliest, the institution decision deadline in that latest IPR petition would be November 5, 2025—which is after the parties will have already provided the Court with a joint claim construction statement and will be in the middle of claim construction discovery, and will be just five weeks from the deadline to substantially complete document production. Ex. 2002 (Second Texas Litigation

Scheduling Order). The Court in the Eastern District of Texas is on record that it “has a consistent practice of denying motions to stay when the PTAB has yet to institute post-grant proceedings” as to all patents at issue. *Force MOS Tech. Co., Ltd. v. ASUSTeK Computer, Inc.*, Case No. 2:22-cv-000460, ECF No. 74, (E.D. Tex. April 10, 2024) (citations omitted). The district court will, therefore, not stay the underlying action while no institution decision has been entered in that last (or any other pending) IPR proceeding. Furthermore, CosMX would need to prevail on institution of at least six independent IPR petitions for there to be any chance of a stay in the district court proceeding—an unlikely outcome, particularly where CosMX failed to achieve institution on any of the three IPR petitions it filed against patents at issue in the First Texas Litigation. *See* IPR Nos. 2023-00586; 2023-00587; 2023-00585. Furthermore, because CosMX has failed to attempt to set forth a prima facie case of invalidity as to independent claim 20 of the ’910 Patent,⁶ at least one claim from these six patents will necessarily have to proceed to a jury trial even if CosMX were successful on every argument it has raised in its seven Petitions. The certainty of an eventual district court trial on at least one patent claim weighs against the likelihood of a stay ever entering in the underlying district Court

⁶ *See* IPR2025-00405, Paper 1; and see also the upcoming discretionary denial briefing and Patent Owner’s Preliminary Response in that IPR.

proceeding and therefore strongly favors denial. *See, e.g., MyPort, Inc. v. Samsung Electronics Co., Ltd.*, Case No. 2:22-cv-00114, ECF No. 73 (June 13, 2023) (denying request for stay when final written decision in pending IPRs were scheduled to issue two months after trial, even though the Court had not yet held a Markman hearing, in view of the parties substantial investment in the case and the plaintiff's interest in timely vindication of its patent rights).

B. *Fintiv* Factor 2: Any Final Written Decision Will Occur After the District Court's Scheduled Jury Trial Date, and Decisions in Other IPRs Would Occur Even Later

***Fintiv* Factor 2** weighs heavily against institution because a trial date is already scheduled to occur in the district court on July 6, 2026, over two months before the September 9, 2026 statutory deadline for the Board to issue a final written decision in this IPR (assuming that the Board issues an institution decision on September 9, 2025, three months after Patent Owner's Preliminary Response). Ex. 2002 (District Court Schedule). The median time to jury trial in patent cases filed before Judge Gilstrap after January 1, 2020 (which includes a number of cases that were delayed as a result of the Covid-19 epidemic, and is therefore a conservative estimate) is just 20.6 months after the filing of the original district court complaint. Ex. 2006 (Docket Navigator Statistics). Applying that median time to trial to the complaint in the underlying district court case here would result in an

expected trial date in mid-to-late May of 2026, indicating that the currently scheduled district court trial date of July 6, 2026 is both conservative and achievable.

Thus, when considering either the scheduled jury trial date or the district court's median time-to-trial statistics, the seven petitions filed against the six patents asserted in the district court case will not each have final written decisions until at least November of 2026 (assuming they are all instituted), more than five months after the scheduled jury trial in the district court action and seven months after the median time-to-trial in cases filed after January 1, 2020. Pet. at 72.

The Board has denied institution in view of smaller gaps between the final written decisions and trial. *See, e.g., EClinicalWorks, LLC v. Decapolis LLC*, IPR2022-00229, Paper No. 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” (emphasis added)); *see also, e.g., Resmed Corp. v. Cleveland Med. Devices Inc.*, IPR2023-00565, Paper No. 13 at 11 (PTAB September 25, 2023) (denying institution where trial was scheduled to occur “approximately one month” before the deadline to issue a final written decision).

Accordingly, this factor weighs heavily against institution.

C. *Fintiv* Factor 3: The Parties Have Already Invested Significant Effort and Resources in Parallel District Court Proceedings, Including Related Proceedings in the US and Worldwide on Related Patents and Related Accused Products

Fintiv Factor 3 weighs heavily against institution. The Second Texas Litigation is only the latest investment of effort and resources by the Parties in a long and continuing series of worldwide litigation involving family members of the patents asserted in district court, as well as many other patents. *See e.g.*, Ex. 2007 (First Texas Litigation Docket); Ex. 2004 (German Order 1); Ex. 2005 (German Order 2). This extensive investment of global resources differs significantly from the more common “one-off” US district court litigation posture and weighs heavily against institution of this IPR. The chance that this single IPR proceeding on a single patent is likely to resolve the parties’ global patent dispute is low, and therefore weighs strongly against institution.

As a result of the First Texas Litigation, the collection of documents and depositions regarding the composition of many CosMX accused products was already substantially completed, and so the Parties begin with a *significant* head start on collecting and producing relevant discovery in the second district court case. *See* Ex. 2008 (Joint Motion for Entry of Protective Order) at 3 (CosMX arguing that “given the related patents and overlap in technical subject matter and accused products, a substantial amount of the discovery that will need to be conducted in this

case was likely already conducted in the 232 Action.”).⁷ In the first district court litigation (addressing similar accused products and similar technologies), the parties and the Court previously invested substantial efforts and resources, including:

- Completing all fact witness and expert witness depositions (33 fact witness depositions and 13 expert witness depositions);
- Completing the collection and production of documents regarding the same types of CosMX battery products accused of infringement in the second case;
- Conducting a Markman hearing on August 15, 2023, with an order construing patent claims entered on October 18, 2023;
- Completed expert reports and expert discovery;
- A hearing on various discovery issues and a motion to correct inventorship on October 13, 2023;

⁷ While the Court denied CosMX’s request to not have to re-produce the evidence from the First Texas Litigation, CosMX itself admits that much of the relevant information has already been collected for the First Texas Litigation and simply needs to be reproduced. Ex. 2008 (Joint Motion for Entry of Protective Order) at 3.

- A pretrial conference on January 17, 2024 addressing multiple issues;
- Completing a jury trial in February 2024; and
- Holding a hearing on August 23, 2024 granting ATL's motion for an ongoing royalty.

Ex. 2007 (First Texas Litigation Docket). The extensive investment of party resources in the First Texas Litigation (which involved similar accused products and technology) should also be considered as investments in this follow-on lawsuit, and therefore strongly favors denial of this Petition.

As to the Second Texas Litigation, by the institution deadline in this IPR, the parties will already have completed exchanging initial infringement and invalidity contentions, and the parties will have made extensive document productions. Ex. 2002 (Second Texas Litigation Scheduling Order). ATL has already produced tens of thousands of documents and will continue to make ongoing supplemental productions regarding its hundreds of patent-practicing products. CosMX has likewise committed to producing technical documents for the hundreds of accused products implicated by ATL's infringement contentions. Further, ATL has served third-party subpoenas on twelve of CosMX's customers seeking documents and testimony related to the sales of downstream products incorporating CosMX's accused batteries. The return dates on all third-party subpoenas pre-date the

institution deadline in this IPR. In addition, the *Markman* process will commence prior to the week of September 8, as the parties must exchange claim terms for construction by September 9, 2025. *Id.*

In addition to the U.S. district court litigations, one of the other asserted patents has many related counterparts across the world that have been litigated in Germany and China. *See e.g.*, Ex. 2004 (German Order 1); Ex. 2005 (German Order 2); Ex. 2010 (News article regarding German injunction and Chinese validity proceeding). The extensive investment of party resources in foreign proceedings is just further evidence that deciding this one IPR petition on the merits will not solve the global patent dispute between ATL and CosMX.

D. *Fintiv* Factor 4: The Overlap Between the Asserted Art and Petitioner's Invalidity Arguments in the District Court is Significant, and Petitioner's So-Called *Sotera* Stipulation Is Ineffective

Fintiv Factor 4 also weighs against institution because Petitioner asserts every prior art reference relied on in this Petition (Nishikawa, Chen, and Zhang) in the Second Texas Litigation. Ex. 2003 (Invalidity Contentions Cover Pleading). Furthermore, Petitioner's Invalidity Contentions in the Eastern District of Texas also raise two invalidity grounds involving various unpublished system art references. *Id.* Accordingly, even with the limited *Sotera* stipulation proffered by Petitioner, the district court will still have to try validity issues based on the system prior art

Petitioner included in its Invalidity Contentions. This defeats the AIA's stated purpose of increased efficiency. That the district court will still have to conduct a second invalidity analysis regardless of the *Sotera* stipulation renders the stipulation not meaningful. FAQs at Q.14 ("... The Director will take into account whether the stipulation materially reduces overlap between the proceedings. Where the petitioner is relying on corresponding system art in a co-pending proceeding and/or several other invalidity theories, a stipulation may not be particularly meaningful because the efficiency gained by any AIA proceeding will be limited.").

Because there is substantial overlap between the art raised in these proceedings and asserted in the underlying district court proceedings, and because inefficiencies created by multiple validity proceedings is not materially diminished by Petitioner's *Sotera* stipulation in view of Petitioner's use of unpublished system art in the district court proceeding, this factor favors denial.

E. *Fintiv* Factor 5: The Identity of the Parties Weighs Against Institution

Fintiv Factor 5 also weighs against institution because the Petitioner is the accused infringer and defendant, while Patent Owner is the plaintiff, in the underlying district court litigation. Ex. 2001 (Second Amended Complaint).

F. *Fintiv* Factor 6 and Memo Factor 3: The Merits of the Petition Are Weak

Fintiv Factor 6 and **Memo Factor 3** weigh against institution because the merits of the Petition are weak. While the merits will be more fully addressed in Patent Owner’s Preliminary Response (which is incorporated herein by reference pursuant to FAQ Q.25), a few examples are provided below to illustrate the weakness of Petitioner’s arguments. These examples apply to all the grounds asserted in the Petition relating to the independent claims (Grounds 1 (Nishikawa anticipation), 2A (Nishikawa obviousness), 2B (Chen and Nishikawa), and 3C (Chen and Zhang)). These failures are not meant to be exhaustive but simply illustrative.

First, the Petition fails on its face because none of the prior art discloses the explicit claim limitation of absolute plastic deformation rate. All the claims require that “absolute plastic deformation rate is calculated according to an equation $(\underline{L2}-L0)/L0 \times 100\%$, where $L0$ refers to a length of the porous substrate before stretching and $\underline{L2}$ refers to a length of the porous substrate after the porous substrate is stretched to breakage and docked along the fracture caused by the breakage and flattened.” *See e.g.*, Ex. 1001, Claim 1. Petitioner does not assert that any of the prior art actually discloses $\underline{L2}$, and instead relies solely on extensive expert testimony of “estimates” of what theoretically could happen in an attempt to fill in

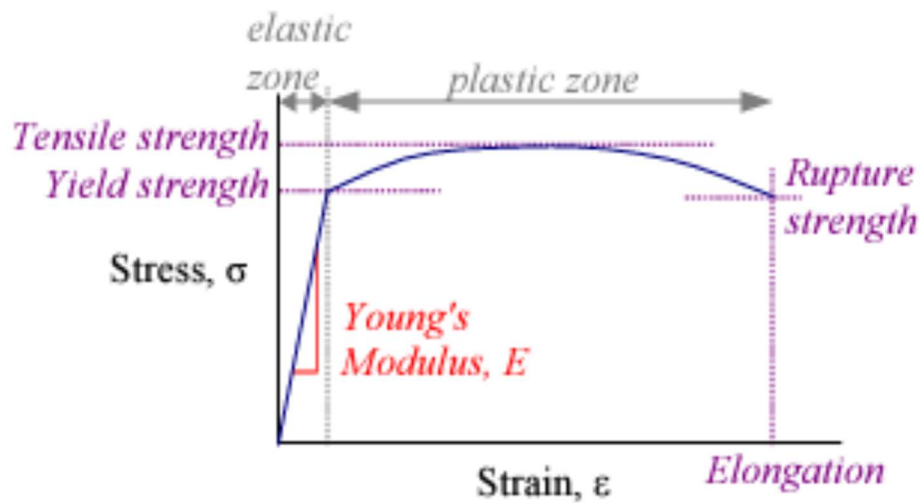
the gaps in its art. *See, e.g.*, Pet. at 25-26 (relying on expert testimony to conclude that absolute plastic deformation rate “*can be estimated* from data disclosed in Nishikawa, specifically the strain at break (elongation) and the plastic strain.”) (emphasis added); *see also id.* at 27 (“The total elongation of a material ($L1 - L0$) in combination with its tensile strength and Young’s modulus (a proxy for $L1 - L2$ as those lengths are defined in the ’927 patent) are inputs from which a POSA *could derive* the claimed absolute plastic deformation rate ($(L2 - L0)/L0 \times 100\%$).”) (emphasis added); Ex. 1003 ¶ 120 (“Once again, *Nishikawa does not provide numeric values for the percentage of elastic or plastic deformation*, but it does provide elongation, tensile strength, and Young’s modulus. EX1004, ¶¶53, 54, Table 1. From these values, a relative plastic deformation rate (as that term is defined in the ’927 patent) *can be estimated*, as shown above for claim 1.”) (emphasis added).

With all its attempts at gap-filling and unsupported estimations, Petitioner effectively redefines “absolute plastic deformation rate” as not requiring the explicitly claimed formula, which includes L2, ignoring the express language of the claims. Pet. at 22 (“These terms [including absolute plastic deformation rate] should be construed as extending to the physical properties they denote, even though those properties may also be expressed *by other equations*.”) (emphasis added).

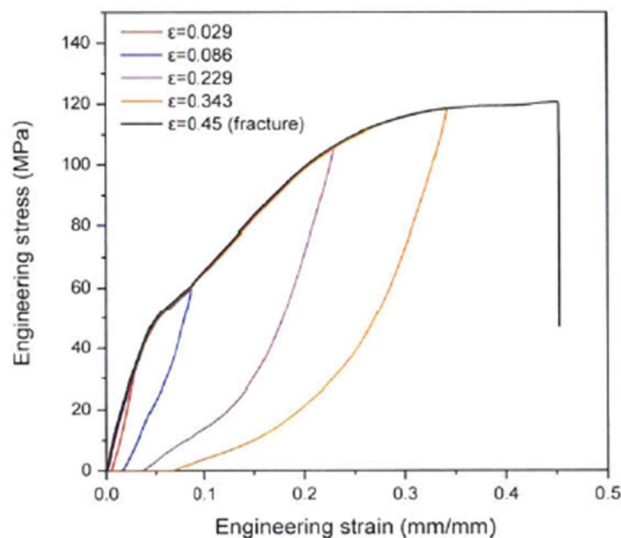
Recognizing the shortcomings of the prior art, in Grounds 1 and 2A, the Petitioner also tries to argue that the claimed absolute plastic deformation rate is

“inherent” to separators having the polymers disclosed in Nishikawa or otherwise obvious based on Nishikawa. Pet. 32-34, 41-44. But to make this argument, Petitioner again must rely on its expert’s attempts to “fill in the gaps,” citing just a few paragraphs of conclusory expert testimony. *See, e.g.*, Pet. at 32 (citing Ex. 1003 ¶¶ 112-113 (“A thermoplastic resin with a high elongation at break will *necessarily* exhibit a large degree of plastic deformation, because the elongation for these materials come from the plasticity and not elasticity.”) (emphasis in original)); Pet. at 41 (citing Ex. 1003 ¶¶ 136-40).

Second, the merits are also weak because Petitioner’s expert makes multiple incorrect assumptions and estimates. The foundation for all Petitioner’s arguments about why the prior art allegedly suggests the claimed absolute plastic deformation rate is a claim that in the stress-strain curve of polymer materials, deformation before the yield point is ***all*** elastic deformation, and deformation after the yield point is ***all*** plastic deformation. Pet. at 303-32; *see also* Ex. 1003 ¶ 62:



But even Petitioner's own cited prior art shows this assumption is false: there is both plastic *and* elastic deformation after the yield point of the stress-strain curve of polymer materials. *See, e.g.*, Ex. 1007 at 95, Figs. 4-12 (showing stress strain curves of a polypropylene separator that illustrate significant elastic deformation after the yield point):



As such, Petitioner's own documents undercut the premise by which its expert testimony is based.

Third, the Petition fails because it relies on Young's modulus—a parameter that when presented as a single constant value fails to account for other confounding real-world factors such as tensile rate (speed of stretching), chuck-to-chuck distance, and sample size—without addressing the fact that those three underlying parameters vary widely between the references and the '927 Patent. For example, the Petition does nothing to address the fact that the prior art discloses stretching at different rates (i.e. 100 mm/min (Nishikawa) and 6 mm/min (Chen)). *See* Ex. 1004 at [0133]-[0135]; Ex. 1005 at 14906. These rates are quite different from the 50mm/min that a POSITA would have understood to be at issue and disclosed in the '927 Patent. *See* Ex. 1001 at 10:31-33. The Petition likewise does not address that Nishikawa's chuck-to-chuck distance is 50 mm and Chen's is 30 mm, whereas the '927 Patent's is 40 mm. *See* Ex. 1004 at [0133]-[0135]; Ex. 1005 at 14906; Ex. 1001 at 10:28-31. Nor does the Petition acknowledge that the sample dimension in Nishikawa is 100 mm by 10 mm, whereas it is 50 mm by 10 mm in Chen and 100 mm by 20 mm in the '927 Patent. *See* Ex. 1004 at [0133]-[0135]; Ex. 1005 at 14906; Ex. 1001 at 10:26-28. Patent Owner's expert witness will show that a POSITA would have known that these different parameters would affect the deformation properties of the porous substrate, and in particular, the Young's modulus parameter that Petitioner

relies on to estimate plastic deformation in the prior art references. Indeed, even Petitioner's own cited art shows that some of these three parameters impact the deformation properties of the porous substrate and thus Young's modulus. Ex. 1007 at Fig. 3-2(a) (showing fracture strain values obtained by a tensile test that are different for different sample widths of a polypropylene separator); *see also id.* at Fig. 4-2 (showing stress-strain curves of a separator that indicate clear differences under different tensile rates). A POSITA would not have been able to fairly compare the deformation properties of the various prior art references to the claimed properties in the '927 Patent, let alone combine references with these widely varying underlying parameters.

These failures of the Petition are fatal and warrant denial on their own. Compounded with the additional discretionary denial factors, these failures strongly favor denial.

Additional details as to the merits will be presented in Patent Owner's Preliminary Response and accompanying expert declaration.

G. Memo Factor 1: Whether the PTAB or Another Forum Has Already Considered the 927 Patent Is Neutral

Memo Factor 1 asks "whether the PTAB or another forum has already adjudicated the validity or patentability of the challenged patent claims." While the '927 Patent has not been previously adjudicated, it is currently at issue in the Second

Texas Litigation and will very likely have been adjudicated by the time a final written decision is expected to issue. Ex. 2002 (Second Texas Litigation Scheduling Order). Thus, this factor favors discretionary denial.

H. Memo Factor 2: No Material Changes In The Law Since The Claims Were Allowed By The Examiner Favors Denial

Memo Factor 2 favors denial of institution because there have been no material changes in the law since the Examiner evaluated the challenged claims and ordered their allowance after finding them patentable in November 2020. Ex. 1002 at 285-89. This lack of a change in the law favors denial, or is (at most) neutral.

The Board should not revisit and second-guess the Examiner's decisions on patent allowability less than five years after the claims' issuance, because the Examiner can be safely assumed to have done their job and Petitioner fails to identify any actual material error. Accordingly, this factor strongly favors denial of institution.

I. Memo Factor 4: Heavy Reliance on Expert Testimony, Including to Fill Gaps in the Prior Art's Teachings, Favors Denial

Memo Factor 4 relates to the "extent of the petition's reliance on expert testimony." The FAQs further explain:

While the Board may consider expert testimony, as a matter of efficiency, extensive reliance on expert testimony and/or reasonable disputes between experts on dispositive issues may suggest that the

questions are better resolved in an Article III court. The statute and our reviewing court require that petitions be based on prior art patents and printed publications. As the judges have technical and legal expertise, it is not necessary for an expert to explain every aspect of the prior art. It is most helpful if an expert is providing focused testimony, for example to provide helpful context or to explain terms of art. The failure to provide focused expert testimony may weigh against institution.

FAQs at Q.21.

This factor favors denial because, as explained above with respect to *Fintiv* Factor 6 and Memo Factor 3, Petitioner relies heavily on expert argument, assumptions, and inferences to fill in the gaps of the prior art and allegedly arrive at the claimed absolute plastic deformation rate. Indeed, Petitioner does not cite any prior art that discloses L2 and instead relies solely on its expert (a) to argue that L2 is not required and (b) make assumptions about the prior art to estimate absolute plastic deformation rate in some other, convoluted way. *See, e.g.*, Pet. at 25-26 (relying on expert testimony to conclude that absolute plastic deformation rate “can be *estimated* from data disclosed in Nishikawa, specifically the strain at break (elongation) and the plastic strain.”) (emphasis added); Ex. 1003 ¶ 120 (“Once again, *Nishikawa does not provide numeric values for the percentage of elastic or plastic*

deformation, but it does provide elongation, tensile strength, and Young’s modulus. EX1004, ¶¶53, 54, Table 1. From these values, a relative plastic deformation rate (as that term is defined in the ’927 patent) can be *estimated*, as shown above for claim 1.”) (emphasis added). Moreover, Petitioner relies on cursory (but lengthy) expert testimony for every cited claim limitation and every ground, rather than providing a focused expert declaration addressing the limitations for which expert testimony is necessary. Ex. 1003. Patent Owner, in its POPR, will present competing expert testimony explaining why Petitioner’s arguments, assumptions, and inferences are incorrect and do not meet the claim limitations. Because of the extensiveness of the expert testimony and the Petition’s reliance on that testimony to establish the claimed absolute plastic deformation rate, and because Petitioner’s own expert will provide testimony that the prior art does not disclose or suggest the claimed absolute plastic deformation rate, this dispute is better suited to resolution in an Article III district court, and this factor favors denial of institution. FAQs at Q.21.

J. Memo Factor 5: Settled Expectations are Neutral

Memo Factor 5 is directed to the “settled expectations of the parties, such as the length of time the claims have been in force.” These patent claims issued in mid-2021, and accordingly this factor is neutral. Ex. 1001.

K. Memo Factor 6: Compelling Interests are Neutral

Memo Factor 6 is directed to “[c]ompelling economic, public health, or national security interests.” While ATL (which is a subsidiary of Japanese company TDK) provides a large percentage of the lithium-ion batteries used in smartphones, portable computers, and other portable electronics in the United States, and has an interest in protecting its U.S.-granted intellectual property from an adjudicated infringer (CosMX), this factor is neutral.

L. Memo Factor 7: Other Factors to Consider

Memo Factor 7 is directed to any other factors the Director should consider when evaluating whether to apply discretionary denial. This last factor slightly favors denial.

The numeracy of the Grounds raised by Petitioner in this Petition for each claim favors denial. Rather than present a targeted Petition raising a single Ground for each claim, Petitioner raises four Grounds for each claim, which would force the Board to consider all four Grounds for every claim even if only one of the Grounds were found to have merit (though, in fact, none do). Petition at 4-5. This approach favors denial of institution compared to a Petition asserting a single strong Ground for each challenged claim. *See, e.g., Adaptics Ltd. v. Perfect Co.*, IPR No. 2018-01596, Paper 20 at 17-18 (PTAB Mar. 6, 2019) (designated informative) (“For example, where a petition contains voluminous or excessive grounds, Office

guidance indicates the panel will evaluate the challenges and determine whether, in the interests of efficient administration of the Office and integrity of the patent system (*see* 35 USC § 316(b)), the entire petition should be denied under 35 USC § 314(a).”) (internal quotations and citations omitted).

V. CONCLUSION

Taken together, the *Fintiv* factors and Memo factors weigh strongly in favor of discretionary denial—all factors either favor denial or are neutral:

Factor	Outcome
<i>Fintiv</i> 1: Stay	No stay; favors denying institution
<i>Fintiv</i> 2: Proximity of Trial Date	Before FWD; strongly favors denying institution
<i>Fintiv</i> 3: Investment by Parties and Court	Extensive; strongly favors denying institution
<i>Fintiv</i> 4: Overlap in Issues	Significant; favors denying institution
<i>Fintiv</i> 5: Same Parties	Same parties; favors denying institution
<i>Fintiv</i> 6 /Memo 3: Strength of the Merits	Weak; strongly favors denying institution
Memo 1: Already Adjudicated	No but pending; favors denying institution
Memo 2: Changes in the Law	None; favors denying institution
Memo 4: Reliance on Expert Testimony	Extensive; favors denying institution
Memo 5: Settled Expectations	Neutral
Memo 6: Compelling Interests	Neutral
Memo 7: Any other Considerations	Numerous grounds; slightly favors denying institution

For the reasons noted above, Patent Owner respectfully submits that the Board should deny institution of all Grounds of the Petition.

Dated: May 7, 2025

Respectfully submitted,

By: / Christopher TL Douglas /
Christopher TL Douglas, Reg. No. 56,950

CERTIFICATION UNDER 37 C.F.R. §42.24

Pursuant to 37 C.F.R. §42.24(d), I certify that this brief complies with the type-volume limits of 37 C.F.R. §42.24 and the Director Memo because it contains 7,250 words, according to the word-processing system used to prepare this brief, excluding the parts that are exempted by 37 C.F.R. §42.24 (including the table of contents, a table of authorities, a listing of facts which are admitted, a certificate of service or this certificate word count, and appendix of exhibits).

Dated: May 7, 2025

By: / Christopher TL Douglas /
Christopher TL Douglas

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §42.6(e), the undersigned hereby certifies that true and correct copies of the foregoing **PATENT OWNER'S DISCRETIONARY DENIAL BRIEF and PATENT OWNER'S EXHIBITS 2001-2010** were served in its entirety on May 7, 2025 by filing this document through the PTAB's P-TACTS Filing System as well as delivering a true and correct copy by electronic mail on Petitioner's lead and backup counsel at the following email addresses (as agreed by counsel for Petitioner):

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