

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MARVELL SEMICONDUCTOR, INC.,
Petitioner,

v.

CREDO TECHNOLOGY GROUP LTD.,
Patent Owner.

Case IPR2025-01218
U.S. Patent No. 10,877,233

PATENT OWNER'S REQUEST FOR DISCRETIONARY DENIAL

Mail Stop "Patent Board"
Patent Trial and Appeal Board
U.S. Patent and Trademark Office
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2001	Credo’s Corrected Unopposed Motion to Partially Terminate the Investigation by Withdrawing Allegations With Respect to U.S. Patent No. 10,877,233, 337-TA-1446
2002	Credo’s and Fish & Richardson P.C.’s Opposition to Non-Party Marvell Semiconductor, Inc.’s Motion to Disqualify, 337-TA-1446 (public version)
2003	In re Certain Active Electrical Cables and Components Thereof, Inv. No. 337-TA-3814, Complaint (Mar. 13, 2025).
2004	“Credo Introduces PAM4 DSP for High Performance Data Centers and Enterprise Networks,” March 17, 2021, https://credosemi.com/credo-introduces-pam4-dsp-for-high-performance-data-centers-and-enterprise-networks/
2005	“AEC Applications,” https://credosemi.com/products/hiwire-aec/applications/
2006	“Credo Introduces 800G HiWire ZeroFlap AECs to Support AI Backend Networks,” October 10, 2024, available at https://s205.q4cdn.com/511065572/files/doc_news/2024/10/credo-introduces-800g-hiwire-zeroflap-aecs-to-support-ai-backend-networks.pdf
2007	“CREDO Receives Cabling Installation & Maintenance Innovators 2019 Gold Award for HiWire™ Active Electrical Cables (AEC),” October 1, 2019, https://credosemi.com/news/credo-receives-cabling-installation-maintenance-innovators-2019-gold-award-for-hiwire-active-electrical-cables-aec/
2008	“Credo Files AEC Patent Infringement Complaint Against Amphenol, Molex, TE Connectivity, and Volex with United States International Trade Commission,” March 13, 2025, https://investors.credosemi.com/news-events/news/news-details/2025/Credo-Files-AEC-Patent-Infringement-Complaint-Against-Amphenol-Molex-TE-Connectivity-and-Volex-with-United-States-International-Trade-Commission/default.aspx
2009	Order No. 21 Granting Corrected Motion to Terminate the Investigation by Withdrawing Allegations With Respect to U.S. Patent No. 10,877,233, 337-TA-1446

Patent Owner Credo Technology Group Ltd. (“Patent Owner” or “Credo”) respectfully requests that the Board deny institution of the Petition filed by Marvell Semiconductor, Inc. (“Petitioner” or “Marvell”) challenging the patentability of claims 1-20 (“challenged claims”) of U.S. Patent No. 10,877,233 (“the ’233 Patent”) (Ex-1001).

I. INTRODUCTION

The Petition should be denied as an inefficient use of the Board’s time and resources, particularly in view of Credo’s decision to withdraw its infringement allegations concerning the ’233 Patent from the earlier-filed Section 337 investigation pending at the U.S. International Trade Commission (“ITC”) (Inv. No. 337-TA-1446) (the “ITC Investigation”). Because Credo has never asserted the ’233 Patent against Marvell and has withdrawn its ’233 patent infringement allegations against Marvell’s customers in the ITC Investigation, it would be a waste of Board resources to proceed with this IPR.

Credo is an American innovator. Its patented technologies power the next generation of high-speed, energy-efficient data center interconnects. The ’233 Patent is one of three patents that Credo originally asserted in the earlier-filed ITC Investigation. These patents are not abstract ideas or litigation assets; they are the foundation of Credo’s HiWire® active electrical cable (“AEC”) products. Credo and its employee inventors earned these patents through innovation and after

careful and transparent examination by the U.S. Patent and Trademark Office (“the Office”). Having built a successful line of AEC products embodying its patents, Credo is now asserting its patent rights to protect its innovation and investment.

The ITC Investigation underscores the stakes associated with these patents and the urgency of their enforcement. Credo seeks exclusionary relief to protect its core technology from infringement by competitors. However, in an effort to streamline the ITC Investigation, Credo withdrew its infringement allegations as to the ’233 Patent in favor of pursuing its infringement claims as to the other two asserted patents. Ex-2001. Further, Credo has publicly stated that Petitioner Marvell by itself does not infringe the ’233 Patent. Ex-2002, 1. Given these circumstances, neither Marvell nor its customers face any further risk of infringing the ’233 Patent, and it would be a waste of Board time and resources to proceed with this IPR.

This proceeding presents precisely the situation the Office’s leadership envisioned when the Acting Director issued new guidelines on discretionary denial in March 2025. Stewart Memo.¹ That guidance reaffirmed the Acting Director’s

¹ Memorandum to All PTAB Judges from Coke Morgan Stewart Regarding the Interim Processes for PTAB Workload Management (March 26, 2025) (“Stewart Memo”).

authority to deny institution not only to prevent inefficient use of the Board's resources, but also to protect the integrity of the patent system as a whole. That integrity depends on the reasonable expectations of patent owners who play by the rules, prosecute diligently, disclose truthfully, and invest in commercialization.

Credo did all of this. It earned its patents under a well-functioning patent examination process before the Office. Credo also built its successful line of AEC products around its patents. And now, Credo is using two of those patents productively in a good-faith enforcement campaign to protect Credo's investment. Petitioner Marvell, though not named as a Respondent in the ITC Investigation, is involved in the ITC Investigation as the supplier of digital signal processors ("DSPs") to its customers, Respondents Molex LLC and TE Connectivity LLC (the "ITC Respondents"). Marvell filed this IPR in an effort to use the PTAB as an insurance policy against an adverse ruling at the ITC, which could affect Marvell's profit margin. However, all of that is moot now that Credo has withdrawn the '233 Patent from the ITC Investigation—and publicly confirmed that Marvell does not infringe any claim of the '233 Patent. Ex-2001; Ex-2002.

This scenario is not why Congress created *inter partes* review. Indeed, this scenario is what discretionary denial was designed to prevent. The PTAB's resources are not an insurance policy against ongoing litigation, nor are they designed to provide advisory opinions when there is no real dispute between the

parties. The PTAB is one component of a balanced and efficient patent system, entrusted with the authority to decline review when institution would undermine—not promote—fairness, efficiency, and technological progress. Denial of institution in this proceeding under § 314(a) advances these objectives and is necessary to protect the role of the PTAB as a partner in a functional U.S. patent system. Adoption of the bifurcated discretionary denial process reflects a clear policy shift toward protecting patent owner expectations and avoiding duplicative proceedings—precisely the situation presented here. There is simply no reason for the Board to commit agency resources to this proceeding when there is no longer any dispute between the parties.

II. CREDO’S PATENTED TECHNOLOGY

The application that issued as the ’111 Patent was filed on November 27, 2019, and issued on December 29, 2020. Credo is the original assignee and owner of the ’233 Patent. The patent was neither recently-acquired nor dormant. Instead, it arose directly from Credo’s extensive research into and development of AEC technology, *i.e.*, high-speed Ethernet cables with integrated digital signal-processing electronics to minimize signal attenuation and maximize data transmission speeds.

The ’233 patent also protects Credo’s AEC products. It embodies critical features of the AEC products that improve cable performance, such as advanced

transmitter and receiver equalization, adaptive equalization, and retiming. *See* Ex-2003, 5-12 (summarizing the technology and products at issue and the asserted patents).

The '233 patent is critically important to Credo for its protection of Credo's advanced AEC products. These products have led to important commercial uses, including "high-performance serial connectivity solutions for the Hyperscale data center, 5G carrier, enterprise networking, artificial intelligence, and high-performance computing markets." Ex-2004; *see also* Ex-2005 ("The demand for cloud computing, instant data streaming, and emerging applications including 5G, AI, and machine learning have pushed Hyperscale, enterprise and edge data centers to accelerate the deployment of 400G and 800G networks").

By 2024, Credo reported "millions of units" of AEC products deployed at Credo's tier-1 hyperscaler customers.² *See* Ex-2006. The AEC products have won industry awards and play a significant role in modern data center architectures. *See* Ex-2007. Credo's Senior Vice President of Product noted that the company "invented AECs" based on years of engineering and has invested tens of millions of dollars developing this pioneering technology. *See* Ex-2008. Credo's long-term investment and active marketing underscore how these patents are central to

² "Hyperscalers" refer to providers of cloud computing and storage.

Credo's business, not idle paper patents. Indeed, Credo's overall solutions portfolio explicitly includes AEC cables alongside its semiconductor integrated circuit (IC) products. Protecting these patented AEC innovations is strategically vital for Credo's competitive position in high-speed connectivity.

III. LEGAL STANDARDS

A. Discretionary Denial Under 35 U.S.C. § 314(a)

Instituting or denying a petition under § 314(a) "is a matter committed to the Office's discretion." *Cuozzo Speed Techs., LLC v. Lee*, 579 U.S. 261, 273 (2016); *see also Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (under §314(a) "the PTO is permitted, but never compelled, to institute an IPR proceeding").

B. Recent USPTO Guidance

The Stewart Memo specified a bifurcated approach for considering discretionary denial, and further identified additional considerations for discretionary denial:

- Whether the PTAB or another forum has already adjudicated the validity or patentability of the challenged patent claims;
- Whether there have been changes in the law or new judicial precedent issued since issuance of the claims that may affect patentability;
- The strength of the unpatentability challenge;
- The extent of the petition's reliance on expert testimony;

- Settled expectations of the parties, such as the length of time the claims have been in force;
- Compelling economic, public health, or national security interests;
- Any other considerations bearing on the Director’s discretion.

As explained below, denial is warranted under § 314(a) based on these additional factors. Credo has developed settled expectations and there is no sufficient justification for institution. *See* § IV.B.1, *infra*. Furthermore, Marvell’s contentions in its Petition rely on expert testimony to gap-fill prior art disclosures in addressing limitation [1.e]. *See* § IV.B.2, *infra*. Thus, institution denial is appropriate under these circumstances to “improve PTAB efficiency, maintain PTAB capacity to conduct AIA proceedings, . . . and promote consistent application of discretionary considerations in the institution of AIA proceedings.” Stewart Memo, 3.

IV. DISCRETIONARY FACTORS FAVOR DENIAL OF INSTITUTION

A. Credo’s Withdrawal of the ’233 Patent From the Earlier-Filed ITC Investigation Moots the Issues Presented in This IPR

On September 25, 2025, Credo moved to terminate the ITC Investigation as to the ’233 Patent in order to “streamline the Investigation” and “conserve the resources of the ALJ as well as the parties.” Ex-2001. On September 30, 2025, the ALJ issued an Initial Determination granting Credo’s motion. Ex-2009. As a result, Credo is no longer asserting the ’233 Patent against Marvell’s Customer-Respondents in the ITC Investigation.

Further, as Credo previously explained to the ALJ, Marvell faces no legal threat of infringement. Ex-2002, 2. “Marvell does not make AEC systems,” and “Marvell’s parts have many uses other than AEC systems.” *Id.*

Because neither Marvell nor its Customer-Respondents no longer face any further threat of infringement of the ’233 Patent, Marvell’s grounds are now moot and there is no reason to waste the Board’s time and resources pursuing this IPR.

B. Settled Expectations and Patent Maturity Further Reinforce Discretionary Denial

While “there is no bright-line rule on when settled expectations become settled, in general, the longer the patent has been in force, the more settled expectations should be.” *Dabico Airport Solutions Inc v. HydraFacial LLC et al.*, IPR2025-00408, Pap. 21 at 3 (June 18, 2025). Here, Credo has invested in, relied on, and commercialized the challenged patents for half a decade—destabilizing them now undercuts the certainty that the patent system is meant to foster. The challenged patents have been enforced and licensed as part of a publicly disclosed patent portfolio. *See* Ex-2003. As noted in § II, *supra*, claimed inventions in the ’233 patent protect Credo’s AEC products, which are relied upon by (a) customers, including major data center operators, and (b) domestic industry partners. *See* Ex-2004; Ex-2005; Ex-2006. The claims have also been unchallenged for almost five years, indicating market acceptance and long-term reliance.

Further, Marvell has not demonstrated why institution is justified. There is no persuasive reason the Board should now review the challenged claims of the '233 patent, particularly now that Credo has withdrawn the '233 Patent from the ITC Investigation. This is not an instance where “a patent may have been in force for years but may not have been commercialized, asserted, marked, licensed, or otherwise applied in a petitioner’s particular technology space, if at all.” *Zepp Health Corp v. Slyde Analytics LLC*, IPR2025-00327, Pap. 12 at 2-3 (Jun. 26, 2025). To the contrary, Credo expressly marked its rights and asserted the '233 patent to protect its innovation and investment. There is also no “significant change in law ... since the patent issued” and, thus, Marvell cannot show “how [a] change in law directly bears on the patentability of the challenged claims.” *Id.* Thus, based on the absence of this information, the Office should be “disinclined to disturb” the settled expectations that Credo has developed for the '233 patent. *Id.*, 3.

Finally, the '233 patent also supports technology that helps decarbonize U.S. infrastructure by reducing energy consumption. Weakening this patent through the PTAB, as pursued by Marvell, serves no public purpose. *See* Ex-1001, 1:5-22. They also enable lower-power, lower-cost data centers (energy efficiency is a national priority). *Id.* Credo is a U.S.-based innovator asserting its patent rights. The ITC proceeding already promotes national trade policy and patent enforcement.

V. CONCLUSION

For the reasons stated above, Patent Owner respectfully requests
discretionary denial of the Petition.

Date: October 14, 2025

Respectfully submitted,

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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e)(4), I hereby certify that on October 14, 2025,
a true and correct copy of the foregoing was served by electronic mail upon the
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