PUBLIC VERSION

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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CIRRUS LOGIC, INC.; AND
OMNIVISION TECHNOLOGIES, INC.;
Petitioners,

v.

GREENTHREAD, LLC,
Patent Owner.

_____

Case: IPR2024-00020
U.S. Patent No. 11,121,222

_____

PATENT OWNER'S REQUEST FOR DIRECTOR REVIEW OF FINAL WRITTEN DECISION 37 C.F.R. § 42.75

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EXHIBIT LIST

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Ex. 2001	*Greenthread, LLC v. Intel Corp.*, No. 6:22-cv-00105-ADA, Dkt. 1 (Complaint) (W.D. Tex. Jan. 27, 2022)	X
Ex. 2002	Definition of "privity" in Black's Law Dictionary (11th ed. 2019) available from Westlaw at westlaw.com	X
Ex. 2003	*Greenthread, LLC v. Intel Corp.*, 6:22-cv-00105-ADA, Dkt. 38 (First Amended Complaint for Patent Infringement) (W.D. Tex., filed Apr. 29, 2022)	X
Ex. 2004	*Greenthread, LLC v. Intel Corp.*, No. 6:22-cv-00105-ADA, Dkt. 113 (Redacted Memorandum Opinion and Order) (W.D. Tex. Dec. 27, 2022)	X
Ex. 2005	*Greenthread, LLC v. Intel Corp.*, 6:22-cv-00105-ADA, Dkt. 38-8 (Greenthread's Amended Preliminary Infringement Contentions) (W.D. Tex., filed Apr. 29, 2022)	X
Ex. 2006	*Greenthread, LLC v. Intel Corp.*, 6:22-cv-00105-ADA, Dkt. 38-12 (Exs. D-1, D-2, D-3, D-6 to Greenthread's Preliminary Infringement Contentions) (W.D. Tex., filed Apr. 29, 2022)	X
Ex. 2007	*Greenthread, LLC v. Intel Corp.*, 6:22-cv-00105-ADA, Dkt. 49 (Notice of Appearance of Additional Counsel) (W.D. Tex., filed June 9, 2022)	X
Ex. 2008	Petition (Paper 1) in [redacted]	X

Exhibit No.	Description	Submitted Previously
Ex. 2009	*Greenthread, LLC v.* [redacted]	X
Ex. 2010	*Greenthread, LLC v. Intel Corp.*, 6:22-cv-00105-ADA, [redacted]	X
Ex. 2011	Email communication from Patent Owner's counsel to Petitioner's counsel dated October 20, 2023	X
Ex. 2012	Email Attachment – Cirrus Logic Technical Support Article Number 000207340	X
Ex. 2013	Email Attachment - Cirrus Logic Investor Presentation as of April 28, 2015	X
Ex. 2014	Email Attachment - GlobalFoundries 2022 Capital Markets Day, available at https://investors.gf.com/static-files/65f5f1b9-2aea-47a3-8455-10413c6560f4	X
Ex. 2015	Email Attachment - Intel RealSense Product Family D400 Series, dated 2019	X
Ex. 2016	Email communication from Petitioner's counsel to Patent Owner's counsel dated October 24, 2023	X
Ex. 2017	Email communication from Patent Owner's counsel to Board, copying Petitioner's counsel dated November 1, 2023	X
Ex. 2018	*Greenthread, LLC v. Cirrus Logic, Inc.*, No. 1:23-cv-00369 (Supplemental Preliminary Infringement Contentions) (W.D. Tex., served Oct. 13, 2023)	X

Exhibit No.	Description	Submitted Previously
Ex. 2019	*Greenthread, LLC v. Cirrus Logic, Inc.*, No. 1:23-cv-00369, Dkt. 29 (Scheduling Order) (W.D. Tex. Aug. 18, 2023)	X
Ex. 2020	Article entitled "Cirrus Logic Helps Ease PC Industry Transition to New MIPI SoundWire® Interface" available at https://investor.cirrus.com/news-and-events/investor-news/news-details/2023/Cirrus-Logic-Helps-Ease-PC-Industry-Transition-to-New-MIPI-SoundWire-Interface/default.aspx	X
Ex. 2021	*Greenthread, LLC v. Intel Corp.*, 6:22-cv-00105-ADA, Dkt. 120-8, Greenthread's Amended Preliminary Infringement Contentions (W.D. Tex., filed Jan. 23, 2023)	X
Ex. 2022	Confidential agreement	X
Ex. 2023	CS42L42, Low Power Audio Codec with SoundWire and Audio Processing, available at https://www.cirrus.com/pubs/proBulletin/cs42l43-cs36l56-bulletin.pdf	X
Ex. 2024	Cirrus Logic Immersive PC Audio Solution, available at https://www.cirrus.com/pubs/proBulletin/cs42l43-cs36l56-bulletin.pdf	X
Ex. 2025	Cirrus Logic – What Drives Our Success, available at https://investor.cirrus.com/company-overview/what-drives-our-success/default.aspx	X
Ex. 2026	Cirrus Logic, Inc. Terms and Conditions of Sale, available at https://www.cirrus.com/legal/productterms/	X
Ex. 2027	*Greenthread, LLC v. OmniVision Technologies Inc.*; 2:23-cv-212, Dkt. 1 (Complaint) (E.D. Tex May 10, 2023)	X

Exhibit No.	Description	Submitted Previously
Ex. 2028	Confidential declaration	X
Ex. 2029	*Greenthread, LLC v. OmniVision Technologies Inc.*, 2:23-00212, Preliminary Infringement Contentions for OmniVision Technologies Inc.	X
Ex. 2030	Deep Dive Teardown of the [redacted]	X
Ex. 2031	Intel RealSense Product Family D400 Series, dated September 2023	X
Ex. 2032	Confidential declaration	X
Ex. 2033	GlobalFoundries Annual Report on Form 20-F for the fiscal year ended December 31, 2022, available at https://investors.gf.com/static-files/cc73efd0-09c1-442a-b4dd-0bcb74610e31	X
Ex. 2034	Confidential agreement	X
Ex. 2035	TechInsights Report on [redacted]	X
Ex. 2036	TechInsights Report Ad	X
Ex. 2037	Email communication from Petitioner's counsel to Patent Owner's counsel dated between January 9, 2024 through January 10, 2024	X

Exhibit No.	Description	Submitted Previously
Ex. 2038	Email communication from Petitioner's counsel to Patent Owner's counsel dated between October 20, 2023 through October 31, 2023	X
Ex. 2039	*Greenthread, LLC v. Intel Corp.*, No. 6:22-cv-00105-ADA, Dkt. 7 (summons returned executed) (W.D. Tex. Feb. 7, 2022)	X
Ex. 2040	Petition (Paper 2) in [redacted]	X
Ex. 2041	Petition (Paper 3) in [redacted]	X
Ex. 2042	Petition (Paper 1) in [redacted]	X
Ex. 2043	*Greenthread, LLC v. OmniVision Technologies Inc.*; 2:23-cv-212 (OmniVision's Responses and Objections to Greenthread's Fourth Set of Common Interrogatories)	X
Ex. 2044	Email communication from Petitioner's counsel to Patent Owner's counsel dated between November 28, 2023 through December 6, 2023	X
Ex. 2045	[redacted]	X
Ex. 2046	Email communication to Petitioner's counsel attaching production dated October 5, 2023	X
Ex. 2047	Email communication to Petitioner's counsel attaching production dated June 30, 2023	X

Exhibit No.	Description	Submitted Previously
Ex. 2048	*Greenthread, LLC v.* [redacted]	X
Ex. 2049	*Greenthread, LLC v.* [redacted]	X
Ex. 2050	Correspondence from Patent Owner's counsel to Petitioner's counsel dated May 4, 2023	X
Ex. 2051	Webpage from DigiKey for Cirrus Logic CS35L41 (https://www.digikey.com/en/products/detail/cirrus-logic-inc/CS35L41-CWZR/16377919)	X
Ex. 2052	Webpage from DigiKey for Cirrus Logic CS40L25 (https://www.mouser.com/ProductDetail/Cirrus-Logic/CS40L25-CWZR?qs=xZ%2FP%252Ba9zWqYWfeisEtcaTA%3D%3D)	X
Ex. 2053	Webpage from Mouser for Cirrus Logic CS40L25 (https://www.mouser.com/ProductDetail/Cirrus-Logic/CS40L25-CWZR?qs=xZ%2FP%252Ba9zWqYWfeisEtcaTA%3D%3D)	X
Ex. 2054	Webpage from ArduCam for OmniVision OV9282 (https://www.arducam.com/product/ov9282-monochrome-globalshutter-camera-module-depthai-oak/)	X
Ex. 2055	Webpage from Uctronics for OmniVision OV9282 (https://www.uctronics.com/ov9282-monochrome-global-shutter-camera-module-depthai-oak.html)	X

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Ex. 2056	Excerpts of the Deposition Transcript of Scott Warrick taken on June 7, 2024 along with marked Exhibits 3-5 in *Greenthread, LLC v. Cirrus Logic, Inc.*, 1:23-cv-00369-DC (W.D. Tex.)	X
Ex. 2057	Declaration of Dr. Alexander Glew	X
Ex. 2058	Transcript of Deposition of Dr. Sanjay Banerjee taken on July 19, 2024	X
Ex. 2059	Excerpts from Chen, J. Y., CMOS Devices and Technology for VLSI, Prentice-Hall (1990)	X
Ex. 2060	U.S. Patent No. 5,384,476 ("Nishizawa")	X
Ex. 2061	CV of Dr. Alexander Glew	X
Ex. 2062	U.S. Patent No. 8,421,195	X
Ex. 2063	U.S. Patent No. 9,190,502	X
Ex. 2064	U.S. Patent No. 11,121,222	X
Ex. 2065	U.S. Patent No. 10,510,842	X
Ex. 2066	U.S. Patent No. 11,316,014	X
Ex. 2067	File History of U.S. Patent No. 8,421,195	X

Exhibit No.	Description	Submitted Previously
Ex. 2068	File History of U.S. Patent No. 9,190,502	X
Ex. 2069	File History of U.S. Patent No. 11,121,222	X
Ex. 2070	File History of U.S. Patent No. 10,510,842	X
Ex. 2071	File History of U.S. Patent No. 11,316,014	X
Ex. 2072	Declaration of Mohan Rao	X
Ex. 2073	Statista Information	X
Ex. 2074	*Greenthread, LLC v. Cirrus Logic Inc.*, No. 1:23-cv-369-DC-DTG, Dkt. 53 (Claim Construction Order and Memorandum in Support Thereof) (W.D. Tex. Mar. 13, 2024)	X
Ex. 2075	*Greenthread, LLC v.* [redacted]	X
Ex. 2076	*Intel Corp. v. Greenthread LLC*, IPR2023-00420, Ex. 1003 (Dr. Blalock Declaration), Dec. 28, 2022	X
Ex. 2077	*Greenthread, LLC v. Cirrus Logic, Inc.*, No. 1:23-cv-00369-DC, Dkt. 86 (W.D. Tex. Jul. 11, 2024)	X
Ex. 2078	Transcript of Deposition of Dr. Sanjay Banerjee, taken on December 6, 2024	X
Ex. 2079	Demonstratives of Patent Owner Greenthread, LLC	X

Exhibit No.	Description	Submitted Previously
Ex. 2080	Declaration of Terence Ng in IPR2024-00017, -00018, -00019, -00020, -00020	X
Ex. 2081	Declaration of Elizabeth Leach in IPR2024-00017, -00018, -00019, -00020, -00020	X
Ex. 2082	Declaration of Robert Cleary Jr. in IPR2024-00017, -00018, -00019, -00020, -00020	X
Ex. 2083	[SEALED] Transcript of Deposition of Terence Ng, *Greenthread, LLC v. Cirrus Logic Inc.*, IPR2024-00017, -00018, -00019, -00020, -00020, taken on July 28, 2025	X
Ex. 2084	[SEALED] Transcript of Deposition of Elizabeth Leach, *Greenthread, LLC v. Cirrus Logic Inc.*, IPR2024-00017, -00018, -00019, -00020, -00020, taken on July 29, 2025	X
Ex. 2085	[SEALED] Transcript of Deposition of Robert Cleary, Jr., *Greenthread, LLC v. Cirrus Logic Inc.*, IPR2024-00017, -00018, -00019, -00020, -00020, taken on July 29, 2025	X

I. INTRODUCTION

Director Review should be granted because the Board abused its discretion in related IPRs ("the onsemi IPRs"), and maintained an incorrect claim construction that contradicts *two* District Court rulings. The Board used the *same* incorrect construction in this IPR. Even worse, the Board relied on inconsistent and unreliable expert testimony in order to reuse its FWDs from the onsemi IPRs.

First, in this and the onsemi IPRs, the Board refused to consider the location of the graded dopant concentration in the Prior Art, and whether it moves carriers from the active region. The Board disregarded PO's evidence and effectively eliminated the "aid carrier movement" limitation altogether. ***Second***, the Board refused to give "appropriate weight" to the District Court rulings and, instead, disparaged them to reach the same result as the onsemi FWDs. ***Third***, the Board gravely limited discovery on the privity issue and rewarded Petitioners for hiding key evidence. ***Fourth***, the Board disparaged PO's licensing success and refused to consider it as objective indicia of non-obviousness. ***Fifth***, the Board relied on expert testimony that was riddled with credibility issues. This IPR highlights a fundamental fairness issue. Once the Board instituted the onsemi IPRs, the Board demonstrated an unwillingness to change its positions in all subsequent IPRs. And when Petitioners' expert provided unreliable testimony, the Board overlooked these credibility issues to reach the same conclusions as before. For the reasons below, the

Director should vacate the ID and FWD, and terminate this IPR.

II. BACKGROUND

In April 2025, the Director granted review and remanded the first set of IPRs filed against PO's patents. *E.g.*, IPR2023-01242, Paper 94 ("onsemi Order"). The Director determined that the Board abused its discretion by (1) denying discovery on the privity issue; (2) refusing to consider the location of the graded dopant concentration in the Prior Art; and (3) excluding two claim construction rulings. *Id.* at 3-4, 6. The Board had already issued FWDs in two of seven IPRs filed by Petitioners. The Director granted review in those two IPRs in July 2025 to "place all of the related proceedings on similar footing and allow the Board…to efficiently consider the overlapping issues presented in all the cases." IPR2024-00001, Paper 89 ("Cirrus Order") at 3. Yet the Board never fixed the issues in the Director's Order.

On remand in the onsemi IPRs, the Board adopted onsemi's proposed discovery plan, which (a) improperly limited discovery to just Intel, not other time-barred parties that PO maintains are in privity with the various petitioners, (b) narrowly defined the list of "Intel Accused Products" (IAPs), and (c) alleviated the petitioners' burden to investigate whether they supplied components of the IAPs.

The Board ordered the same discovery in the Cirrus IPRs. *See* Paper 80 ("Disc. Order"). Using their own hyper-literal reading of the Board's already narrow discovery order, Petitioners each submitted nearly-identical, boilerplate declarations

which demonstrate their collective failure to investigate PO's allegations and the issues that mattered to the Director. *Compare* Exs. 2080 (¶8), 2081 (¶6), 2082 (¶8) *with* IPR2023-01242, Ex. 2103 (¶7) *and* IPR2024-00468, Ex. 2086 (¶8)).

Further, after being instructed to "consider…PO's arguments concerning the location of the graded concentration" and whether the Prior Art moves carriers from the AR, and to give the two district court claim construction orders "appropriate weight" in parallel IPRs (onsemi Order at 4, 6), the Board declined to do so. The Director did not remand solely on the privity issue, but for all "further proceedings, as appropriate." *Id.* at 6; Cirrus Order at 4. However, on these critical merits-issues, the Board did not authorize *any* additional briefing or argument during a September 2025 supplemental hearing (Ex. 1076). In fact, there is no difference in the Board's analysis between its first FWD and its remanded FWD. *Compare* IPR2024-00001, Paper 78 at 48-51 *with* Paper 105 ("FWD") at 74-77. This further demonstrates the Board's unwillingness to adequately consider arguments that contradict its earlier decisions.

III. ARGUMENT

A grant of Director Review is appropriate because the Board's conduct and its FWD commit numerous "abuse[s] of discretion" and relate to "important issues of law or policy." USPTO, Director Review process, §§ 2.B, 5.A. Like in the onsemi IPRs, the Board did *not* (1) consider the location of the graded dopant concentration

and whether it moves carriers from the active region, (2) give "appropriate weight" to the claim construction orders; and (3) grant meaningful discovery that holds Petitioners to their burden of proof on privity. Furthermore, the Board did *not* weigh the *totality* of evidence (including licensing revenues and evidence impeaching Petitioners' witnesses), reconsider its prior positions in light of all evidence, and remain a neutral adjudicative body. When reviewed *de novo*, these errors can only result in one outcome—vacating the ID and FWD, and terminating this IPR.

A. The Board Did Not Consider the Location of the Graded Dopant Concentrations and Whether it Moves Carriers from the Active Region

Claim element [1.5] of the Challenged Patent reads:

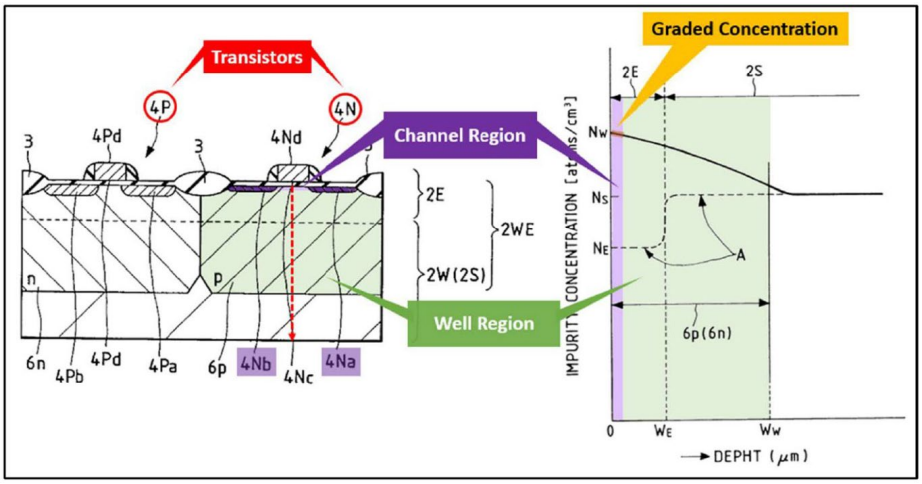
> at least a portion of at least one of the first and second ***active regions [AR]*** having at least one ***graded dopant concentration [GDC]*** to ***aid carrier movement [ACM]*** from the first and second [ARs] towards an area of the substrate where there are no [ARs]

Ex. 1001, 4:51-55. It is readily apparent from the face of the claim that: (1) there must be a GDC in the ARs, and (2) this GDC must "ACM *from* the first surface" where the ARs are located. All of the Challenged Claims contain similar language.

Throughout these IPRs, PO has amply explained how Petitioners' invalidity theory rests upon an improper collapsing of the GDC and ACM limitations. Not all GDCs actually aid carrier movement from an AR. For example, the GDC may be in the wrong location. If the GDC is not in the AR, then it will not satisfy the first part of [1.5]. Or, a properly located GDC may not satisfy the second part of [1.5] because

it may point in the wrong direction or fail to overcome other forces and fields that affect carrier movement within the semiconductor. *See* Paper 43 ("POR") at 6-10, 13-22; Paper 58 ("Sur-Reply") at 3-10, 14-15, 17-23. This proper understanding is problematic for Petitioners because the Prior Art is *not* concerned with the ARs, and there is absolutely *no* mention or suggestion of moving carriers *from the AR*. The Prior Art is silent about carriers in the AR, and it is impossible to determine what direction they would move, if at all. POR at 13-22. Faced with this, Petitioners mischaracterize the prosecution history to argue that *any* generic GDC "results in a…field that will [ACM]." Paper 51 at 1. But this reliance on the prosecution history is misplaced and cannot overcome the Prior Art's *lack of* disclosure.

Petitioners' first ground relies on the following two figures from Kawagoe:



Paper 1 ("Pet.") at 23 (FIGS. 23 & 17). Petitioners' reliance on Kawagoe is misplaced because FIG. 17's GDC was used to "prevent" electrons from "entering the p-well 6p." POR at 15 (citing Ex. 1007, 16:7-11). As seen above, the bottom of

the p-well 6p is the *wrong* location and is nowhere near the "channel region." *Id.* at 16-17. *Preventing* an electron from entering the well region (green) is clearly different from *moving* an electron *from* the channel region (purple).

There is no evidence that the GDC in FIG. 17 would ever ACM, or even be capable of ACM from the first surface where the ARs are located. POR at 6-10. Kawagoe *never* mentions the AR or any carriers in the AR. *Id.* at 14-17. When discussing FIG. 17, Kawagoe *never* says it would have an effect on carriers in the AR. It says something very different—electrons are *prevented* from entering the p-well. Ex. 1007, 16:7-11. In fact, Petitioners admit that FIG. 17 refers to electrons "in the substrate body below the wells." Pet. at 26 n.8. There is nothing in Kawagoe explaining what effect, if any, FIG. 17 would have on a carrier in a different location (*i.e.*, the AR). Petitioners have not shown (1) a gradient *in Kawagoe's AR* (2) that creates an electric field *in the AR* and (3) would move carriers downward *from that region*. Sur-Reply at 14-15. Petitioners' expert even conceded there is not "enough information in Kawagoe" to calculate the electric field in the AR and an electric field *outside* the AR will not affect carriers *in* the AR. *Id.* (citing Ex. 2078, 211:7-13, 265:4-266:20). The Board did not consider this evidence in *either* FWD.

Like Kawagoe, Wieczorek does not disclose a GDC generating an electric field in an AR that would move (or even be capable of moving) carriers. Not only does Wieczorek's FIG. 2b lack units or measurements needed to locate the AR and

calculate the GDC, but discloses that the doping "profile in the vicinity of the surface" (*i.e.*, the ARs) is "substantially ***uniformly distributed***." POR at 21-22; Sur-Reply at 22-23 (citing Ex. 1006, ¶11). Again, the Board never considered this evidence.

Because neither reference teaches a GDC in the proper location, nor a GDC actually aiding carrier movement in the proper direction, Petitioners (and the Board) rely on purported admissions from the prosecution history to fill in the gaps of this obviousness theory. This approach is utterly inconsistent with Rule 104(b)(4)'s requirement that an IPR petition "must specify where each element of the claim is found ***in the prior art***…relied upon." USPTO Memo, Enforcement and Non-Waiver of 37 C.F.R. § 42.104(b)(4) and Permissible Uses of General Knowledge in *Inter Partes* Reviews (July 31, 2025). Even after being instructed by the Director in parallel IPRs to follow this requirement and "consider…the location of the graded concentration" in the references (onsemi Order at 4), the Board refused to consider evidence that rebuts its prior positions and effectively lowered Petitioners' burden of proving the Prior Art meets ***all*** claim limitations.

B. The Board Did Not Give "Appropriate Weight" to the Claim Construction Orders

To reach the same conclusion as it did in the ID and onsemi IPRs, the Board embraced Petitioners' faulty claim construction that collapses the GDC and ACM limitations. But this contradicts previous constructions by two District Courts ***confirming*** that *not* all GDCs actually aid carrier movement. "Given the importance

of uniformity in the treatment of a given patent," the Board is "remiss to overlook a[] district court's construction of the same claim terms." *Finisar Corp. v. DirecTV Grp., Inc.*, 523 F.3d 1323, 1329 (Fed. Cir. 2008). The Director ordered the Board to give these rulings "appropriate weight" (onsemi Order at 5-6) and to "consider the overlapping issues presented in all the cases" (Cirrus Order at 3). But the Board regurgitated its previous positions and tried to discredit these well-reasoned orders that each explain how a gradient alone does *not* satisfy the ACM limitation.

First, the WDTX recognized that *not* all GDCs will aid carrier movement. In fact, the court held GDCs must be "***sufficiently graded***" to create a field that will aid movement. *See* Ex. 2074, 39-40 ("The Court concludes that…the [GDC] has to be sufficiently graded to result in a static unidirectional electric drift field to [ACM].…This established a minimum [GDC], *i.e.*, a [GDC]…below this minimum will not aid in the movement of minority carriers and thus is not graded.").

Second, Judge Gilstrap (EDTX) recognized that the mere direction of a GDC—which is all Petitioners point to—is not enough to prove that a GDC actually moves carriers. The court held that to ACM, "the slope has [to have] both a direction and a ***magnitude***. Ex. 2075, *9. The court even rejected the very argument Petitioners now make. *See id.* ("Defendant suggests that the direction of the drift electric field depends solely on ***the direction*** of the slope of the [GDC]. This is not justified by the prosecution history statements that Defendant cites."). Further, this

prosecution history does not support the Board's position that a GDC "facing in the appropriate direction" is enough to satisfy the ACM limitation. FWD at 70-71.

In fact, the prosecution history ***confirms*** a GDC must have a sufficient magnitude to overcome other forces and field acting within the device to actually move the carriers. *See* Ex. 1016, 270 (Examiner: carrier movement is "affected by multiple forces and fields, and it does not appear that simply the presence of 'a unidirectional drift field' in itself can achieve 'drawing all minority carriers'"). Yet the Board turned the prosecution history against PO (FWD at 69-72), even though prosecution statements "cannot enlarge" claim scope beyond the plain language. *See Biogen, Inc. v. Berlex Lab'ys, Inc.*, 318 F.3d 1132, 1140 (Fed. Cir. 2003). Even Petitioner Cirrus Logic's *own* corporate representative admitted "there's other things that might affect carrier movement besides the gradient." Ex. 2056, 96:1-13. This evidence confirms that for a GDC to satisfy the claimed limitation, it must have a sufficient magnitude to overcome other forces and fields within the semiconductor device and actually aid the movement of carriers.

The Board went out of its way to discredit both claim construction decisions. FWD at 74-77. Petitioners (and the Board) argue that these are somehow distinguishable from the present dispute, but it is undeniable that two competent courts have reviewed the claims, the specifications, and the prosecution history to determine what this exact limitation means. The Board was supposed to have given

this appropriate weight, but on remand, it didn't. The Board simply copied and pasted from the first FWD. *Compare id. with* IPR2024-00001, Paper 78 at 48-51. This further demonstrates (a) the Board's inability to fairly consider arguments and evidence that contradict its previous decisions, and (b) the frailty and inconsistency of the Board's claim construction. When, as here, the Board relied on claim construction positions at odds with prior District Court rulings, the appropriate remedy is to vacate both the ID and FWD. *See Revvo Techs., Inc. v. Cerebrum Sensor Techs., Inc.*, IPR2025-00632, Paper 20 (PTAB Nov. 3, 2025) (precedential).

C. The Board Abused Its Discretion by Issuing a Discovery Order that Prevented a "Full Record" on the Privity Issue

In addition to erring on the merits, the Board never provided PO with a fair opportunity to address privity. The Board's overly restrictive discovery order enabled Petitioners to entirely avoid the real issue—whether IAPs include ***components*** made and sold by Petitioners—and precluded any discovery related to [redacted] and [redacted] The Director ordered discovery on the privity issue so that the Board could decide the issue on the "full record." Cirrus Order at 3. But the Board prevented this. Like the onsemi IPRs, the Board narrowly defined "products accused of practicing the challenged claims" (onsemi Order at 3) as *only* the specific products listed in PO's preliminary infringement contentions against Intel (Ex. 2021). Disc. Order at 6 n.6. This interpretation makes no sense, however, because the idea that Petitioners sell complete, assembled processors back to Intel is illogical. Further,

the infringement contentions clearly state that the IAPs "include all CPUs designed or manufactured (in whole ***or in part***) by Intel…." Ex. 2021, 4. PO has alleged that components made and sold by Petitioners are incorporated into Intel's CPUs. *E.g.*, Paper 87 ("Supp. Brief") at 2-3; Ex. 1076, 18:18-19:17, 20:8-13, 21:12-22:6.

Instead, each Petitioner submitted a single declaration with two ***conclusory*** sentences (and ***zero*** supporting evidence) that it does not supply components of the IAPs. These bare declarations are hardly the evidence the Director envisioned when ordering Petitioners to produce "documents sufficient to show the asserted privity relationship," onsemi Order at 3, and fall short of any plausible definition of an investigation. Similar to onsemi's declarant, each of Petitioners' declarants admitted (Exs. 2083-2085) to doing the bare minimum to satisfy their understanding of the Director's Order: (a) reviewing the list of IAPs, (b) not contacting their connections at Intel, (c) not communicating with others in their organization more knowledgeable on the issues, (d) not reviewing Intel parts lists, (e) relying entirely on counsel's representations, and (f) not providing any sort of documentary evidence to support the declaration statements. Supp. Brief at 6-15; Paper 93 ("Supp. Reply") at 5-10.

Further, the fact that each of the three declarations (plus those filed by other petitioners, onsemi and MPS) are nearly identical reveals a concerted effort among the petitioners and underscores the reality that no petitioner (nor the Board) took the Director's Order seriously. Each declaration is the same, *short* length with the same,

boilerplate arguments presented in exact order. The *only* thing differentiating them are the declarants' biographies. Otherwise, they are bereft of *any* detail concerning these supposed investigations. Supp. Reply at 5. This is the same attorney argument the Director has already rejected. That a corporate representative has now rubber-stamped these arguments does nothing to substantiate them or "yield useful information on the privity issue." onsemi Order at 3.

Petitioners have thus failed to prove there is no privity with a time-barred party, despite the Board continually lowering the bar. The Board even chastised PO for suggesting that Petitioners should (and easily could) have conducted a more thorough investigation. *See* FWD at 33. This has made a mockery of the Director's remand instructions and this IPR unnecessarily inefficient. As a result, the Board's ID should be vacated and this IPR dismissed. USPTO Memo, Precedential designation of *Corning Optical Commc'ns RF, LLC v. PPC Broadband Inc.*, IPR2014-00440, Paper 68 (PTAB Aug. 18, 2015) (memo issued Oct. 28, 2025).

D. The Board Did Not Give Appropriate Weight to PO's Licenses as Objective Indicia of Non-Obviousness

The Board "too finely parsed [PO's] licensing activities" and "applied a more exacting nexus standard" that has recently been rebuked by the Federal Circuit. *Ancora Techs., Inc. v. Roku, Inc.*, 140 F.4th 1351, 1362 (Fed. Cir. 2025); *see also* POR at 26-29; Sur-Reply at 23-24. The Board "decline[d] to give significant weight to the RPX license." FWD at 42. The Board found PO's argument "that [redacted]

and [redacted] entered a license under no apparent threat of litigation [to be] not persuasive because RPX is a litigation risk mitigation service and…the license may reflect the value of avoiding the risk of litigation rather than the value of the challenged patent specifically." *Id.* at 43. This view is entirely speculative. The more reasonable view is that the licensees knew they infringed PO's valid claims and, therefore, the prudent business decision was to take a license on favorable terms *before* litigation. RPX paid [redacted] on behalf of [redacted]. Ex. 2072, ¶6. This amount was not funded by RPX, but rather by the sub-licensees, and certainly *exceeded* the cost of litigation. This is compelling evidence of "the merits of the claimed invention." FWD at 43. Further, the Board simply ignored PO's licenses to other major semiconductor companies—Intel, [redacted]. *See* POR at 29; Ex. 2072, ¶2. These companies collectively paid over [redacted] for licenses covering *a single patent family*. *Id.* The Board inappropriately singled out [redacted] as a licensee that paid a "greatly reduced amount," FWD at 41, thereby dismissing the [redacted] in license revenue generated by PO overall. And for the first RPX license, the Board found "[in]sufficient evidence that the amount paid…is due exclusively to the licensed technology rather than some other economic reason." *Id.* at 43. But value is not absolute; rather, it is driven by the licensee's perception. This is true for all 8 licensees—7 of which paid ***multiple millions of dollars*** to obtain a license.

E. The Board Relied on Inconsistent and Unreliable Expert Testimony That Was Riddled with Credibility Issues

The Director recently cautioned against relying on inconsistent and unreliable expert testimony. *Interactive Commc'ns Int'l, Inc. v. Blackhawk Network Inc.*, IPR2024-00465, Paper 40 (Dir. Squires Oct. 9, 2025). That is exactly what the Board did here. PO identified *multiple* credibility issues with Petitioners' expert testimony. Despite recognizing these concerns in its FWD, the Board simply glossed over them.

First, Petitioners' expert had an undisclosed financial relationship with joined Petitioner, TI.[1] Sur-Reply at 12-13. The Board acknowledged this "financial interest with TI [has] the potential to bias his testimony," yet stated this "does not make it inherently unreliable." FWD at 111. That potential for bias and unreliability was confirmed when he changed changing his views from his 2006 textbook to now support Petitioners' position. *Compare* Ex. 1062A, 99 (forces "may be insufficient" to affect electron movement) *with* Ex. 1060, ¶25 ("carrier drift will necessarily occur by virtue of the graded (i.e., non-zero sloping) dopant concentration and the resulting electric field"). Sur-Reply at 13. ***Second***, PO raised concerns of improper witness coaching during the expert's deposition where he contradicted his earlier testimony on re-direct after conferring with counsel during a 40 minute break. *Id.* at 13-14.

[1] TI joined four of the seven IPRs filed by Cirrus Logic and OmniVision and another three IPRs filed by onsemi. These IPRs cover all patents asserted against TI.

The Board *warned* Petitioners' counsel that "such conduct may lead to…giving redirect testimony little to no weight," but then criticized PO for "not mov[ing] to strike or exclude" that testimony. FWD at 80 n.25. Assessing witness credibility is the Board's job, and it failed to do that here. ***Third***, Petitioners' expert admitted to copying entire arguments verbatim from prior petitions and not even verifying major sections and details drafted by counsel. POR at 30-33. It did "not surprise" him that Petitioners' declaration (Ex. 1003) is nearly identical to Intel's from November 2022 (Ex. 2076). Ex. 2058, 54:11-17. The Board dismissed these concerns by stating PO "identifies no testimony related to the key, disputed issued in this case…that Dr. Banerjee could not explain." FWD at 111. This is simply not true. The crux of PO's position is that Petitioners never performed the requisite analysis to show that the Prior Art *actually moves carriers*. Of course, Dr. Banerjee "could not explain" this analysis because he *never did it*.

On each issue, the Board downplayed these credibility concerns in order to reach the same conclusion it made in the ID and onsemi IPRs. Like in *Interactive Commc'ns*, the Director should vacate the FWD and terminate the IPR.

IV. CONCLUSION

For at least the foregoing reasons, PO respectfully requests the Director grant review, vacate the ID and FWD, and terminate this IPR.

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Respectfully submitted,

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CERTIFICATION OF SERVICE

The undersigned hereby certifies that a copy of this **PATENT OWNER'S REQUEST FOR DIRECTOR REVIEW OF FINAL WRITTEN DECISION** has been served on Petitioner electronically via email on the following counsel of record for Petitioner:

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