

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SEMICONDUCTOR COMPONENTS INDUSTRIES, LLC and TEXAS
INSTRUMENTS INCORPORATED,

Petitioner,

v.

GREENTHREAD, LLC,

Patent Owner

IPR2023-01242¹

U.S. Patent No. 11,121,222

**PETITIONER'S AUTHORIZED RESPONSE TO
DIRECTOR REVIEW REQUEST**

¹ Texas Instruments Incorporated, which filed a petition in IPR2024-00673, has been joined as a petitioner in this proceeding.

TABLE OF CONTENTS

I.	Background.....	1
A.	The First Final Written Decision.....	1
B.	The Acting Director’s Prior Review Decision.....	3
C.	The Remand Proceedings.....	4
D.	The Final Written Decision on Remand.....	6
II.	Argument	7
A.	The Board Correctly Considered Arguments About the Graded Dopant Concentration.....	7
1.	The Board correctly determined that Kawagoe does not “prevent” all carrier movement.....	8
2.	The parties never disputed the location of the graded dopant concentration	9
B.	The Board Correctly Analyzed Prior Claim Construction Orders.....	11
C.	The Board Granted Appropriate Discovery	13
D.	The Board Correctly Considered Greenthread’s Licenses.....	15
III.	Conclusion	15

EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 11,121,222 to Rao (the “222 Patent”)
1002	Prosecution History of the ‘222 Patent
1003	Declaration of Travis Blalock, PhD
1004	Curriculum Vitae of Travis Blalock, PhD
1005	Publication Declaration of Sean O’Bryan for Maziasz (“O’Bryan Decl.”)
1006	U.S. Patent Application Publication No. 2003/0183856 to Wieczorek (“Wieczorek”)
1007	U.S. Patent No. 6,043,114 to Kawagoe, et al. (“Kawagoe”)
1008A	Stanley Wolf and Richard N. Tauber, <i>Silicon Processing For The VLSI Era</i> , Vol 1, Lattice Press (2000) (“Wolf.1”)
1008B	Stanley Wolf and Richard N. Tauber, <i>Silicon Processing For The VLSI Era</i> , Vol. 2, Lattice Press (2000) (“Wolf.2”)
1008C	Stanley Wolf and Richard N. Tauber, <i>Silicon Processing For The VLSI Era</i> , Vol. 3, Lattice Press (2000) (“Wolf.3”)
1008D	Stanley Wolf and Richard N. Tauber, <i>Silicon Processing For The VLSI Era</i> , Vol. 4, Lattice Press (2000) (“Wolf.4”)
1009	Wang and Agrawal, <i>Single Event Upset: An Embedded Tutorial</i> , 21st Intl Conf on VLSI Design, IEEE 2008 (“Wang”)
1010	U.S. Patent No. 4,481,522 (“Jastrzebski”)
1011	Publication Declaration of Martin L. Knott for Rabaey (“Knott Decl.”)
1012	Publication Declaration of Alyssa G. Resnick for Wolf.1 and Wolf.2 (“Resnick Decl.”)
1013	Publication Declaration of Rachel J. Watters for Wolf.3 and Wolf.4 (“Watters Decl.”)
1014	U.S. Patent No. 6,163,877 (“Gupta”)
1015	U.S. Patent No. 6,534,805 (“Jin”)
1016	Excerpts from the Prosecution History of U.S. Patent No. 8,421,195 (the “195 Patent”)
1017	Patent Owner’s Proposed Constructions
1018	Defendants’ Preliminary Proposed Constructions
1019	Defendants’ Opening Claim Construction Brief
1020	Patent Owner’s Responsive Claim Construction Brief
1021	Defendants’ Reply Claim Construction Brief

Exhibit No.	Description
1022	Sze, <i>Semiconductor Devices Physics and Technology</i> , 2d Ed., John Wiley & Sons (2002)
1023	Maziasz and Hayes, <i>Layout Minimization of CMOS Cells</i> , Kluwer Academic Publishers (1992) (“Maziasz”)
1024	U.S. District Courts – Case Statistics, obtained at https://www.uscourts.gov/statistics-reports/analysis-reports/federal-court-management-statistics , dated March 31, 2023
1025	Rabaey <i>et al.</i> , <i>Digital Integrated Circuits, A Design Perspective</i> , Prentice Hall Electronics and VLSI Series (2003) (“Rabaey”)
1026	Gregory and Shafer, “Latch-Up In CMOS Integrated Circuits,” IEEE Transactions on Nuclear Science, Volume 20, Issue 6 (1973)
1027	U.S. Patent Application Publication No. 2007/0045682 to Hong <i>et al.</i> (“Hong”)
1028	Excerpts from the Prosecution History of U.S. Patent Application No. 10/934,915 (the “915 App.”)
1029	Excerpts from the Prosecution History of U.S. Patent No. 9,190,502 (the “502 Patent”)
1030	Excerpts from the Prosecution History of U.S. Patent Application No. 13/854,319 (the “319 App.”)
1031	U.S. Patent No. 4,160,985 to Kamins <i>et al.</i> (“Kamins”)
1032	McGraw-Hill Dictionary of Scientific and Technical Terms (2003)
1033	U.S. Patent No. 9,647,070 to Rao (the “070 Patent”)
1034	U.S. Patent Application Publication No. 2003/0030488 to Huetting <i>et al.</i> (“Huetting”)
1035	[Intentionally Omitted]
1036	Proposed Claim Constructions in the Intel Litigation
1037	Howe and Sodini, <i>Microelectronics, An Integrated Approach</i> , Prentice Hall Electronics and VLSI Series (1997) (“Howe”)
1038	Hodges <i>et al.</i> , <i>Analysis and Design of Digital Integrated Circuits In Deep Submicron Technology</i> , 3rd Ed., McGraw-Hill (2004) (“Hodges”)
1039	Publication Declaration of Martin L. Knott for Hodges (“Knott Decl.”)
1040	Jaeger, <i>Microelectronic Circuit Design</i> , McGraw-Hill (1997) (“Jaeger”)
1041	Kang and Leblebici, <i>CMOS Digital Integrated Circuits Analysis and Design</i> , McGraw-Hill (2003) (“Kang”)

PUBLIC VERSION

Exhibit No.	Description
1042	U.S. Patent No. 6,614,560 (“Silverbrook”)
1043	Publication Declaration of Sylvia Hall-Ellis for Wolf
1044	Wong, H. P., et al. “CMOS active pixel image sensors fabricated using a 1.8-V, 0.25-μm CMOS technology.” IEEE Transactions on Electron Devices 45.4 (1998): 889-894.
1045	Law360 Article “Stays Pending IPR In Del. District Courts Are Here To Stay,” Kraning and Del Dotto, March 11, 2022.
1046	E-mail from Nicholas T. Match on October 11, 2023 at 5:31 PM.
1047	E-mail from Nicholas T. Match on October 12, 2023 at 12:09 AM.
1048	Greenthread’s Second Amended Complaint in [REDACTED]
1049	Greenthread’s First Amended Complaint in [REDACTED]
1050	Joint Motion to Stay All Deadlines and Notice of Settlement in <i>Greenthread, LLC v. Intel Corporation</i> , Civil Action No. 3:22-cv-2001-JR, filed April 12, 2023.
1051	RPX FAQs
1052	Transcript of Deposition of Alexander Glew, PHD in IPR2023-01242, -01243, -01244
1053	Transcript of Deposition of Philip John in IPR2023-01242, -01243, -01244
1054	Office Action Response, dated August 1, 2024, in U.S. Patent Application No. 17/728,588
1055	Declaration of Douglas Holberg, dated August 1, 2024, in U.S. Patent Application No. 17/728,588
1056	Petitioner’s Hearing Demonstratives
1057	Transcript of Conference Call on May 01, 2025
1058	Declaration of Matthew Murphy
1059	Transcript of Hearing on September 18, 2025

TABLE OF AUTHORITIES

Page(s)

CASES

<i>Ormco Corp. v. Align Technology, Inc.</i> , 463 F.3d 1299 (Fed. Cir. 2006).....	15
<i>ParkerVision, Inc. v. Qualcomm Inc.</i> 903 F.3d 1354, 1361 (Fed. Cir. 2018).....	2
<i>Taylor v. Sturgell</i> , 553 U.S. 880 (2008).....	5
<i>Tokai Corp. v. Easton Enters., Inc.</i> , 632 F.3d 1358 (Fed. Cir. 2011).....	15
<i>WesternGeco LLC v. ION Geophysical Corp.</i> , 889 F.3d 1308 (Fed. Cir. 2018).....	5

STATUTES

35 U.S.C. 315(b)	13, 14
------------------------	--------

Greenthread's Request evokes the old saying: "If the law is against you, pound the facts; if the facts are against you, pound the law; and if both are against you, pound the table." The Board performed a careful analysis of the facts and the law with an exceptional level of technical and legal scrutiny. Now that the facts and the law are well settled, Greenthread is still pounding the table.

Greenthread's four challenges are each baseless. First, the Board correctly found that Kawagoe's graded dopant concentration is in the active region and aids carrier movement, as claimed. Second, the Board recognized that the district court claim construction orders do not address the parties' present dispute about the "to aid carrier movement" term. Third, the Board appropriately denied discovery into [REDACTED] (who is not licensed to the challenged patent) and [REDACTED] (who was not served with a complaint more than one year before this IPR petition), and Greenthread's allegation that onsemi "hid[] key evidence" during discovery is false. Paper 129, 2. Fourth, the Board considered but gave appropriate weight to Greenthread's weak evidence of secondary considerations.

I. Background

A. The First Final Written Decision

The Board issued its first Final Written Decision in February 2025. Paper 84. That FWD included a thorough analysis of the meaning of the claims and how they map to the prior art. In particular, the Board concluded that the prior art satisfied the

“at least one graded dopant concentration to aid carrier movement” limitation, which was the primary point of dispute between the parties. *See id.*, 35-43.

In the first FWD, the Board resolved a dispute about whether “to aid carrier movement” in the claims required moving a charged particle (a “carrier”). *Id.*, 35-39. Citing *ParkerVision, Inc. v. Qualcomm Inc.*, the Board recognized that the system claims at issue do not include or require an active step of moving any specific carriers. *Id.*, 39 (citing 903 F.3d 1354, 1361 (Fed. Cir. 2018)). Instead, “Petitioner must show ‘a graded dopant concentration’ that is *capable* of ‘aid[ing] carrier movement from the first and second active regions towards an area of the substrate where there are no active regions,’ and ‘aid[ing] carrier movement from the surface towards the area of the substrate where there are no active regions’ as claimed.” *Id.* (alterations and emphasis in original). The Board held that onsemi met this burden, citing testimony from Greenthread’s own expert that “a field will provide a force in a direction aiding [] movement in the direction of the force. That’s just basic physics.” *Id.*, 38 (alteration in original, emphasis omitted).

The Board’s analysis in the first FWD did not specifically address claim construction orders from district court litigation involving Greenthread (and not onsemi). Greenthread had sought to introduce these claim construction orders as evidence with its Sur-Reply, and the Board granted onsemi’s motion to strike these orders as untimely new exhibits. Paper 80, 7. The Board also declined to address

an untimely argument “concerning the location of the graded dopant concentration.”

Paper 84, 45. The Board identified this untimely argument in the first sentence of the following paragraph from Greenthread’s Sur-Reply:

All of Kawagoe’s (purported) teachings about a gradient that “aids carrier movement” refer to gradients and carriers outside the active region. The Petition itself confirms that Kawagoe’s teaching “refers to electrons produced in the large substrate body below the wells.” The carriers Kawagoe discusses are “prevented from entering the p-well,” and are thus below it.

Paper 65, 9 (emphasis original and citations omitted). Although the first sentence of this paragraph refers to “gradients and carriers,” the remainder of the paragraph focuses on the location of *carriers* in Kawagoe. The Board thoroughly addressed arguments about the location of carriers elsewhere in the first FWD. *See* Paper 84, 44-45. The Board also rejected Greenthread’s argument that onsemi was in privity with a time barred party, based on Greenthread’s prior license agreements (through RPX) with Intel and [REDACTED] *Id.*, 68-71.

B. The Acting Director’s Prior Review Decision

In April 2025, the Acting Director (AD) granted Greenthread’s request for Director Review of the first FWD and remanded for further proceedings on three issues. Paper 94, 6. First, the AD held that the Board should have allowed “narrowly tailored” discovery regarding Greenthread’s privity theory, and, after discovery, the AD instructed the Board to determine “whether Patent Owner has produced some evidence to support its argument that Intel should be named as a privy so as to have

put the issue into dispute.” *Id.*, 3. Second, the AD found that the Board wrongly declined to consider Greenthread’s argument about the location of the graded dopant concentration. *Id.*, 4. However, the AD cited to Greenthread’s argument “that the prior art’s *carriers* are not in the active regions[,]” and the AD did not identify any argument in the Patent Owner’s Response concerning the location of the graded dopant concentration. *Id.* (emphasis added) (quoting Paper 59, 24-25). Third, the AD found that the Board should have considered the claim construction orders and instructed the Board to consider these orders on remand. *Id.*, 5-6.

C. The Remand Proceedings

On remand, the Board ordered the parties to submit proposals for discovery. EX3014. In its proposal, Greenthread recognized that the AD identified only Intel in the order, but Greenthread nonetheless requested discovery into onsemi’s relationships with [REDACTED] and [REDACTED] Paper 108, 2-3. Greenthread also requested discovery beyond the products accused of infringement in its prior lawsuits. *Id.*, 5. Specifically, Greenthread asked for “[a]ll sales agreements (containing terms and conditions of sale) and/or indemnification agreements related to Petitioner’s products sold to Intel, [REDACTED] and [REDACTED] and “[a]ll communications between (i) Petitioner and (ii) Intel, [REDACTED] and/or [REDACTED] relating to indemnification concerning products that Petitioner makes for, or sells to, Intel, [REDACTED] and/or [REDACTED] *Id.*

onsemi opposed Greenthread's requests because (1) discovery should be limited to the products that were previously accused of infringement in the litigation between Greenthread and Intel, and (2) discovery into [REDACTED] and [REDACTED] was not warranted under Greenthread's privity theory and Section 315(b). *Id.*, 7-11. As for products, onsemi explained that any finding of privity must necessarily involve products at issue in the prior litigation. *Id.*, 8 (citing *WesternGeco LLC v. ION Geophysical Corp.*, 889 F.3d 1308, 1318-1319 (Fed. Cir. 2018); *Taylor v. Sturgell*, 553 U.S. 880, 892, 898 (2008)). As for parties, onsemi explained that discovery into [REDACTED] was not warranted because Greenthread's privity theory does not apply to [REDACTED]. *Id.* 8-10. Greenthread's privity theory concerns onsemi allegedly benefiting from a patent license that Greenthread granted to certain previously sued entities. *Id.* [REDACTED] however, is not licensed. *Id.* And discovery into [REDACTED] was not warranted because [REDACTED] was not added to Greenthread's prior litigation until January 2023, less than a year before this IPR was filed. *Id.*, 10.

The Board primarily agreed with onsemi and ordered discovery limited to Intel and the products Greenthread accused of infringement in its lawsuit against Intel. Paper 111, 10. The Board further ordered discovery as to "whether Petitioner was the supplier of any product, *or component of a product*, accused of infringement in the Intel litigation." *Id.* (emphasis added). The Board also ordered post-remand briefing on privity and set an optional telephonic hearing on privity. *Id.*, 11.

Following the Board's order, onsemi provided a declaration from its Vice President of Sales, Americas, Mr. Matthew Murphy. EX2103. Mr. Murphy confirmed that onsemi "has never sold any of the Intel Accused Products *or any component of* any of the Intel Accused Products to Intel (or to anyone else)." *Id.*, ¶7 (emphasis added). Greenthread deposed Mr. Murphy, and Mr. Murphy repeatedly testified that "onsemi does not currently and has never sold any of the Intel accused products" and that "onsemi does not currently and has never sold *any component of* the Intel accused products." EX2104, 35:14-19 (emphasis added); *see also id.*, 26:9-13, 33:20-34:8, 36:15-17, 83:6-12.

D. The Final Written Decision on Remand

The Board issued a second FWD, again finding that all challenged claims unpatentable and that onsemi was not in privity with any time-barred party. Paper 125. The Board dedicated twenty pages to Greenthread's privity arguments, carefully assessing the relevant law and facts. *Id.*, 9-29. The Board ultimately found that "[i]n a nutshell, the record is devoid of evidence tending to show that Petitioner controlled, or had an opportunity to control, the [prior] litigation." *Id.*, 20-21.

The Board also reaffirmed in its second FWD that Kawagoe discloses a "graded dopant concentration to aid carrier movement" and rejected Greenthread's "location" argument. Paper 125, 71. The Board reiterated that onsemi had correctly identified the "active region" required by the claims. *See id.*, 71 and 58-60. Because

the doping type of the source and drain regions define the doping type of the “active region,” the Board agreed with onsemi that “Kawagoe discloses a first active region (including the source and drain) having a second doping type (n-type) that is opposite in conductivity to the first doping type (p-type).” *Id.*, 60. The Board thus confirmed that the graded dopant concentration that onsemi identified in Kawagoe is in an “active region [...] with a second doping type opposite in conductivity to the first doping type,” as required by the claims. *See id.*, 71.

The Board also rejected Greenthread’s arguments about prior district court claim construction orders. *Id.*, 72-75. The Board recognized that each of the district court orders that Greenthread cited resolved inapposite issues and did not support Greenthread’s argument about the meaning of “to aid carrier movement.” *Id.*

As it did in the first FWD, the Board also considered Greenthread’s licenses as potential secondary considerations of non-obviousness. Paper 125, 33-37. After careful consideration of the context around these licenses — especially the threat of litigation, and the involvement of RPX — the Board concluded that the licenses were not entitled to significant weight. *Id.*, 36.

II. Argument

A. The Board Correctly Considered Arguments About the Graded Dopant Concentration

The record is replete with the Board’s thorough analysis of how and where Kawagoe’s graded dopant concentration interacts with carriers. The Board

addressed this issue in the Institution Decision, during oral arguments, and in both FWDs. *See e.g.*, Paper 32, 31 (“Petitioner directs us to evidence that tends to show that these depthwise variations in impurity concentrations *include the channel regions of each active region* and that such variations in impurity concentrations sweep carriers down into the substrate, away from any active regions.” (emphasis added)); Paper 83, 58:1-5 (Panel to Greenthread: “Counsel, I hate to beat a dead horse, but I keep hearing you say that [Petitioner’s slide] 38 is wrong, that pink arrow is wrong. But I see your own witness on Petitioner’s [slide] 36 and 37 saying that it’s basic physics, that you’re going to get aiding of the movement in the direction of the force.”); Paper 84, 39-40 (“Petitioner must show ‘a graded dopant concentration’ that is *capable* of ‘aid[ing] carrier movement from the first and second active regions towards an area of the substrate where there are no active regions,’ and ‘aid[ing] carrier movement from the surface towards the area of the substrate where there are no active regions’ as claimed. We are persuaded Petitioner has done so...” (emphasis original)); Paper 125, 65-66 (same).

1. The Board correctly determined that Kawagoe does not “prevent” all carrier movement

While the Board did not describe it in terms of the “location” of the graded dopant concentration, the Board squarely addressed what Greenthread now calls the “critical issue” in its Request. Paper 129, 6-7. Citing Greenthread’s *own expert*, the Board agreed with onsemi that “an electric field will aid electron movement in one

direction and impede electron movement in the opposite direction.” Paper 125, 67-68 (internal quotations omitted); citing *inter alia* EX1052, 102:2-109:14. As such, the Board correctly rejected Greenthread’s interpretation of the graded dopant concentration in Kawagoe as “used solely to ‘prevent’ electrons from ‘entering the p-well 6p.’” *Contra* Paper 129, 6 (quoting EX1007 at 16:7-11); Paper 125, 67-68. Instead, because electric fields aid movement in one direction and impede movement in the opposite direction, the Board correctly interpreted Kawagoe as disclosing a graded dopant concentration that both aids electrons moving to the substrate, and prevents electrons from entering the well. *See id.*; EX1007 at 16:7-11.

2. *The parties never disputed the location of the graded dopant concentration*

There has never been a genuine dispute about where the graded dopant concentration in Kawagoe is located: there is an “*express* disclosure in Kawagoe of a graded dopant concentration that extends from the surface to the substrate.” Paper 125, 67 (emphasis in original); *see also* Paper 84, 41 (same). This graded dopant concentration is shown plainly in Figure 17, as a decrease along the N_w line, extending from the surface (depth zero) past the end of the well (depth W_w). Paper 125, 39; *see also* Paper 129, 6 (excerpting onsemi’s annotated Fig. 17 from Kawagoe); *and* EX1052, 112:8-113:16 (Greenthread’s expert agreeing that Figure 17 shows a graded dopant concentration that generates an electric field from depth

zero through W_w). The parties only dispute what happens *inside* that concentration. And as explained above, the Board resolved this dispute in onsemi's favor.

Greenthread frames this dispute as a dispute about the "location" of the graded dopant concentration to sow confusion that Greenthread itself created in its first request for Director Review. In the first FWD, the Board identified an ambiguity in Greenthread's Sur-Reply about whether Greenthread disputed (a) the location of Kawagoe's carriers or (b) the location of Kawagoe's graded dopant concentration. Paper 84, 45. Then, Greenthread wrongly argued in its first Request for Director Review that the Board did not consider Greenthread's arguments about *carriers*. See Paper 90, 14 (citing its POR "section titled: 'Kawagoe's *carriers* are not in the active region'" (emphasis added)). But the Board plainly addressed the location of Kawagoe's *carriers* in both the first and second FWDs. See Paper 84, 44-45; Paper 125, 70-71. Notably, Greenthread is no longer pressing any question about where carriers in Kawagoe are located.

Greenthread also misunderstands the Board's analysis for the continued rejection of Greenthread's ambiguous "location" argument. Paper 129, 7-8. In its second FWD, the Board referred to the doping type of the active region to reaffirm that the location of the active region identified by onsemi correctly aligns with the doping type requirements of the challenged claims. See Paper 125, 71 and 58-60. Because the parties agree on where the active region in Kawagoe is located (*i.e.*,

shaded purple on Figure 17), the only remaining possible dispute about this “location” is whether it complies with the other doping type requirements in the claims. *See* Paper 46, 31-33 (arguing that onsemi identified the wrong active region). So, by reaffirming that onsemi correctly identified a graded dopant region in an active region that aligns with the claims, the Board has clarified that there is no issue with the location of onsemi’s identified graded dopant concentration.

B. The Board Correctly Analyzed Prior Claim Construction Orders

The Board also correctly rejected Greenthread’s mischaracterization of prior district court claim constructions. To be clear, no district court has previously construed the “to aid carrier movement” term as requiring actual movement, or any specific magnitude for the graded dopant concentration. Instead, as the Board recognized, Greenthread’s claim construction arguments are based on (1) a decision in the Western District of Texas that “graded” was not indefinite (Paper 125, 74-75), and (2) a decision in the Eastern District of Texas concerning whether the “graded concentration of dopants” must increase or decrease uniformly (*id.* 73-74).

The specific construction that Greenthread seeks is also without merit. Greenthread has at different times described its interpretation of “to aid carrier movement” differently, often suggesting that the claims require actual movement of carriers. *See* Paper 47, 13 *and* Paper 65, 1-2. The Board recognized numerous problems with Greenthread’s position. First, there is no support in the specification

or the prosecution history for this requirement. Paper 125, 61-64 (citing EX1016, 270, 289-90). Second, requiring actual movement would improperly transform a system claim into a hybrid method claim. *Id.*, 65 (citing *ParkerVision*, 903 F.3d at 1361). Third, requiring actual movement contradicts Greenthread's prior characterizations of the claims in parallel litigation. *See id.*, 68-69 (citing EX1020, 26-28). And fourth, requiring actual movement is contrary the testimony of Greenthread's own expert that "a field will provide a force in a direction aiding [] movement in the direction of the force." *Id.*, 64-65 (quoting EX1052, 108:20-23, alteration in original). Accordingly, the Board correctly rejected Greenthread's construction. *See id.*, 65-66 and 73-75.

Greenthread's allegations of bias and a lack of opportunity to explain the district court claim construction orders are disconnected from reality. Paper 129, 11. Greenthread fully presented its arguments about these orders in its Sur-Reply, which the Board expressly considered on remand. Paper 125, 72-75 (citing Paper 65, 4-5). Indeed, because Greenthread introduced these claim construction orders with its Sur-Reply, Greenthread is ironically the *only party* in this IPR that provided arguments about these orders. The Board's rejection of Greenthread's arguments—despite onsemi never having an opportunity to respond—shows that these arguments lack merit, not that the Board was somehow personally biased against Greenthread.

C. The Board Granted Appropriate Discovery

The Board “allow[ed] discovery, narrowly tailored to the privity issue, such as any indemnification agreements between Petitioner and Intel and the terms and conditions of sale agreements between Petitioner and Intel related to products accused of practicing the challenged claims.” Paper 94, 3. The Board held that no discovery was appropriate regarding [REDACTED] and [REDACTED]. As the Board recognized, the AD’s order for discovery “refers to Intel six times, but never to [REDACTED] or [REDACTED].” Paper 111, 6. As for [REDACTED] the Board also recognized that Greenthread “has never argued, much less offered objective proof, that the asserted ‘license rights’ central to Patent Owner’s theory of privity extend to [REDACTED].” *Id.*, 7.² As for [REDACTED] because [REDACTED] was not added to Greenthread’s prior litigation until January 2023, “[a]ny relationship between Petitioner and [REDACTED] therefore, does not implicate the time bar of 35 U.S.C. [§] 315(b) and any privity-related additional discovery regarding [REDACTED] would be irrelevant and thus unnecessary.” *Id.* (internal quotation marks omitted).

As for discovery related to “components” of accused products, the Board required onsemi to provide documents or a declaration establishing “whether Petitioner was the supplier of any product, *or component of* a product, accused of

² Confirming this point, [REDACTED] is missing from Greenthread’s list of licensees for alleged secondary considerations. Paper 129, 15.

infringement in the Intel litigation.” Paper 111, 10. And onsemi provided this discovery in the form of a declaration and deposition from Mr. Matthew Murphy, onsemi’s Vice President of Sales, Americas, confirming that onsemi has never sold such components to Intel. EX2103, ¶7; EX2104, 26:9-13, 33:20-34:8, 35:14-19, 36:15-17, 83:6-12. Because onsemi provided this robust discovery, Greenthread’s accusation that onsemi “hid[] key evidence” is false and not well taken. *C.f.*, Paper 129, 3. Moreover, Greenthread’s own teardowns of the accused Intel products corroborate Mr. Murphy’s testimony. Paper 125, 24-25. Despite inspecting the products with a scanning electron microscope, Greenthread never identified any onsemi component inside one of the Intel products. *Id.*; *see also* EX2048, 52-56.

Greenthread has been advancing non-meritorious privity arguments for two years. But, after round upon round of briefing and discovery and briefing, there is no legal theory and no facts supporting privity between onsemi and any other party. The Board said it best: “Patent Owner did not produce ‘some evidence’ tending to show that Petitioner is in privity with Intel and the burden never shifted to Petitioner” under *Worlds*. Paper 125, 20. And the Board went further to remove any doubt: “Even if Patent Owner did produce sufficient evidence to put the relationship between Petitioner and Intel into dispute, the evidence adduced during trial and on remand sufficiently supports Petitioner’s position and, in particular, satisfies Petitioner’s burden to show it is not time barred under § 315(b).” *Id.* The Board has

repeatedly rejected Greenthread's privity theory, both legally and factually. A decision to terminate this IPR now on the basis of purported privity would be a fundamental misapplication of justice. *Contra* Paper 129, 14.

D. The Board Correctly Considered Greenthread's Licenses

Greenthread's complaints about secondary considerations are factually misguided, legally flawed, and facially moot. Factually, the Board correctly found that these licenses were not entitled to significant weight because the record showed that the licenses were motivated in part by potential litigation costs. *See* Paper 125, 34-36. Legally, the Board also relied on Federal Circuit caselaw that licenses are not relevant where the feature allegedly creating commercial success was known in the prior art. *Id.*, 36 (citing *Tokai Corp. v. Easton Enters., Inc.*, 632 F.3d 1358, 1369 (Fed. Cir. 2011) and *Ormco Corp. v. Align Technology, Inc.*, 463 F.3d 1299, 1312 (Fed. Cir. 2006)). And finally, the Board also expressly recognized that onsemi's showing of *prima facie* obviousness was sufficient to overcome any secondary considerations, even if Greenthread's licenses were given "significant weight." *Id.*, 36-37. There is thus no circumstance where Greenthread's alleged secondary considerations would justify vacating the Board's FWD.

III. Conclusion

The Board's Final Written Decision on remand should not be disturbed.

Respectfully submitted,

Dated: November 20, 2025

/Roger Fulghum/

Roger Fulghum

Reg. No. 39,678

Counsel for Petitioner

Semiconductor Components

Industries, LLC

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), I certify that on this 20th day of November 2025, **PETITIONER'S AUTHORIZED RESPONSE TO DIRECTOR REVIEW REQUEST** was served by email on the following counsel for Patent Owner and the Joined Petitioner:

Greenthread-OnSemi-MS@mckoolsmith.com

awhitehurst@mckoolsmith.com

ajairam@mckoolsmith.com

nozarkar@mckoolsmith.com

shejny@mckoolsmith.com

IPR12189-0088IP1@fr.com

PTABInbound@fr.com

griswold@fr.com

bisenius@fr.com

Dated: November 20, 2025

/Roger Fulghum/
Roger Fulghum
Reg. No. 39,678

*Counsel for Petitioner
Semiconductor Components
Industries, LLC*