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Cc: [Trials](#)
Subject: RE: Greenthread IPRs IPR2023-{01242-01244}, {00263-00266}, IPR2024-{00001, 00016-00021}, {00468-00470}, {00550-00553}
Date: Friday, December 13, 2024 1:53:22 PM
Attachments: [image001.png](#)
[image002.png](#)

Counsel,

In response to Patent Owner's December 12 email, the Board will neither reconsider its earlier orders, nor admit new arguments and evidence. Patent Owner is cautioned against sending unsolicited and improperly argumentative emails to the Board. Oral argument—the time for pointing to or presenting evidence supporting Patent Owner's arguments--has long since passed. Moreover, the December 12 email referenced a plethora of proceedings. The Board has not authorized consolidated briefing in Patent Owner's numerous pending cases.

Should the Board require any further substantive information from the parties, the Board will issue an order.

Regards,

Franchesca I. Alicea Villanueva
Supervisory Paralegal
Patent Trial & Appeal Board
U.S. Patent & Trademark Office

From: Alan Whitehurst <awhitehurst@McKoolSmith.com>
Sent: Thursday, December 12, 2024 3:00 PM
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Subject: Greenthread IPRs IPR2023-{01242-01244}, {00263-00266}, IPR2024-{00001, 00016-00021}, {00468-00470}, {00550-00553}

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IPR2023-{01242, 01243, 01244, 00263, 00264, 00265, 00266} (Petitioner OnSemi v. PO Greenthread)
IPR2024-{00001, 00016, 00017, 00018, 00019, 00020, 00021} (Petitioners Cirrus Logic et al.)
IPR2024-{00468, 00469, 00470, 00550, 00551, 00552, 00553} (Petitioner Monolithic)

Your Honors,

The APA requires the Board's findings to be consistent across IPR proceedings. *See BASF Corp. v. Enthone, Inc.*, 749 F. App'x 978, 986 (Fed. Cir. 2018).

The above captioned proceedings all involve the same six patents which are part of a single family. The various Petitioners have taken inconsistent positions and offered conflicting evidence on dispositive issues. All petitioners' experts have admitted the fundamental flaw in the petitions identified in Greenthread's PORs. To assist the Board in reaching a consistent result across all proceedings, Patent Owner Greenthread requests that the Board make of record in each proceeding:

1. IPR2023-01243 Ex. 2058 (Blalock Dep. Tr.);
2. IPR2024-00016 Ex. 2056 (Warrick Dep. Tr.);
3. IPR2024-00468 Ex. 2058 (Campbell Dep. Tr.);
4. IPR2024-00001 Ex. 1060 (Banerjee Supp. Decl.);
5. as well as the transcripts of the second depositions of Drs. Campbell (in the Monolithic IPRs) and Banerjee (in the Cirrus IPRs) when they are available.

Greenthread is not intending to be overly argumentative, but background information about the requested relief is provided below as it is critical to the Board's understanding and consideration of these issues.

During the hearing on November 13 (in IPR2023-01242 -01243, and -01244), OnSemi's counsel represented to the Board that the electric field in Kawagoe's p-well has a "downward-facing electric field" from the surface (where the active region is located) to the substrate. Paper 81 at 28:7; *see*

also Ex. 1056, slide 35, red arrow labeled “E”). Petitioner also claimed and that electrons in the p-well move in the same direction as the electric field. Paper 81 at 31:11-12 (“there is a field pushing electrons down”); see also Ex. 1056., slide 38, red circles labeled “e-” and pink arrows pointing down). As explained during the hearing, one the most basic laws of electronics and physics is that electrons experience a force in the opposite direction from an electric field. Furthermore, it is contrary to the positions taken by the other Petitioners. See e.g., IPR2024-00001 Ex. 1060, 13 (“electrons will drift in the direction opposite to the direction of electric field”) (emphasis added).

Second, as indicated below, every expert across all proceedings has admitted, contrary to the theories advanced in the petitions, that a POSITA would need to consider other forces besides the force exerted by a gradient. See, for example:

- IPR2023-01242, Ex. 2058, 187-188 (Blaylock Dep. Tr.) (“**Q.** Suppose there are two forces pushing on the carrier in opposite directions. Do both of those forces aid the movement of the carrier? ... **A:** The net field will ... have some direction depending on what the field directions were, but we can calculate the net force. And it will have -- it [i.e. the net force] will act to move the carrier.”);
- IPR2024-00001, Ex. 2056, 21 (Warrick Dep. Tr.) (“**Q.** ... [Y]ou can't tell me what the effect of that gradient is? **A.** No. ... **Q.** Is ... that because there's other things that might affect carrier movement besides the gradient? **A.** Yes.”);
- IPR2024-00001, Rough Transcript of Banerjee (December 6, 2023) (“**Q.** So when we're looking at an electron in a semiconductor, we could have multiple forces acting on it? **A.** Well, as I told you, you have the three broad categories of forces, but now focusing on the second category, which are externally applied forces or built-in forces due to doping gradients, those could also have multiple components to it and you have to take the vector sum. **Q.** So when you have multiple forces, you have to look at the vector sum? **A.** To get the net motion, yes.”);
- IPR2024-00468, Ex. 2058, 34 (Campbell Dep. Tr.) (“**Q.** What did you mean by "properly constructed" [electric field]? **A.** ... If you're moving electrons, the electric field has to be pointing upward and you have to have a sufficient electric field intensity”)
- IPR2024-00550, Rough Transcript of Campbell Second Deposition (“**Q.** And the polarity determines which direction the hole or electron, moves, right? ... **A.** ... The electric field will provide a force that would tend to move them in one direction or the other. There may be other forces acting upon the carriers, and you have to add all of the forces. **Q.** Why do you have to add all of the forces? **A.** Newton's first law. You have – the movement of an object is dependent on the sum of all forces on that object.”).

Greenthread acknowledges that it previously requested that the Board make Dr. Campbell’s deposition and Mr. Warrick’s deposition of record in other proceedings, and the Board denied that request. E.g., IPR2023-01242, Ex. 3004; IPR2024-00001, Ex. 3008. Greenthread respectfully requests that the Board reconsider those denials in light of changed circumstances. In denying Greenthread’s request, the Board noted that Petitioners would have a limited ability to cross

examine Dr. Campbell. *Id.* Greenthread has provided other Petitioners an opportunity to cross examine Dr. Campbell, which they declined to accept. Greenthread also does not object to OnSemi and the Cirrus petitioners deposing Dr. Banerjee. Therefore, petitioners' objection that they did not have an opportunity to depose each other's experts is moot.

Further, cross examination is not ordinarily granted, except for affidavit testimony that is "prepared for *this proceeding*," but such testimony is nonetheless admissible. *1964 Ears, LLC. v. Jerry Harvey Audio Holdings, LLC.*, IPR2016-00494, Paper 40, 4 (PTAB Jan. 30, 2017) (citing Amendments to the Rules of Practice for Trials Before the Patent Trial and Appeal Board, 80 Fed. Reg. 28561, 28563 (May 19, 2015)) (emphasis in original). The testimony of other petitioners' experts was not "prepared for this proceeding," i.e. the proceedings in which Greenthread seeks to use it. Therefore, even if Petitioners did not have the opportunity to cross-examine each other's experts, the testimony is still admissible. *Id.*

In denying Greenthread's previous request the Board also said that Dr. Campbell's testimony is "best characterized as concerning a disputed factual issue, not a legal one." IPR2023-01242, Ex. 3004; IPR2024-00001, Ex. 3008. This is incorrect, because Dr. Campbell's (and other experts') testimony is relevant to claim construction. Regardless, witness testimony is not excluded because it pertains exclusively to fact disputes.

The Board also denied Greenthread's request because it noted that Dr. Campbell is not a witness to the OnSemi and Cirrus proceedings. *Id.* However, Greenthread's request is that the testimony of additional persons be admitted, which would make them witnesses.

Finally, the Board pointed to the stage of the OnSemi and Cirrus proceedings. *Id.* However, the *earliest* final written decision (FWD) due date in these proceedings is still two months away and the Board can extend the FWD deadline for good cause. The extraordinary circumstances of multiple Petitioners' experts proffering inconsistent theories regarding a single patent family would justify an extension here, should one be necessary.

Greenthread can be available for a telephone conference with the Board.

Response of Petitioner onsemi in IPR2023-01242, 01243, 01244, and IPR2024-00263, 00264, 00265, 00266:

Petitioner onsemi respectfully requests that the Board (1) disregard Patent Owner's unauthorized additional email briefing, and (2) deny Patent Owner's late request to (again) introduce testimony from unrelated witnesses in IPR2023-01242, 01243, 01244, and IPR2024-00263, 00264, 00265, 00266. As an initial matter, the Board has not authorized Patent Owner to use a single communication covering 21 IPRs involving four separate petitioners. The nonprecedential *BASF Corp. v. Enthone* case does not grant Patent Owner unilateral authority to consolidate arguments and evidence across all IPRs involving related patents. Even if such a consolidated communication were authorized, it is inappropriate for Patent Owner to send the Board lengthy, unsolicited e-mails raising new arguments and pointing to new evidence. *Inter partes* review proceedings are governed by rules defining clear limits and timing on substantive briefing and the introduction of evidence, and Patent Owner's argumentative e-mail and request to make additional evidence of record violates

those rules. If there was in fact an extraordinary circumstance justifying out-of-time briefing or evidence, Patent Owner should send an e-mail to request authorization to file a motion, but without including arguments in the e-mail. Moreover, the supposed basis for Patent Owner's e-mail briefing has already been rejected by the Board: the rules of evidence prohibit Patent Owner from introducing deposition testimony from other proceedings into IPRs filed by Petitioner onsemi. And, in view of the fact that the Board has repeatedly rejected Patent Owner's attempts to introduce this hearsay testimony into these IPRs, Patent Owner's reliance on such hearsay testimony appears to be a vehicle for simply making more argument.

If the Board is inclined to review Patent Owner's arguments, Petitioner onsemi provides the following comments on the substantive flaws in Patent Owner's arguments.

First, Patent Owner is mischaracterizing statements made by Petitioner during oral argument on November 13 in IPR2023-01242, 01243, and 01244 in order to create confusion about the electric field in Kawagoe. Petitioner has consistently stated that the electric field in Kawagoe would exert a force on electrons that points down into the substrate. Both the reference to a "downward facing electric field" and the red arrow on Petitioner's slide 35 simply refer to the direction **of the force from the field on the electrons**. See Ex. 1056, slide 35. Although it is true that, by convention, an electric field "points" in the opposite direction from how the field interacts with electrons, Petitioner has consistently focused on the direction of the interaction with electrons, which is what matters for the claims at issue. Notwithstanding Patent Owner's untimely and misguided arguments regarding which way an electric field "points," the Parties appear to be in complete agreement that the electric field produced by Kawagoe's graded dopant concentration exerts a downward force on electrons (which means the field "points" upward, by convention). The experts in onsemi's IPRs each testified that the graded dopant concentration in Kawagoe exerts a downward force on electrons, into the substrate. For example, Patent Owner's own expert, Dr. Glew, testified to this point:

Q: So throughout the depth in Kawagoe from 0 past WW, there is an electric field pushing electrons downward?

A: Yes, there's that field shown in Figure 17.

Ex. 1052 (-01242, -01243, -1244), 113:12-16; Ex. 1056, slide 58. This record testimony, by Patent Owner's expert, settles the issue.

Second, Patent Owner's collection of deposition quotes do not support admitting new testimony in the onsemi IPRs. None of the statements are inconsistent, and there is no reason to admit cumulative testimony from other proceedings into the onsemi IPRs. Patent Owner has already filed its Patent Owner Response in each of IPR2023-01242, 01243, 01244, and IPR2024-00263, 00264, 00265, 00266. If Petitioner's expert testified in a way that was favorable to Patent Owner, Patent Owner should have raised those arguments with the Board in its authorized briefing.

Third, Patent Owner's request to make new documents evidence in these IPRs is essentially an untimely request to file supplemental information under 37 CFR § 42.123(b), but Patent Owner makes no effort to show that the requirements of that rule have been met—i.e., that the information could not have been obtained earlier, and that consideration of the information would

be in the interests-of-justice. As the Board acknowledged when rejecting Patent Owner's previous attempt to admit Dr. Campbell's testimony as an exhibit in IPR2023-01242, 01243, and 01244, Patent Owner's attempt to introduce testimony from an unaffiliated third party witness is contrary to the rules of evidence and unfair. It does not matter that Patent Owner unilaterally proposed to make other petitioners' experts available for Petitioner onsemi to depose—Patent Owner does not control these witnesses and Patent Owner cannot grant Petitioner the ability to depose additional witnesses for use in the onsemi IPRs. Moreover, Patent Owner's argument about the testimony being "prepared for this proceeding" is misleading because Patent Owner's "request is that the testimony of additional persons be admitted, which would make them witnesses." In other words, Patent Owner wants these experts to be treated as witnesses to these IPRs for Patent Owner's benefit, but not for Petitioner onsemi's cross-examination. Such an asymmetrical approach would be contrary to the rules of evidence and unfair to Petitioner.

Fourth, Patent Owner's request, even if it were in fact legitimate in some respect, is late. All of the briefing in IPR2023-01242, 01243, and 01244 is complete, and the oral hearing was conducted on November 13. Patent Owner has already filed its Patent Owner Response in IPR2024-00263, 00264, 00265, and 00266. Patent Owner should have submitted any arguments concerning patentability of the challenged claims, including any helpful testimony of Petitioner's expert, in filings permitted in those IPRs. Further briefing by e-mail or the introduction of testimony from unrelated witnesses in other IPRs is not appropriate.

Petitioner can be available for a telephone conference with the Board.

Response of Cirrus Petitioners in IPR2024-00001, -00016, -00017, -00018, -00019, -00020, and -00021: Cirrus Petitioners object to Patent Owner's request to introduce new evidence into the above-captioned proceedings, and to Patent Owner's argumentative e-mail briefing on the issue.

Patent Owner's attempt to consolidate testimony and other evidence across the 21 different IPR proceedings should fail for all of the reasons set forth by the Board in its Oct. 23, 2024 email. *See* Ex. 3008 in IPR2024-00001, -00016, -00017, -00018, -00019, -00020, and -00021 (rejecting Patent Owner's request to submit Dr. Campbell's testimony in the above-captioned proceedings).

In addition, Cirrus Petitioners provide the following observations for Board's consideration:

- Patent Owner's request for the Board to reconsider its rejection of Patent Owner's new evidence is untimely under 37 C.F.R. §42.71(d). Any request for reconsideration must be filed within 14 days.
- The cases cited by Patent Owner (*BASF Corp. v. Enthone, Inc.* and *1964 Ears, LLC v. Jerry Harvey Audio Holdings, LLC*) provide no basis to consolidate the respective evidentiary records of the 21 different IPR proceedings at issue here.
- Contrary to Patent Owner's suggestion, its cited testimony of different witness in the various pending IPR proceedings do not appear to show any technical inconsistency.
- Further, in view of the detailed response provided herein by Petitioner On Semi, Patent Owner's assertions regarding technical positions made during the Nov. 13 hearing in IPR2023-01242, -01243, and -01244, appear to hinge on mischaracterizations. Accordingly, Patent Owner has not identified any positions taken by Petitioner On Semi that are technically

inconsistent with the positions taken by Cirrus Petitioners.

Response of Petitioner MPS in IPR2024-{00468, 00469, 00470, 00550, 00551, 00552, 00553}: MPS objects to Patent Owner's request (and e-mail briefing) which attempts to conflate/consolidate factual issues. MPS's Petitions relied on different art and rationales than other Petitioners. MPS was, moreover, not involved in any of the depositions of the other experts (nor was it ever afforded the opportunity to participate in those depositions). The other experts are not witnesses in MPS's trials and their testimony should not be admitted in MPS's trials.

Respectfully,
Alan Whitehurst
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