Trials@uspto.gov
571-272-7822

Paper 10
Date: April 14, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INNOSCIENCE AMERICA, INC.,
Petitioner,

v.

INFINEON TECHNOLOGIES AUSTRIA AG,
Patent Owner.

IPR2024-00975
Patent 9,899,481 B2

Before JO-ANNE M. KOKOSKI, CHRISTOPHER M. KAISER, and MICHELLE N. WORMMEESTER, *Administrative Patent Judges*.

KAISER, *Administrative Patent Judge*.

DECISION
Denying Petitioner's Request for Rehearing of
Decision Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.71(d)

I. INTRODUCTION

Innoscience America, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–17 of U.S. Patent No. 9,899,481 B2 (Ex. 1001, "the '481 patent"). Paper 1 ("Pet."). Infineon Technologies Austria AG ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp."). After consideration of the parties' contentions and evidence, we denied institution of an *inter partes* review of claims 1–17 of the '481 patent. Paper 7 ("Dec." or "Decision").

Petitioner filed a Request for Rehearing of the Institution Decision. Paper 8 ("Req. Reh'g" or "Request"). For the following reasons, we deny Petitioner's Request for Rehearing.

II. STANDARD OF REVIEW

A party requesting rehearing bears the burden of showing that a decision should be modified. 37 C.F.R. § 42.71(d). The party must identify all matters it believes the Board misapprehended or overlooked, and the place where each matter was addressed previously. *Id.* When rehearing a decision on petition, we review the decision for an abuse of discretion. 37 C.F.R. § 42.71(c). An abuse of discretion occurs when a "decision was based on an erroneous conclusion of law or clearly erroneous factual findings, or . . . a clear error of judgment." *PPG Indus. Inc. v. Celanese Polymer Specialties Co.*, 840 F.2d 1565, 1567 (Fed. Cir. 1988) (citations omitted).

III. DISCUSSION

Petitioner requests rehearing of our decision denying institution. Req. Reh'g 1–15. We consider Petitioner's arguments below.

A. Decision Denying Institution

Petitioner challenged claims 1–17 of the '481 patent as having been obvious over Nega in combination with other references and as having been obvious over Liu (either alone or in combination with other references). Pet. 3. Upon consideration of these grounds, we determined that Petitioner had not shown a reasonable likelihood that any challenged claims were unpatentable. Dec. 8–17. Specifically, we determined that Petitioner did not show sufficiently that either Nega or Liu taught a "lateral transistor." Dec. 11, 15–16.

B. Petitioner's Request for Rehearing

Petitioner argues that the Board misapprehended the meaning of "lateral transistor" due to Patent Owner's alleged misrepresentations and omissions. Req. Reh'g 1–15. In particular, Petitioner argues that Patent Owner mischaracterized portions of the prosecution history and '481 patent, *id.* at 4–7, and misrepresented prior art. *Id.* at 7–14.

C. Analysis

Claim 1 recites, in part, an electronic component comprising a compound semiconductor transistor, "wherein the compound semiconductor transistor device is a *lateral transistor device*." Ex. 1001, 15:50–16:2 (emphasis added). Although Petitioner argued "the plain meaning of each term can be applied," Petitioner noted that the '481 patent "describes a device that 'has a lateral drift path,'" where "'lateral' means 'run[ning] generally parallel to the lateral extent of a semiconductor material or semiconductor carrier.'" Pet. 3, 24 (quoting Ex. 1001, 3:14–18, 4:37–38). In our Decision, we held that a "lateral transistor is a transistor in which

current flows in a direction parallel to the surface of the transistor." Dec. 10 (citing Pet. 24; Prelim. Resp. 8).

As we explain below, we find Petitioner's Request (i) raises new arguments and evidence, and (ii) fails to demonstrate we made clearly erroneous factual findings with respect to the construction of a "lateral transistor" or whether Petitioner showed adequately that the asserted prior art teaches a "lateral transistor."

1. *Petitioner's Contention that Patent Owner Mischaracterized the '481 Patent and Prosecution History*

Petitioner argues in its Request that Patent Owner contradicts the '481 patent by defining a lateral transistor "solely by current flow direction and not by electrode location." Req. Reh'g 4–7; *see also id.* at 6–7 (noting Patent Owner argued "omitted 'generally' from its description of current flow"). Petitioner further argues that Patent Owner excerpted the prosecution history to "present[] cherrypicked prosecution statements on transistor current flow." *Id.* at 5.

In responding to Patent Owner's arguments, Petitioner argues in the Request that the '481 patent "*explicitly states*" that lateral and vertical transistors "are defined by the location of the electrodes" and that Patent Owner disclaimed vertical transistors during prosecution of the '481 patent. Req. Reh'g 4–6 (citing Ex. 1001, 5:54–6:7; Ex. 1002, 31–32). Petitioner further argues that, contrary to Patent Owner's position, lateral and vertical transistors are not mutually exclusive. *Id.* at 6–8 (arguing lateral drift path flows "generally, but not exclusively, parallel").

Petitioner's Request presents new arguments and evidence replying to Patent Owner's Preliminary Response and creates a claim-construction

dispute where none existed previously. In the Petition, Petitioner argued that no claim terms required construction, Pet. 3, and at most obliquely suggested that a lateral transistor is one in which current flows in a "lateral drift path." Pet. 24. Now, Petitioner argues in the Request that the '481 patent provides an explicit construction of a lateral transistor "defined [solely] by the location of the electrodes." Reg. Reh'g 4 (citing Ex. 1001, 4:37–42, 5:54–6:7, 9:2–7). Petitioner also argues in the Request that Patent Owner made a prosecution disclaimer that "electrode location should have impacted how the lateral transistor term was construed." *Id.* at 4–6 (citing Ex. 1002, 31–32).

Petitioner failed to adequately raise this claim-construction dispute in its Petition.[1] A rehearing request filed after our decision to deny institution is not the proper vehicle to advance new arguments. 37 C.F.R. § 42.71(d) ("request [for rehearing] must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed"). Accordingly, we need not consider this new argument from Petitioner.

Even if we were to consider this argument, however, we would find it unpersuasive in showing that our Decision was clearly erroneous on this issue. Our Decision addressed and rejected Petitioner's contention that placing the electrodes and gate on the same lateral plane of a transistor

[1] We further note that, to the extent Petitioner contends Patent Owner put the "lateral transistor" term at issue, Petitioner could have requested leave to submit a preliminary reply to Patent Owner's Preliminary Response addressing this issue but chose not to do so. *See* 37 C.F.R. § 42.108(c) ("A petitioner may seek leave to file a reply to the preliminary response in accordance with §§ 42.23 and 42.24(c).").

necessarily results in a lateral transistor. Dec. 10–11, 14–16. As we noted there, on the record before us at the time, both parties agreed that it was the vertical or lateral nature of the drift path, not the vertical or lateral arrangement of the transistor's electrodes, that determined whether a transistor was vertical or lateral. *Id.* at 10 (citing Pet. 24; Prelim. Resp. 8). We cited evidence of record to support that shared understanding. *Id.* at 10–11 (citing Ex. 1001, 3:14–18, 4:37–38; Ex. 1002, 33–34; Ex. 2002, 7–8, Figs. 1.7a, 1.7c). That evidence consisted of the statement in the '481 patent that "'lateral' or 'lateral direction' should be understood to mean a direction or extent that runs generally parallel to the lateral extent of a semiconductor material or semiconductor carrier," the statement in the '481 patent that "[t]he compound semiconductor transistor device 21 is a lateral device which has a lateral drift path," the statement in the prosecution history of the '481 patent that "a lateral transistor device is a bipolar transistor in which **current flows across the base** in the **direction parallel to the wafer surface**," and the statement in Exhibit 2002 describing a structure with electrodes all on a single surface of the transistor as a structure in which "the current flow is vertical." Ex. 1001, 3:14–18, 4:37–38; Ex. 1002, 124:24, 127:33–34; Ex. 2002, 7–8, Fig. 1.7c.

In light of this evidence, the new evidence offered by Petitioner for the first time in the Request shows that transistors with their electrodes all located on a single surface may be lateral transistors, not that such an electrode location necessarily indicates that a transistor is lateral. Petitioner's citations to the specification of the '481 patent each discuss a particular embodiment in which a lateral transistor has its electrodes on a single surface, but concluding that this means that all transistors with their

electrodes on a single surface are necessarily lateral transistors is impossible in light of the other evidence of record. *Compare* Ex. 1001, 4:38–41, 5:54–6:7, 9:2–7 (each discussing a particular embodiment in which a lateral transistor has electrodes located on a single surface), *with* Ex. 1002, 33–34 (express definition of "lateral transistor" relying on current flow, not electrode position); *see also* Ex. 2002, 7–8, Fig. 1.7c (depicting a transistor with electrodes all on a single surface in which "the current flow is vertical"); Ex. 2003, 1937, Fig. 3(a) (depicting "a vertical high-voltage transistor structure" in which the electrodes are located on a single surface).

Similarly, in light of all the evidence of record, we do not reach the same conclusion from Petitioner's newly cited evidence in the prosecution history that Petitioner argues we should. Petitioner directs us to the statement in the prosecution history of the '481 patent that "Otremba '284 fails to teach at least the feature of a **lateral transistor device** as recited in amended claim 1 [because] Otremba '284 teaches a **vertical** transistor which includes current electrodes on opposing surfaces." Ex. 1002, 32; *see* Req. Reh'g 4–6 (citing Ex. 1002, 31–32). According to Petitioner, this statement was a "prosecution disclaimer" that "should have impacted how the lateral transistor term was construed." Req. Reh'g 5. We agree with Petitioner that this statement could be interpreted as suggesting that the placement of a transistor's electrodes on a single surface or on opposing surfaces might be an indicator of whether a transistor is lateral or vertical. In light of all the other evidence of record to the contrary, however, we do not interpret this language as stating either that electrode location is the sole determinant of a transistor's lateral or vertical nature or that all transistor devices with their electrodes on a single surface necessarily are lateral transistors.

Thus, Petitioner's new argument, were we to consider it, would not persuade us that we abused our discretion in determining that a "lateral transistor is a transistor in which current flows in a direction parallel to the surface of the transistor." Dec. 10 (citing Pet. 24; Prelim. Resp. 8).

2. *Petitioner's Contention that Patent Owner Misrepresented the Prior Art*

Petitioner argues in its Request that Patent Owner misrepresents the teachings of Exhibits 2002 and 2003 by arguing that they described vertical transistors with "electrodes arranged laterally on a common horizontal plane." Req. Reh'g 1–3, 8–12. Petitioner further argues Patent Owner misrepresents the teachings of Liu. *Id.* at 12–14.

a. Petitioner's Accusation that Patent Owner "Doctored" Exhibit 2002

We first address Petitioner's contention that Patent Owner "doctored evidence" by adding colored annotations to the figures of the prior art. Req. Reh'g 1–3, 8–12. Specifically, Petitioner argues that the Preliminary Response's annotated version of Figure 1.7c from Exhibit 2002 was altered in a misleading way from the original version presented in Exhibit 2002. *Id.* (citing Prelim. Resp. 8–10; Ex. 2002, Fig. 1.7c). Because of these changes between the original version of the figure in Exhibit 2002 and the annotated version in the Preliminary Response, Petitioner accuses Patent Owner nine times of "doctoring" or having "doctored" the evidence before us in the present proceeding. *Id.* at 1 ("INFINEON MISREPRESENTED AND DOCTORED EVIDENCE," "Infineon then ***doctored prior-art evidence***"), 2 ("***Infineon doctored the most material figure in Murari***," "annotations that Petitioner presents now to show the doctoring"), 3 ("through the lens of the doctored evidence," "Infineon's misrepresentations, omissions, and doctored

evidence"), 9 ("Infineon masked this issue by doctoring the figure"), 10 ("By doctoring Figure 1.7c, Infineon presented a false and misleading position to the Board"), 11 ("relying on Infineon's materially doctored version of Figure 1.7c"). In addition, Petitioner argues that Patent Owner "altered the evidence" and refers to "the altered evidence." *Id.* at 8, 9.

First, as with Petitioner's argument that Patent Owner mischaracterized the '481 patent and the prosecution history, this argument is presented for the first time in the Request, and Petitioner does not identify where this argument was raised previously. Req. Reh'g at 1–3, 8–12. A rehearing request filed after our decision to deny institution is not the proper vehicle to advance new arguments.[2] 37 C.F.R. § 42.71(d) ("request [for rehearing] must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed"). Accordingly, we need not consider this new argument from Petitioner.

Next, we note that, contrary to its arguments, Petitioner has not identified any changes Patent Owner made to the actual evidence, Exhibit 2002. *Id.* All the annotations that Petitioner labels as misleading, alterations, or doctoring were presented in the Preliminary Response, an argumentative document, where they were in a figure identified by Patent Owner as an "annotated reproduction[] of Figure[] . . . 1.7c" from

[2] To the extent Petitioner contends that the issue of allegedly doctored evidence was not raised until Patent Owner filed its Preliminary Response, Petitioner could have requested leave to submit a preliminary reply to Patent Owner's Preliminary Response addressing this issue but chose not to do so. *See* 37 C.F.R. § 42.108(c) ("A petitioner may seek leave to file a reply to the preliminary response in accordance with §§ 42.23 and 42.24(c).").

Exhibit 2002. Prelim. Resp. 8–9. Petitioner does not allege that Patent Owner made annotations or alterations to Exhibit 2002 itself, and it appears from our review of the exhibit that no changes were made to the original figures themselves. Accordingly, Patent Owner did not, in Petitioner's words, "doctor" or "alter" any evidence.

Finally, we do not find Patent Owner's annotations to Figure 1.7c to have misled us. Our conclusion in the Decision that "[t]ransistors with current flow in either direction can have electrodes located on a common horizontal plane" relied solely on Figures 1.7a and 1.7c from Exhibit 2002, not on the annotated figures in the Preliminary Response. Dec. 11 (citing Ex. 2002, Figs. 1.7a, 1.7c). Moreover, although Figure 1.7 contains the caption "Current flows in Horizontal structures," Figure 1.7c itself is described in Exhibit 2002 as depicting a device in which "the current flow is vertical in the power device structure." Ex. 2002, 7–8. This language renders Patent Owner's annotations drawing attention to the vertical current flow in Figure 1.7c correct, or at least not misleading.

b. Petitioner's Argument that Patent Owner "Omitted Teachings" from Exhibit 2003

In a similar fashion to its argument that Patent Owner doctored Exhibit 2002, Petitioner also argues that Patent Owner "omitted teachings from [Exhibit 2003] that were inconsistent with its conclusion." Req. Reh'g 12. This argument is unpersuasive for essentially the same reasons discussed above with respect to Petitioner's argument about Exhibit 2002.

First, this argument is new in the Request, and Petitioner does not identify where this argument was raised previously. *Id.* A rehearing request filed after our decision to deny institution is not the proper vehicle to

advance new arguments. 37 C.F.R. § 42.71(d) ("request [for rehearing] must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed"). Accordingly, we need not consider this new argument from Petitioner.

Next, Petitioner has not identified any changes Patent Owner made to the actual evidence, Exhibit 2003. Req. Reh'g 12. Instead, Petitioner directs us to an annotation Patent Owner added to a copy of Figure 3(a) of Exhibit 2003 in the Preliminary Response. *Id.* (citing Prelim. Resp. 8–10). Patent Owner did not make any change to the original figure. Ex. 2003, Fig. 3(a). As with the figures from Exhibit 2002 that Petitioner accuses Patent Owner of having "doctored," Patent Owner clearly identifies the annotated copy of Exhibit 2003's Figure 3(a) as "an annotated reproduction" and cites the figure as "annotated below." Prelim. Resp. 9 (citing Ex. 2003, 1937, Fig. 3(a)). We do not find the mere addition of annotations to a reproduction of a figure from an exhibit to be necessarily misleading, particularly when those annotations are identified as such and when the reproduction of the figure in question occurs in an argumentative paper.

Finally, we do not find Patent Owner's annotations to Figure 3(a) to have misled us. Our conclusion in the Decision that "[t]ransistors with current flow in either direction can have electrodes located on a common horizontal plane" relied solely on Figures 1.7a and 1.7c from Exhibit 2002, not on the annotated figures in the Preliminary Response or the original figures in Exhibit 2003. Dec. 11, 15 (citing Ex. 2002, Figs. 1.7a, 1.7c). Moreover, Figure 3(a) is described as depicting "a vertical high-voltage transistor structure," and it is contrasted with the "[h]igh-voltage lateral

DMOSFET" structure in Figure 3(b). Ex. 2003, 1937. This language renders Patent Owner's annotations drawing attention to the vertical current flow in Figure 3(a) at the very least not misleading.

c. Petitioner's Argument that Patent Owner Misrepresented Liu

Petitioner argues that Patent Owner misrepresented Liu when Patent Owner "argued that even though all the electrodes were arranged on the same surface in Liu, because the gate electrode placement was not adjacent to the source and drain electrodes it was a 'vertical,' not 'lateral' transistor." Req. Reh'g 12–13 (citing Prelim. Resp. 60–66). As with Petitioner's other misrepresentation arguments, Petitioner does not identify where it previously raised this argument. *Id.* at 12–14. Accordingly, we need not consider it. 37 C.F.R. § 42.71(d) ("request [for rehearing] must specifically identify all matters the party believes the Board misapprehended or overlooked, and the place where each matter was previously addressed"). Moreover, this argument relies on Petitioner's newly raised argument regarding the construction of "lateral transistor." Req. Reh'g 13 ("the ['481] patent only requires that the electrodes be located on the same planar surface for lateral transistors"). As discussed above, we are not persuaded by Petitioner's newly raised argument that we erred in our construction of "lateral transistor." Accordingly, we are not persuaded that we abused our discretion in determining that Petitioner had not adequately shown that Liu taught or suggested a lateral transistor.

IV. CONCLUSION

For the foregoing reasons, Petitioner has not demonstrated that we abused our discretion in denying institution of *inter partes* review of claims 1–17 of the ’481 patent.

V. ORDER

It is hereby

ORDERED that the Request for Rehearing is *denied*.

For PETITIONER:

Lionel M. Lavenue
Kara Specht
Forrest A. Jones
Alissa Green
Caitlin Coverstone
Deanna Smiley
FINNEGAN, HENDERSON, FARABOW, GARRETT & DUNNER, LLP
lionel.lavenue@finnegan.com
kara.specht@finnegan.com
forrest.jones@finnegan.com
alissa.green@finnegan.com
caitlin.coverstone@finnegan.com
deanna.smiley@finnegan.com

For PATENT OWNER:

Richard F. Giunta
Jason W. Balich
Jie Xiang
WOLF GREENFIELD & SACKS, P.C.
rgiunta-ptab@wolfgreenfield.com
jbalich-ptab@wolfgreenfield.com
jxiang-ptab@wolfgreenfield.com