

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INNOSCIENCE AMERICA, INC.,
Petitioner,

v.

INFINEON TECHNOLOGIES AMERICAS CORP.,
Patent Owner.

Case IPR2025-00094
U.S. Patent 8,264,003

PETITIONER'S REQUEST FOR DIRECTOR REVIEW

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**Emphasis added unless otherwise noted*

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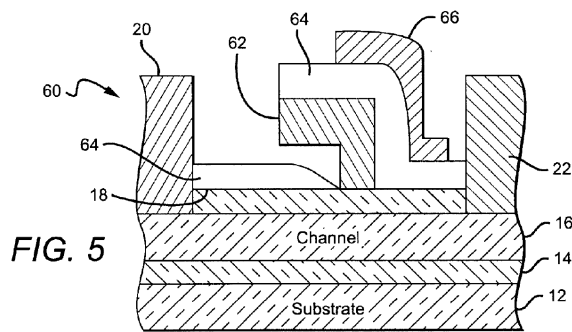
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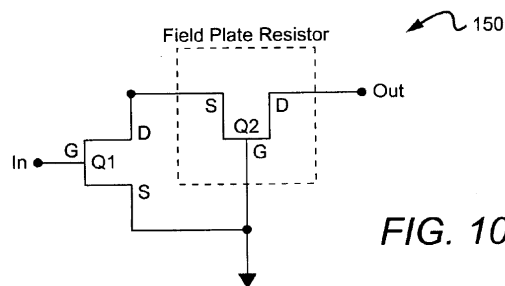
The Board committed two errors in its Ground 3 analysis. First, it wrongly dismissed the Reply’s obviousness theory—that Mishra’s field plate would be source-connected when implemented in cascode—as a new argument. The Petition expressly proposed this modification. Paper 23 (FWD), 19. Second, even addressing Petitioner’s theory in the alternative, the Board demanded that Mishra explicitly disclose a source-connected field plate for Figure 5 in a single depicted example and selectively quoted the Reply’s statement on Mishra’s express teachings to suggest that no motivation was needed at all. *Id.* at 18–20. The Board never considered Mishra’s teachings as a whole—including Mishra’s uncontested statements on source-connected field plates as they would have applied to embodiments like Figure 5 when connecting dual-gate transistors in cascode with a common gate input like Figure 10. These errors warrant reversal.

I. The Petition and Reply Consistently Reasoned It Would Have Been Obvious to Connect Mishra’s Field Plate to the Source When Implementing Mishra’s Cascode Embodiment

Mishra’s Figure 5 presents a typical transistor arrangement: a gate 62 between a source 20 and drain 22, with a field plate 66 on the drain side of the gate. Mishra, ¶¶ [0042]-[0044]. Mishra explains field plate 66 “can be connected to the gate in many different ways” without showing any electrical connection in the figure. *Id.* at ¶ [0044].



Mishra, Fig. 5.



Mishra, Fig. 10.

From the outset, the Petition reasoned it would have been obvious to electrically connect field plate 66 to the source electrode, instead of the gate. Petition, 82–83, 94–95. It explained that Mishra discloses dual gate transistor alternatives to its single gate embodiments, including in cascode arrangement, and Figure 10’s circuit diagram supplies the relevant common-source, common-gate cascode wiring. Petition, 82–83; Ex. 1003, ¶269. The Petition then argued that a person of skill would have combined these teachings to implement Figure 5 in cascode simply by wiring field plate 66 to the source, just as Figure 10 illustrates. Petition, 82–86, 94–95.

The Petition expressly offered this integrated obviousness rationale when analyzing the second gate limitation, [1C5], stating “[w]hen implemented in a cascode, field plate 66 is coupled to ground,” which meets the limitation under Patent Owner’s infringement theory. Petition, 95; Ex. 1003, ¶¶280–281. The Petition thus relied on Mishra’s explicit teachings to motivate a person of skill to connect Figure 5’s field plate to the source. *See KSR Int’l Co. v. Teleflex, Inc.*, 550 U.S. 398,

418, 421–22 (2007) (“teaching, suggestion, motivation” test “helpful” even if not necessary to show obviousness).

The Reply did the same. It argued Figure 10’s common-gate, second stage configuration “is the norm for cascodes,” and that it would have been obvious to apply Mishra’s cascode and dual-gate alternative to Figure 5 by wiring its field plate to the source. Reply, 21–22. The Reply explained that Mishra details how and why to connect its field plates to the source in ways that would have applied to Figure 5 in Mishra when implemented in the disclosed cascode arrangement. *Id.* at 21–24. Mishra teaches “the field [plate] can be connected to the source contact” in its embodiments without reservation. Ex. 2009, ¶ [0029]; Reply, 21–22. Those points did not alter the ground; they answered Patent Owner’s contention that Mishra does not disclose a source-connected field plate. Reply, 21–24; *see* Paper 14 (POR), 35–43.

The Reply thus elaborated on the Petition’s discussion to address Patent Owner’s arguments and show that Mishra renders obvious connecting this field plate to the source. *Apple Inc. v. Andrea Elecs. Corp.*, 949 F.3d 697, 706–07 (Fed. Cir. 2020); *Chamberlain Grp., Inc. v. One World Techs., Inc.*, 944 F.3d 919, 925 (Fed. Cir. 2019) (“Parties are not barred from elaborating on their arguments on issues previously raised.”).Reply, 21–24. The Petition’s mapping was unchanged; the Reply sharpened its resolution. That is proper.

A Reply may clarify why a cited disclosure satisfies the disputed limitation under the originally proposed theory. *See Provisur Techs., Inc. v. Weber, Inc.*, 50 F.4th 117, 122–24 (Fed. Cir. 2022); *Guardant Health, Inc. v. Univ. of Wash.*, No. 2024-1129, 2026 WL 184334, at *4–5 (Fed. Cir. Jan. 23, 2026). Indeed, the Board itself recognized that even “the introduction of new evidence” can be expected on reply when presenting the same theory as the petition. FWD, 19 (quoting *Genzyme Therapeutic Prods. LP v. Biomarin Pharm. Inc.*, 825 F.3d 1360, 1366 (Fed. Cir. 2016)). Here, the Reply relied on the same theory as the Petition—that Mishra’s field plate would have been connected to source when in a cascode—and it rebutted Patent Owner’s contention that Mishra did not disclose source-connected field plates by identifying the many places it did. Reply, 21–24. It explained a skilled artisan would have understood that the same conductive-via based connections Mishra discloses for the gate would equally apply to the source. *Id.*

At the hearing, Petitioner reminded the Board that the Petition reasoned that field plate 66 is coupled to ground “when implemented in cascode,” which follows “Mishra’s teachings to use a dual gate device in cascode.” Paper 22 (Tr.), at 53:12–54:15; *see id.* 26:6–24. Petitioner explained that Mishra supplied the implementation details for source-connected field plates that Patent Owner contended were missing. *Id.* at 54:6–15. The record thus remained consistent from Petition through Reply and oral argument.

But the Board erroneously reached the opposite conclusion by misreading the Petition and isolating a few statements from the rest of the Ground 3 analysis. FWD, 18–19. First, the Board plucked an out-of-context phrase to oversimplify the Petition as arguing only “that ‘Mishra’s field plate 66 is’ the recited second gate,” suggesting the Petition had proposed no modification to Figure 5. FWD, 18 (citing Petition, 93–95). To the contrary, viewed in context, the passage the Board quoted articulated a clear modification of Figure 5: “[w]hen implemented in a cascode, field plate 66 is coupled to ground, and, consistent with Infineon’s infringement theory, it forms a second portion of the transistor below its bottommost portion.” Petition, 95.

Next, in a cursory analysis articulated entirely within two parentheticals, the Board dismissed the Petition’s position as merely “equating ‘drain side gate’ with ‘field plate 66, Figure 5,’” and “identifying field plate 66 as a ‘second gate.’” FWD, 20 (citing Petition, 83, 86–88). The Board’s parentheticals overlook the Petition’s integrated obviousness theory. The Petition argued a person of skill would have combined Mishra’s dual gate cascode teachings to connect field plate 66 to the source. Petition, 82–83, 94–95.

The Board thus wrongly concluded that the Reply offered a new theory that it would have been obvious to connect Figure 5’s field plate to the source within a cascode implementation. FWD, 18–19. It was error to dismiss this argument as untimely.

II. The Board Improperly Demanded Express Disclosure of a Source-Connected Field Plate and Required a Motivation Beyond Mishra's Explicit Cascode Teachings

The Board erred again when it considered Petitioner's theory for the sake of argument. FWD, 18–20. Its analysis “unduly dissect[ed]” Mishra “into collections of individual elements” and failed to consider Mishra's teachings as an integrated whole, as the Petition urged. *See Gen. Elec. Co. v. Raytheon Techs. Corp.*, 983 F.3d 1334, 1352 (Fed. Cir. 2020).

The Board first asked whether Figure 5 alone showed a source connected field plate and found it did not. FWD, 18. Next, it acknowledged that “Mishra states that a field plate may be electrically connected to the source.” *Id.* at 19–20. But the Board nonetheless rejected Petitioner's source-connected theory because Mishra “does not state that this teaching applies to the embodiment of Figure 5.” *Id.* The Board's piecemeal analysis erroneously required Mishra to expressly state that Figure 5 has a source-connected field plate and never addressed Mishra's broad teaching to implement its single gate transistors as dual gate transistors with common-source, common-gate cascode wiring. *Id.*, at 18–20.

That is not the law. A reference must be read for all it teaches, not compartmentalized embodiment by embodiment. *Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1075–76 (Fed. Cir. 2015) (error to disregard express teaching to modify embodiment); *Recor Med. Inc. v. Medtronic Ir. Mfg. Unlimited, Co.*, No. 2023-2251,

2025 WL 944511, at *2–3 (Fed. Cir. Mar. 27, 2025) (Board erred by disregarding teachings that “explicitly contemplate” modifications to specifically disclosed embodiments); *AliveCor, Inc. v. Apple Inc.*, 130 F.4th 1006, 1015 (Fed. Cir. 2025) (error to “restrict each reference’s teachings to the particular way it implements” embodiments); *In re Mouttet*, 686 F.3d 1322, 1331 (Fed. Cir. 2012) (“A reference may be read for all that it teaches, including uses beyond its primary purpose”).

The Board then presented phrases from the Reply in isolation to contend it argued “[n]o ‘reason’ is needed” to modify Figure 5. FWD, 20. The Reply never advanced that argument. Instead, referring to Mishra at paragraph 62, the Reply noted that “Mishra’s unqualified alternative to implement dual gate structures applies to all embodiments,” so “[n]o ‘reason’ is needed for specifically ‘selecting’ Figure 5.” Reply, 24. In other words, because that paragraph provides “a single transistor with a dual gate structure” as an “alternative arrangement” of “the present invention,” it already furnishes an express teaching, suggestion, and motivation to modify all figures, including Figure 5, to be a dual gate device. *Id.*; Ex. 1009, ¶ [0062]. The Board erred by requiring any further reason.

Under *KSR*, the prior art itself directly satisfies any motivation requirement when it expressly teaches a modification—no separate inquiry is needed beyond the reference’s own disclosures. 550 U.S. at 418, 421–22; *see Gen. Elec.*, 983 F.3d at 1352 (a petitioner need not “re-do the work already done in the prior art reference”);

Guardant Health, 2026 WL 184334, at *4 (where “the disputed elements of a claim are disclosed in a single embodiment in a single reference, no finding regarding a motivation to combine to arrive at those claimed elements is required.”); *Ericsson Inc. v. Intellectual Ventures I LLC*, 890 F.3d 1336, 1348 n.5 (Fed. Cir. 2018) (finding sufficient motivation when the reference “itself teaches the combination”). Mishra supplies a reason to modify Figure 5 and connect its field plate to the source—its own teaching to use dual-gate transistors in cascode amplifier arrangements. Pet., 94–95; Reply, 21–24. And, as the Board acknowledged, Mishra “states that a field plate may be electrically connected to the source.” FWD, 19. Combining these teachings as the Petition proposed “does not require a leap of inventiveness” when Mishra provides a reason to do so. *See Boston Sci. Scimed, Inc. v. Cordis Corp.*, 554 F.3d 982, 991 (Fed. Cir. 2009).

Once Mishra is evaluated as Petitioner presented it—an integrated teaching to implement single gate transistors as dual gate transistors with common-source, common-gate cascode wiring—the Board’s dissected analysis cannot stand. The Petition outlined a holistic obviousness ground: Figure 5 supplied the transistor, Figure 10 supplied the cascode wiring, paragraph 62 supplied the dual-gate alternative for all embodiments, and Petitioner’s expert explained how those teachings operate together. Petition, 82–83, 86–87, 94–95. Obviousness does not require each piece of a single reference to recite the entire claim in isolation, nor

does it require an extra reason to implement a modification the reference itself teaches. *See KSR*, 550 U.S. at 418, 421–22. As the Supreme Court has explained, “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” *KSR*, 550 U.S. at 421. Such a person would have found it obvious to follow Mishra’s instructions and connect Figure 5’s field plate to source when implementing a dual gate cascode configuration.

III. Conclusion: The Director Should Reverse and Remand.

Petitioner requests that the Director reverse the Board’s rejection of Ground 3. Specifically, the Director should hold that the Board erred in treating the Reply’s source-connection analysis as new, and hold that the Board erred in requiring Mishra to expressly disclose a source-connected field plate rather than to assess its teachings, and remand for further proceedings consistent with that ruling.

Dated: July 13, 2026

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that the foregoing **Petitioner's Request for Director Review** was served on July 13, 2026, via email directed to counsel of record for the Patent Owner at the following:

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