

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INNOSCIENCE (ZHUHAI) TECHNOLOGY COMPANY AND
INNOSCIENCE AMERICA, INC.,
Petitioner

v.

EFFICIENT POWER CONVERSION CORPORATION,
Patent Owner

Case IPR2023-01381
U.S. Patent 8,350,294

**PETITIONER'S REPLY TO PATENT OWNER'S PRELIMINARY
RESPONSE**

On January 9, 2024, the Board authorized Petitioner to address Patent Owner's construction of "above the barrier and below the gate electrode." Ex. 1025.

I. THE BOARD SHOULD REJECT PATENT OWNER'S PROPOSED CONSTRUCTION OF "ABOVE"

Claim 1 recites "a compensated GaN layer above the barrier layer" and "a gate contact above the compensated GaN layer." Ex. 1001, 5:16-17 (emphases added). Patent Owner interprets this to require a layered configuration in which the "compensated GaN layer" is "above the barrier layer [] and below the gate electrode," POPR, 31, such that the "compensated GaN layer" is aligned and in contact with the gate contact (or gate electrode). POPR, 28, 31-34 (alleging that in *Uemoto*'s Fig. 7 region 15a is above the barrier and below the gate electrode, but region 15b is not). Patent Owner's proposed interpretation should be rejected because: (A) it contradicts the plain and ordinary meaning of the term "above;" and (B) the intrinsic record does not redefine the term.

A. Patent Owner's required direct contact and alignment contradicts the plain and ordinary meaning of "above"

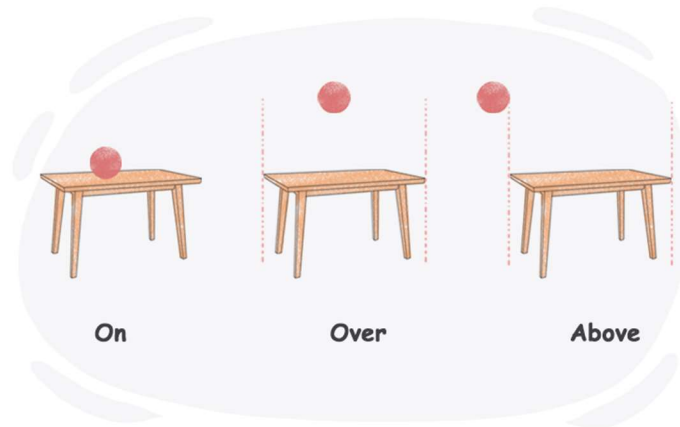
With its interpretation, Patent Owner narrowly construes the term "above" requiring the upper layer (gate contact) to be aligned, centered, directly under, and in direct contact with the lower layer (compensated GaN layer). POPR, 33 (alleging "region 15b is not under the gate electrode 20, as required by claim 1"), 34 (alleging region 15b fails to meet the claim because "*Uemoto* discloses no such contact

between the gate electrode and the p-doped high resistive region 15b,” region 15b is “separated from the gate electrode by the hydrogen diffusion film 17,” and region 15b “extends well beyond the structure of the gate”). Patent Owner’s overly narrow interpretation contradicts the plain and ordinary meaning of “above.”

In the ’294 patent, the claims use the term “above” as a preposition, to convey the spatial relationship between the claimed layers. Ex. 1001, 5:11-6:27 The plain and ordinary meaning of “above” simply refers to the spatial relationship of being “in or to a higher place than.” Ex. 1026.¹ The plain and ordinary meaning of “above,” therefore, only calls for one layer to be higher than another, without requiring alignment or contact. For example, the following image² depicts prepositions of place, illustrating the plain and ordinary understanding for “above.”

¹ See also “above.” 2024. In *Merriam-Webster.com*. Retrieved January 16, 2024. <https://www.merriam-webster.com/dictionary/above>.

² Image from “*Prepositions of Place*” in *English Grammar* | LanGeek. Ex. 1027. Retrieved January 16, 2024. <https://langeek.co/en/grammar/course/69/prepositions-of-place>.



Ex. 1027 at 3.

Previous constructions of the term “above” rejected requirements of alignment and contact. See *EMI Grp. N. Am., Inc. v. Cypress Semiconductor Corp.*, 68 F. Supp. 2d 421, 431 (D. Del. 1999) (construing “above” as “higher than, but not necessarily directly in contact with”); *Infection Prevention Techs., LLC v. Lumalier Corp.*, No. 10-12371, 2012 WL 3248232, at *20 (E.D. Mich. Aug. 8, 2012) (adopting construction of “above” based on plain meaning and rejecting modifications based on horizontal and vertical alignment); *Terlep v. Brinkman Corp.*, No. 02-CV-5127, 2004 U.S. Dist. LEXIS 28453, at *12 (W.D. Ark. Mar. 23, 2004) (construing “above” as “in a higher place than or overhead”).

Because Patent Owner’s construction contradicts and narrows the plain and ordinary meaning of “above,” it can only apply if the patent or its intrinsic record redefines the term. See, e.g., *Straight Path IP Grp., Inc. v. Sipnet EU S.R.O.*, 806 F.3d 1356, 1361 (Fed. Cir. 2015). The ’294 patent never redefines “above.”

B. Neither the patent nor the intrinsic record redefine “above” as requiring direct contact and alignment; accordingly, the plain and ordinary meaning applies

“Absent disclaimer or lexicography, the plain meaning of the claim controls.”

Acceleration Bay LLC v. Activision Blizzard, Inc., No. CV 16-453-RGA, 2017 WL 6539507, at *4 (D. Del. Dec. 20, 2017) (citing *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1369 (Fed. Cir. 2012)). And “redefinition or disavowal is required where claim language is plain.” 806 F.3d at 1361. Here, the term “above” is indisputably plain, and “the specification does not provide a basis for reasonably adopting a construction that contradicts the plain meaning of the claim language.” *Id.*

Nothing in the '294 patent redefines the term “above” to require direct contact and alignment, as Patent Owner proposes. And the '294 patent fails to suggest any disavowal of its intended scope. *Id.*; *Epistar Corp. v. Int'l Trade Comm'n*, 566 F.3d 1321, 1335 (Fed. Cir. 2009) (“Disavowal requires ‘expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope.’”); *Cross Med. Prods., Inc. v. Medtronic Sofamor Danek, Inc.*, 424 F.3d 1293, 1309 (Fed. Cir. 2005) (explaining embodiments in the specification cannot redefine terms). The prosecution history also fails to redefine “above,” using the term with its plain and ordinary meaning. Tellingly, Patent Owner does not identify any definition or description in the '294 patent or its prosecution history to support its interpretation

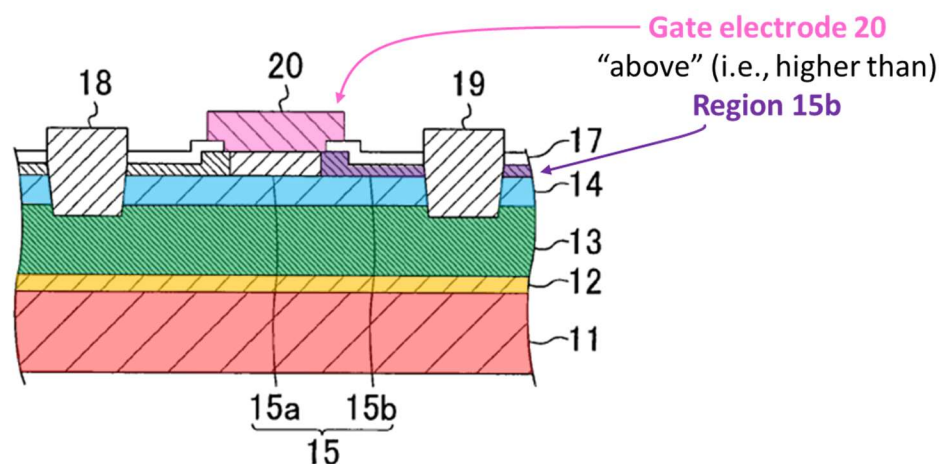
of “above.” Patent Owner’s redefinition, hence, has no support, and “above” simply indicates that one layer is higher than another.

II. REFERENCE *UEMOTO* DISCLOSES “A GATE CONTACT ABOVE THE COMPENSATED GAN LAYER” UNDER ANY INTERPRETATION OF “ABOVE”

Based on its incorrect claim interpretation, Patent Owner criticizes Petitioner’s Ground 2 alleging that *Uemoto*’s **gate electrode 20** is not above the **region 15b**. See POPR at 31-34. Patent Owner’s challenge is not only based on an improper construction, but also on a misinterpretation of *Uemoto*. *Uemoto* does disclose **gate electrode 20** “above” **region 15b** under any interpretation of “above.”

A. *Uemoto* satisfies the plain meaning of “above”: *Uemoto*’s gate contact is “higher than” region 15b (compensated GaN)

Patent Owner does not dispute **region 15b** is “a compensated GaN.” See POPR, 30-34. And, as shown below in *Uemoto*’s FIG. 7, *Uemoto*’s **gate electrode 20** is “above” (i.e., higher than) **region 15b** (the compensated GaN). Petition, 72-76.

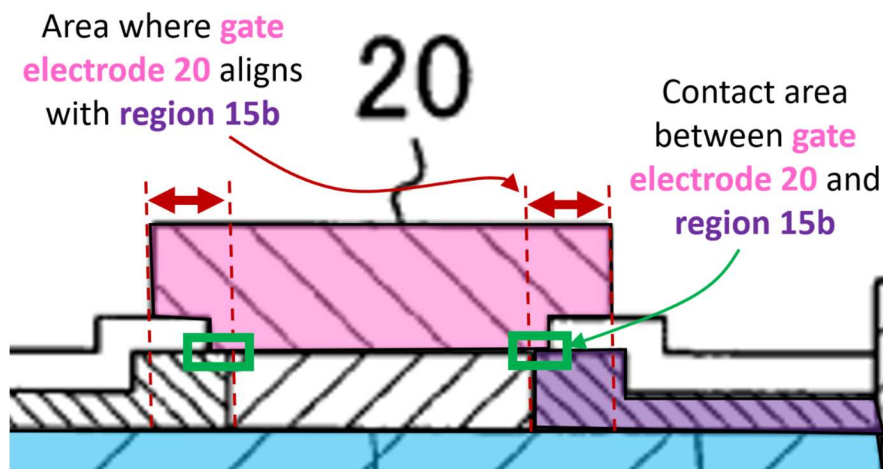


Uemoto, FIG. 7 (annotated)

**B. *Uemoto* satisfies Patent Owner’s construction of “above”:
Uemoto’s gate contact is in direct contact and at least partially
aligned with region 15b (compensated GaN)**

Patent Owner disputes that **gate electrode 20** is “above” **region 15b**, contending that they are not in contact and aligned. POPR, 32-34. Even under this incorrect interpretation, *Uemoto*’s FIG. 7, as relied upon in the Petition, shows **gate electrode 20** in contact and aligned with **region 15b**. Petition, 74-76 (citing *Uemoto*, FIG. 7, [0034], [0062]; *Shealy*, [0249]-[0251]).

The following image shows **gate electrode 20** is not only “above” **region 15b**, but also in contact (areas marked with green squares) and at least partially aligned (areas marked with dark red arrows) with **gate electrode 20**.



***Uemoto*, FIG. 7 (zoomed in and annotated)**

Contrary to Patent Owner’s interpretation, *Uemoto* discloses—or at a minimum suggests—that **gate electrode 20** directly contacts and at least partially aligns with **region 15b**. *Uemoto*, therefore, teaches “a gate contact above the

compensated GaN layer” even under Patent Owner’s improper narrowing conditions for “above,” requiring the gate contact to be in contact and aligned with the compensated GaN. Petition, 74-76.

III. CONCLUSION

A proper construction of “above” does not require the “compensated GaN layer” to be directly in contact and aligned with the gate electrode. The plain and ordinary meaning of “above” is simply higher than, without requirements for alignment or contact. Regardless, as mapped in the Petition, *Uemoto* meets either interpretation because its **gate electrode 20** is not only “above,” but also in direct contact and at least partially aligned with, **region 15b**.

Date: January 16, 2024

Respectfully Submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing **Petitioner's Reply to Patent Owner's Preliminary Response** was served electronically via email on January 16, 2024, in its entirety on the following:

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