

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

EFFICIENT POWER CONVERSION CORPORATION,
Patent Owner

Case IPR2023-01383
U.S. Patent No. 8,404,508

PATENT OWNER'S OPENING SUPPLEMENTAL BRIEF

Pursuant to Paper 34, Patent Owner Efficient Power Conversion Corporation hereby submits this supplemental briefing concerning the proper construction of “etching away the doped GaN layer, except a portion of the doped GaN layer beneath the gate contact” (Claim Element [1e4]).

The parties have previously resolved the question posed by the Board. In the ITC proceeding involving the '508 Patent, the parties agreed that Element [1e4] of Claim 1 of the '508 Patent should be construed as: “etching away the doped gallium nitride layer where it is not beneath the gate contact, without etching beneath the gate contact.” *See, e.g.*, EX1053, 1185:6-1186:1 (Petitioner’s ITC expert recounting his interpretation of parties agreed construction of element [1e4]).¹ As explained below, the agreed construction should be interpreted, as Petitioner’s own expert explained, to require etching at least some doped GaN material “*everywhere*” not under the gate contact while not etching any doped GaN under the gate contact. *Id.* at 1185:6-1188:2 (emphasis added).

I. THE PARTIES PREVIOUSLY AGREED TO A CONSTRUCTION

Despite originally presenting conflicting proposed constructions for Claim

¹ The Board did not explicitly request the parties address independent claims 4 and 5, which recite similar limitations. *See* Claim Elements [4f4], [5f4]; Paper 34. To the extent required by the Board, Patent Owner contends these limitations should be construed and understood in accordance with the parties’ ITC agreement, and as discussed with respect to Claim Element [1e4] herein.

Element [1e4] in the ITC proceeding (*see* EX1039 at 11-13), the parties agreed to a construction at the ITC proceedings’ *Markman* hearing, as described by Petitioner’s expert.² (“The parties agreed to a construction, as shown in green...”).

The parties initially proposed the following constructions:

Patent Owner	Petitioner
“etching away the doped GaN layer without etching beneath the gate contact” (EX1039 at 11)	“etching away the doped GaN layer in all regions extending outside the gate contact” (EX1039 at 12)

Patent Owner proposed its construction for Claim Element [1e4] to comply with canons of claim construction, including being consistent with the claim language while covering all disclosed embodiments and faithfully including the inventive self-aligned gate structure and single mask method of manufacture described as the “present invention.” *See, e.g.*, EX1001, 3:1-9; EX1039 at 11-12. But, during the *Markman* hearing, in an effort to resolve the dispute, the Chief Administrative Law Judge proposed a compromise construction, which Patent

² Patent Owner respectfully requests that the Board take judicial notice of the Final Initial Determination in Investigation No. 337-1166, which memorializes the agreed to construction. *See Innoscience (Zhuhai) Tech. Co., Ltd. v. Efficient Power Conversion Corp.*, IPR2023-01381, EX2022, at 25 (P.T.A.B. Aug. 16, 2024). However, Patent Owner notes that Petitioner’s ITC expert testimony is in evidence and cites that testimony for the Board’s convenience.

Owner agreed was consistent with the intrinsic evidence. As such, both parties agreed Claim Element [1e4] should be construed as: “etching away the doped gallium nitride layer where it is not beneath the gate contact without etching beneath the gate contact.” Thus, Patent Owner preemptively abandoned its initially proposed construction and included the requirement of “etching away the doped [GaN] layer *where it is not beneath the gate contact.*”

The language of the agreed construction, “etching away...where it is not beneath the gate contact” clearly dictates (1) the location that doped GaN material must be removed – everywhere except beneath the gate contact – , and (2) the location where no doped GaN material can be removed – beneath the gate contact. Petitioner’s own non-infringement expert in the ITC proceeding agrees with this interpretation of the agreed upon construction. *See* EX1053, 1185:6-1188:2.

That same agreed to construction should be adopted in this proceeding, and it should be interpreted to require no etching of the doped GaN layer below the gate contract and *at least some* etching of the doped GaN layer “everywhere” not beneath the gate contact. *Id.*

II. THE AGREED CONSTRUCTION IS CORRECT

The parties agreed upon construction and the above interpretation adheres best to the “present invention” of the ’508 Patent and encompasses all embodiments disclosed in the ’508 Patent while agreeing with the canons of claim

construction.

First, the construction properly focuses the relevant portion of the claim on the relevant “present invention” feature – the method of forming a self-aligned gate structure. *See* EX1001, 3:1-9. The self-aligned gate formation process requires a single photo mask to be used to etch the gate contact and the gate material (e.g., doped GaN layer). Thus, by understanding the claim in the context of the “present invention,” etching everywhere except for where masked by the gate photoresist pattern and/or gate contact (as the mask can be removed before etching the doped GaN layer under the claims), follows with understanding of etching processes and the specification. *See also* Paper 17 at 8-10 (illustrating in Fig. 4 on page 10 a self-aligned process removing all material not covered by the gate contact); EX1001, FIG. 8.

Additionally, a construction that requires some vertical etching of the doped GaN material everywhere outside the gate contact is consistent with every embodiment of the ’508 patent. In every embodiment, at least a portion of the doped GaN material is etched away except for beneath the gate contact. *See, e.g.,* EX1001, FIGS. 2, 3C, 4, 5C, 6, 7C, 8-12 (including accompanying description in the specification). Thus, a construction that requires etching away some doped GaN material vertically everywhere except under the gate contact aligns with the plain language of the original claim, the construed claim, and the specification and

should be adopted. *See Wi-Fi One, LLC v. Broadcom Corp.*, 887 F.3d 1329, 1346 (Fed. Cir. 2018) (“the claim must be read...in order to be faithful to the invention disclosed in the specification”); *Renishaw PLC v. Marposs Societa’ per Azioni*, 158 F.3d 1243, 1250 (Fed. Cir. 1998) (“construction that stays true to the claim language and most naturally aligns with the patent’s description of the invention will be, in the end, the correct construction.”).

Therefore, in congruence with Petitioner’s own expert opinion in the ITC proceeding, Claim Element [1e4] should be construed as “etching away the doped gallium nitride layer where it is not beneath the gate contact without etching beneath the gate contact”, requiring some vertical etching of the doped GaN layer “everywhere” outside the gate contact. EX1053, 1185:6-1188:2.

III. CONCLUSION

For the above reasons, Claim Element [1e4] should be construed as previously agreed by the parties and described above.

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Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing **PATENT OWNER'S OPENING SUPPLEMENTAL BRIEF** is being served on counsel of record by filing this document through the Patent Trial and Appeal Case Tracking System (P-TACTS), with a copy served via electronic mail to the following email address, as authorized in the Petition:

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