

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

MICRON TECHNOLOGY, INC.,
Petitioner
v.

YANGTZE MEMORY TECHNOLOGIES COMPANY, LTD.,
Patent Owner

Case No.: IPR2025-00034
U.S. Patent No. 10,879,254

AUTHORIZED RESPONSE TO DIRECTOR REVIEW REQUEST

I. INTRODUCTION

Patent Owner (“PO”) acknowledges its threshold obligation specifically to identify factors the Board overlooked or misapprehended (PO Br., 5), but fails to present any evidence that the Board missed anything. As detailed below, the Board considered each prior art reference that PO identifies, and PO—not the Board—**both** overlooks and misapprehends these references. Similarly, the Board did not rely on “conclusory testimony,” but relied on “significant support”—including prior art that supported the expert testimony. ID, 22. Finally, PO argues that the Board abused its discretion based on a disclaimer that occurred **after** the institution decision, which obviously could not have been overlooked or misapprehended because it did not occur until **after** institution.

II. THE BOARD DID NOT COMMIT ANY FACTUAL OR LEGAL ERROR IN FINDING THAT NAKAJIMA IN VIEW OF THE KNOWLEDGE OF A POSITA RENDERS OBVIOUS ETCHING TWO HOLES SIMULTANEOUSLY

PO alleges that no prior art reference discloses simultaneous etching through the stack and outside the stack. PO Br., 6-9. But PO ignores a critical Board finding about Nakajima, the primary reference. Just after stating that “Petitioner shows significant support for its assertions,” the Board explained that Nakajima discloses “simultaneous etching of other stack and non-stack components.” ID, 22 (citing Nakajima, 17:33-45). For this reason alone, the Director should reject PO’s Request.

Similarly, PO misapprehends the Tessariol and Mushiga prior art references. As to Tessariol, the openings are 54 and 56 (Ex. 1023, ¶¶ 37-38), yet PO highlights the spaces between 54 and 56 apparently to argue that each extends through the stack (PO Br., 8). As is evident from Tessariol Figure 9, some of these vias extend through the entire stack (e.g., all gate layers) and others are entirely outside the stack or extend through a *de minimis* portion of the stack (e.g., a partial gate layer). Ex. 1023, Fig. 9. PO does not dispute that Tessariol describes etching these holes “simultaneously.” Pet., 42 (citing Tessariol, ¶ 37). As to Mushiga (Ex. 1010), the Petition demonstrates that Mushiga discloses a single process, occurring all at the same time, to form holes (and filling structures) outside and inside the stack. Pet., 43 (citing Ex. 1010, 10:31-58). PO simply ignores this disclosure (PO Br., 9), apparently demanding that Mushiga recite the claim language verbatim. That approach contradicts blackletter law. *Adasa Inc. v. Avery Dennison Corp.*, 55 F.4th 900, 913 (Fed. Cir. 2022) (“[A] prior art inventor need not conceive of its invention using the same words as the patentee would later use to claim it.”).

III. THE BOARD DID NOT RELY ON CONCLUSORY TESTIMONY

PO premises its attack against Dr. Lee’s testimony on the assertion that the prior art allegedly does not disclose anything relevant about simultaneous etching of holes through stack and non-stack areas. The Board found that Nakajima itself discloses “simultaneous etching of other stack and non-stack components” (see

supra). And the Board further found that Tessariol and Mushiga describe simultaneous etching (*see supra*).

Next, PO takes issue with Dr. Lee’s straightforward explanation that etching holes simultaneously would save time versus etching the holes sequentially. PO Br., 11. The record contains no contrary evidence, leaving this testimony “uncontested.” ID, 22. PO’s criticism appears to be that there would be other ways to save time, e.g., etching C4 holes outside the stack along with a different type of hole. PO Br., 11 n.2. But a technique that produces an advantage may render an invention obvious even though there are other techniques for achieving the same advantage. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021) (“It’s not necessary to show that a combination is the best option, only that it be a suitable option.”).

Nor does Dr. Lee’s testimony “regurgitate” the Petition. PO Br., 12. Dr. Lee explains, with citation to the prior art, that RIE etching was well known and suitable for simultaneous etching. Ex. 1003, ¶ 114 (citing Exs. 1005, 1023).

Next, PO misapplies the law and the facts in arguing that the ID is “problematic” because Dr. Lee’s testimony provides a “missing limitation” from the prior art. PO Br., 12-13. That entire line of cases is inapposite because those cases describe a different circumstance; to wit, whether it would have been obvious “to supply a limitation that was admittedly missing from the prior art,” e.g., arguing for a modification based on common sense instead of arguing for the inclusion of a well-

known, conventional element from the prior art. *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1362 (Fed. Cir. 2016). Here, Tessariol and Mushiga disclose “simultaneous etching”—there is no missing limitation. Regardless, PO’s argument that “simultaneous etching” is not “simple or straightforward” (PO Br., 12) is not credible. ***In this field***—as is evident from Nakajima, Tessariol, and Mushiga—simultaneous etching was well known and conventional.

Finally, PO argues that because the Board preliminarily found that Petitioner did not adequately support obviousness for some limitations, it should have found that the petition does not support obviousness for the etching limitation as well. PO Br., 13. Yet PO ignores that the Board—***for the etching limitation***—found “significant support” and “uncontested” motivation for the obviousness argument. *Compare* ID, 22 (finding of “significant support” for this etching limitation) *with id.*, 19 (finding “inadequate[] support[]” for dummy limitation).

IV. THE BOARD DID NOT ERR IN NOT EXERCISING ITS DISCRETION TO DENY INSTITUTION

PO’s argument that the Board abused its discretion fails because it relies on a disclaimer made ***after*** the Board’s decision. PO Br., 14-15. The Board could not have overlooked or misapprehended this disclaimer, because it had yet to occur. For this reason, the law upon which PO cites is inapposite. Those decisions rely on weak unpatentability showings, whereas this Board found a reasonable likelihood of unpatentability for an entire group of claims. ID, 22.

Next, as to the claims about which PO alleges that Petitioner made a “weak” showing, the Board was careful to state that its findings are preliminary and its FWD “will be based on the full record developed during trial.” ID, 27. As to the alleged “weak” showing of the “dummy channel” limitation, the Board found such structures in the prior art to which the Petition cites (ID, 16), and there were known benefits to such dummy structures (ID, 15, 17). A full record will refute PO’s arguments that the articulated motivations do not apply to Nakajima and demonstrate that PO misled the Board in applying the “missing limitation” precedent. Put simply, the inclusion of dummy channels has been the norm for well-understood reasons for decades before the priority date of the challenged patent. As to the alleged “weak” showing for “lateral recesses,” the Board credited Petitioner’s citation to prior art disclosing these “lateral recesses.” ID, 26. A full record will refute PO’s arguments regarding motivation and correct PO’s incorrect application of the “missing limitation” precedent.

V. CONCLUSION

For the foregoing reasons, the Institution Decision should not be disturbed.

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby confirms that the foregoing paper was caused to be served on June 9, 2025 via electronic mail, upon the following attorneys of record for the Patent Owner:

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