

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 IPR2024-00910
Patent 10,861,872

PATENT OWNER'S PRELIMINARY SUR-REPLY

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LIST OF EXHIBITS

Exhibit	Description
Ex. 2001	Joint Claim Construction and Prehearing Statement

LIST OF ABBREVIATIONS

Abbreviation	Term
'872	U.S. Pat. No. 10,861,872
Patent Owner or PO	Yangtze Memory Technologies Co. Ltd.
Petition or Pet.	Petition for <i>Inter Partes</i> Review of U.S. Patent No. 10,861,872 (IPR2024-00910, Paper 1)
Petitioner	Micron Technology, Inc.
POSITA	Person of ordinary skill in the art
POPR	Patent Owner's Preliminary Response (Paper 10) filed September 13, 2024
Reply	Petitioner's Reply (Paper 11) filed October 3, 2024
Tessariol	U.S. Patent Pub No. 2019/0081061

Petitioner's Preliminary Reply distorts the plain meaning of the claims, Patent Owner's (PO) arguments, and the applicable case law to try to capture the prior art. Rather, the specification affirms the plain meaning of the claims applied in the POPR is correct. Quite simply, a "dummy source structure" does not include an actual source structure. Petitioner instead attempts to distort this claim term to try to capture prior art. Its arguments fail.

I. A "DUMMY SOURCE STRUCTURE" DOES NOT INCLUDE AN ACTUAL SOURCE STRUCTURE

As set forth in the POPR, the term "dummy source structure" should be construed as a structure that does not function as a source to the memory cells. POPR 19-27. This construction is consistent both with the term's plain and ordinary meaning and the entirety of the intrinsic record. In contrast, Petitioner's proposed construction of "structure[s] that occupies the void that was used for the gate replacement process" (Pet. 29) gives no meaning to the word "dummy" and instead covers actual source structures. *See Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119 (Fed. Cir. 2004) (rejecting "interpretation [that] largely reads the term 'operatively' out of the phrase 'operatively connected'"). Tellingly, Petitioner's Reply never mentions or attempts to defend its construction. Rather, "dummy" is a descriptor of "source structure," and should be given meaning when construed. *Littelfuse, Inc. v. Mersen USA EP Corp.*, 29 F.4th 1376, 1381 (Fed. Cir. 2022) ("give meaning to the term 'fastening stem' by looking to the meaning of

the words ‘fastening’ and ‘stem’ as used in the patent”).

The ’872 discloses both “dummy source structures” and “source structures.” *See* ’872, 16:33-49. “Source structures,” which provide source to gates of the memory cells, are described as connecting to memory strings via the common source. *See, e.g.,* ’872, 16:33-38. The ’872 uses the qualifier “dummy” to distinguish the two types of structures. *Id.* While dummy source structures may function as “interconnects,” the ’872 nowhere describes dummy source structures functioning as a source to the memory cells. *See, e.g.,* ’872, 5:40-43, 11:46-49, 16:66-17:3. The specification’s embodiments are completely consistent with PO’s construction.

Petitioner’s argument that PO’s construction “cannot be correct because it includes a negative limitation” that would read in “a tree house” (Reply 5) misunderstands the law. The Board is required to construe terms “only to the extent necessary to resolve the controversy.” *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019). At issue before the Board is whether the term “dummy source structures” includes actual source structures—it does not.

Petitioner’s suggestion that “[t]here is no dispute that the ‘dummy source structure’ may not be a ‘dummy,’” is also wrong. Reply 5 (citing POPR, 20). While the specification teaches dummy source structures functioning as interconnects (*see* ’872, 16:66-17:3), the ’872 patent does not teach dummy source structures functioning as actual source structures. And Petitioner’s strained argument that

“source” could mean “source for deposition materials” (as opposed to a source to gates of memory cells) falls flat. Petitioner fails to identify any evidence in the intrinsic record where the term “source” means “source for deposition materials”—there is none. Instead, “source” is used consistently in reference to source to gates of the memory cells. *See, e.g.*, ’872, 16:33-38, 11:8-9.

Petitioner premises its arguments on misunderstandings of the specification. Specifically, Petitioner’s reliance on the following passage is misplaced as it never says that a “dummy” source structure is the same as a “source structure”: “In some embodiments, dummy source structure 246 may not connect to channel structures in the inner region.” Reply 2 (citing ’872, 16:38-40). Even if the use of the permissive “may” language in the ’872 suggests embodiments of a dummy source structure may or “may not connect to channel structures,” neither teaching suggests that dummy source structures “function as a source to the memory cells.”

Petitioner incorrectly equates “connect[ion] to channel structures” to functioning as a source. Whether a dummy source structure “connect[s] to channel structures” does not disclose that the dummy source structure provides a “source to the memory cells” (i.e., connects the memory cells to source power). For example, while one end of the dummy source structure may connect to channel structures via the substrate, the other end of the dummy source structure may be an electrical dead end or may connect to peripheral devices. Regardless, the dummy source structure

does not provide a “source.”

Petitioner also misunderstands the ’872’s teaching that dummy source structures “may function as an interconnect” and “extend into the substrate.” See Reply 4 (citing ’872, Claim 1, 16:66-17:3). The ’872 explains that “the dummy source structure 246 may function as an interconnect to connect 3D memory device 100 **with other peripheral devices**”—not as an interconnect to a supply that provides source to the memory cells. ’872, 16:66-17:3 (emphasis added). There is simply no teaching that the dummy source structure provides a source to the memory cells. PO’s construction is consistent with all disclosed embodiments.

Petitioner’s related “disclaimer” argument misapplies the law. There is no narrowing of the claim scope beyond the term’s plain meaning. Disclaimer applies where “the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1317 (Fed. Cir. 2005). Here, PO’s proposed construction is consistent and commensurate with the plain meaning of “dummy source structure” and simply provides meaning to the term “dummy,” which Petitioner attempts to read out.

Petitioner’s arguments should be rejected. “Dummy source structure” does not include actual source structures.

II. CONCLUSION

Petitioner's Reply distorts the plain meaning of this term. A "dummy source structure" requires a "dummy" source structure. Petitioner's arguments should be rejected.

Dated: October 3, 2024

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned certifies that, pursuant to 37 C.F.R. § 42.6(e), the foregoing PATENT OWNER'S PRELIMINARY SUR-REPLY was served in its entirety by filing through the Patent Trial and Appeal Case Tracking System (P-TACTS), as well as providing a courtesy copy via e-mail to the following attorneys of record for Petitioner listed below:

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