

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 IPR2024-00911
Patent 10,937,806

PATENT OWNER'S PRELIMINARY SUR-REPLY

LIST OF EXHIBITS

Exhibit	Description
Ex. 2001	Joint Claim Construction Statement
Ex. 2002	File History of U.S. Pat. No. 10,658,378

LIST OF ABBREVIATIONS

Abbreviation	Term
'806	U.S. Pat. No. 10,937,806
Petition or Pet.	Petition for <i>Inter Partes</i> Review of U.S. Patent No. 10,937,806 (IPR2024-00911, Paper 1)
Patent Owner or PO	Yangtze Memory Technologies Co. Ltd.
Patent Owner's Preliminary Response or POPR	Patent Owner's Preliminary Response for <i>Inter Partes</i> Review of U.S. Patent No. 10,937,806 (IPR2024-00911, Paper 9)
Petitioner	Micron Technology, Inc.
Reply	Petitioner's Preliminary Reply for <i>Inter Partes</i> Review of U.S. Patent No. 10,937,806 (IPR2024-00911, Paper 10)

The plain language of the claim, the '806 specification, and the Petition belie Petitioner's belated attempt to capture the prior art in its Preliminary Reply through a new flawed construction. Claim 10, the sole challenged claim, recites "local contacts disposed on the first and second channel structures and the slit structures" (limitation [8.f]), which forms the antecedent basis for "each local contact of the local contacts" (limitation [10.b]). Petitioner instead argues that "each local contact of the local contacts" refers to only the "local contacts disposed on the first and second channel structures" and not the "local contacts disposed on ... the slit structures." See Reply at 1. Petitioner's arguments should be rejected and the plain meaning of the term "each local contact of the local contacts" should apply.

Petitioner does not dispute that the antecedent basis for "the local contacts" as it appears in the claim 10's limitation ("an etch stop plug interposed between each local contact of *the local contacts* and each channel structure of the first and second channel structures") is claim 8's "*local contacts* disposed on the first and second channel structures and the slit structures" limitation. Under that plain language, "an etch stop plug" must be "interposed between each local contact of the local contacts and each channel structure of the first and second channel structures" as recited in limitation [10.b]. It is not sufficient to show an etch stop plug interposed between "some local contacts" of the local contacts and each channel structure of the first and second channel structures as Petitioner now argues—rather claim 10 requires "each

local contact.” Petitioner’s construction, therefore, improperly reads out the term “each.” *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005) (“A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so.”).

Tellingly, Petitioner does not argue that its proposed construction is the term’s plain and ordinary meaning—it is not. Petitioner’s argument is instead premised on a mischaracterization of the ’806 patent. Specifically, Petitioner wrongly argues that “the ’806 Patent never discloses an etch stop on the slit structures.” Reply at 2. But the ’806 expressly discloses an etch stop plug (or layer) for the slit structure contacts: **“In the case of slit structure contacts** 238 and upper WL contacts 240-1, further etching can be prevented due to **the presence of conductor material 1004** and conductor layer 206, which **can act as an etch stop layer** for the dry etch process.” ’806, 17:57-61. As the ’806 patent explains, the material that fills the slit structure can be formed of a combination of materials (i.e., layers), which include metals and polysilicon. ’806, 16:62-17:1 (“In operation 316 of method 300 shown in FIG. 3, the slit openings can be filled with ... **W, Co, Cu, Al, polysilicon, silicides, or a combination thereof.**”). These materials are used to form an etch stop plug. ’806, 9:44-46 (“Etch stop plug 224 can include semiconductor materials (e.g., polysilicon) or conductor materials (e.g., metals).”). And as the ’806 explains, “[e]tching of dielectric layers to form the openings of first local contacts can be

controlled via the ‘inherent’ etch selectivity between the etched layer (e.g., a dielectric layer) and the underlying layer (a conductor, a nitride or oxide, etc.).” ’806, 17:49-53. Moreover, none of the passages cited by Petitioner precludes an etch stop plug for the slit structure. *See* Reply 1-2 (citing ’806, Fig. 2, 11:27-30, 9:36-53).

Petitioner also distorts Patent Owner’s position—which, as set forth in Patent Owner’s Preliminary Response (POPR), is that the plain meaning of the term simply requires an etch stop plug between each of the local contacts identified in Claim 8 and the channel structures. *See* POPR 36-40, 48-52, 60-61. Patent Owner’s construction is not, as Petitioner wrongly contends, “an etch stop plug interposed between each local contact of the local contacts and each channel structure of the first and second channel structures *[and each of the slit structures]*.” Reply 3-4 (emphasis in original). Relatedly, Petitioner misreads the claims as requiring that “Only the local contacts for the channel structures are above the channel structures.” *See* Reply at 4. The claims never recite this limitation—nor is there any support for reading such a negative limitation into the claims.

Indeed, in Petitioner’s analysis of the language in Claim 8, from which claim 10 depends, Petitioner recognizes that “local contacts disposed on the first and second channel structures and the slit structures” (limitation [8.f]) requires “**local contacts disposed on ... the slit structures**” (see Pet. at 42-44 (emphasis original)). The Petition itself thus recognizes that “the local contacts” includes the “local

contacts disposed on ... the slit structures.”

Had Petitioner intended to apply a construction inconsistent with the plain meaning in its Petition, Petitioner should have made that express in the Petition. Instead, Petitioner asserted that “Petitioner submits that the terms of the 806 Patent’s claims do not require further construction and should receive their plain and ordinary meaning.” Pet. at 26.

Regardless, Petitioner’s belated construction, as set forth in its Reply should be rejected because it: 1) is inconsistent with the plain meaning of claim 10; 2) is inconsistent with the teachings of the ’806 patent, and 3) attempts to read words out of the claim. The plain meaning of “each local contact of the local contacts” should apply and refer to “each” of the previously recited “local contacts disposed on the first and second channel structures and the slit structures.”

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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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