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.: IPR2024-00789
U.S. Patent No. 10,861,872
Issue Date: December 8, 2020

Title: THREE-DIMENSIONAL MEMORY DEVICE AND METHOD FOR FORMING THE SAME

PETITIONER'S EXPLANATION OF MULTIPLE PETITIONS CHALLENGING U.S. PATENT 10,861,872 AND RANKING OF PETITIONS

As required by the Board's Trial Practice Guide, Petitioner Micron Technology Inc. ("Micron") provides this paper explaining the need for two parallel petitions requesting *inter partes* review ("IPR") of the claims of U.S. Patent No. 10,861,872 ("the '872 patent"). The '872 patent is owned by Yangtze Memory Technologies Company, Ltd. ("YMTC"). Micron has filed two IPR petitions relating to the '872 patent: IPR2024-00789 (filed April 18, 2024) seeks IPR of claims 1-6 and 11-13 while IPR2024-00910 (filed May 17, 2024) seeks IPR of claims 7-10. Both petitions rely on overlapping prior art, including Park (Ex. 1005) as the primary reference, and the second petition merely challenges additional dependent clams that Petitioner could not have foreseen that YMTC would assert in district court. Each '872 patent claim-at-issue is challenged in only a single petition.

I. <u>Two Petitions Are Needed</u>

Micron submits that two petitions are needed here in view of YMTC's belated decision to interject additional, different asserted claims into the co-pending district court action relating to the '872 patent.

Independent claim 1 of the '872 patent—the only independent claim at issue—is directed to a "three-dimensional (3D) memory device" with a number of structural components, including a "memory stack," "staircase structure," "staircase contact," and "dummy source structures" that each "extend[] vertically through the staircase structure," "surround[] the staircase contact," and "comprise[] a conductive

contact." Claims 2-13 all depend from claim 1. Dependent claims 2-6 and 11-13 are similar in that they all impose additional limitations on components already referenced by claim 1, including the "dummy source structures," "staircase contact," and "conductive contact." Dependent claims 7-10, however, are different from the other dependent claims. Rather than referencing only the existing components of claim 1, these claims require the presence of an additional component: "a plurality of dummy channel structures" that also "surround[] the staircase contact" and "extend vertically through the staircase structure."

YMTC filed a district court complaint alleging infringement of the '872 patent and several other unrelated patents on November 9, 2023. *See* Ex. 1031. The complaint identified independent claim 1 as the sole asserted claim from the '872 patent. *See id.* at 22. YMTC filed an amended complaint on February 2, 2024. *See* Ex. 1032. Once again, YMTC identified claim 1 as the only '872 patent asserted claim. *See id.* at 22-23.

In view of YMTC's identification of claim 1, Micron filed its first petition for IPR of the '872 patent addressing claim 1 and the set of dependent claims referencing the same components required by that claim on April 18, 2024. *See* IPR2024-00789, Paper 1. This first petition did not address dependent claims 7-10 because YMTC had not yet (and could not have credibly) alleged that any Micron product included the further "plurality of dummy channel structures" those claims require.

A week after receiving Micron's IPR petition, YMTC served a "Disclosure of Asserted Claims and Infringement Contentions" in the co-pending district court action involving the '872 patent. *See* Ex. 1033. These contentions expanded the collection of asserted '872 patent claims to include not just independent claim 1 and associated dependent claims 2-6 and 11-13, but also dependent claims 7-10 that graft on an additional required component. *See id.* at 2. While Micron does not believe that these expanded infringement allegations have merit, it followed up by expeditiously filing a further IPR petition challenging the newly asserted claims.

The Board has explained that multiple, parallel petitions are justified when a Patent Owner "has asserted a large number of claims in litigation." Nov. 2019 Consolidated Trial Practice Guide, 59. Here, YMTC asserted a collection of claims from the '872 patent with differing scope. Again, claim 1 requires a "three-dimensional (3D) memory device" with a "memory stack," "staircase structure," "staircase contact," and "plurality of dummy source structures." Dependent claims 2-6 and 11-13 reference and further limit this same set of components. Dependent claims 7-10, however, are narrower in that they add another required component: "a plurality of dummy channel structures." Moreover, not only did YMTC assert different sets of claims with different scope, but it did so in a staggered, staged fashion. Thus, even if it were possible for Micron to challenge all of the now asserted claims in a single petition, it was not put on notice of the need to do so until

after it had already filed its first petition. Two petitions are justified to account for these unique factual circumstances.

Micron also submits that any additional burden on either the Board or Patent Owner resulting from multiple petitions in this case should be negligible. Both petitions rely on overlapping collections of prior art. The second petition applies the same arguments and claim mapping to claim 1 (from which claims 7-10 ultimately depend) as a ground 1 (Park) in the first petition. In addition, Micron has employed the same expert witness to support both petitions. This will maximize the efficiency of depositions, briefing, and oral argument and avoid duplication of effort. This further supports institution.

II. Petition Ranking

For the reasons discussed above and in the petitions themselves, the Board should institute both petitions. Under the circumstances, Micron submits that a ranking of petitions is not appropriate given that they challenge unique claim sets with no overlap. In the event, however, that the Board determines that only one petition should be instituted, Micron requests that the Board consider the petitions in the following order:

Rank	Petition	Challenged Claims
1	IPR2024-00789	1-6 and 11-13
2	IPR2024-00910	7-10

Respectfully submitted,

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CERTIFICATE OF SERVICE

The undersigned hereby confirms that the foregoing paper was caused to be served on May 17, 2024 via electronic mail, upon the following attorneys of record for the Patent Owner:

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