

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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SK HYNIX INC., SK HYNIX AMERICA INC., and  
SK HYNIX MEMORY SOLUTIONS INC.,  
Petitioner,

v.

NETLIST, INC.,  
Patent Owner.

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Case IPR2017-00561  
Patent 8,001,434 B1

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Before BRYAN F. MOORE, MATTHEW R. CLEMENTS, and  
SHEILA F. McSHANE, *Administrative Patent Judges*.

MOORE, *Administrative Patent Judge*.

FINAL WRITTEN DECISION  
*35 U.S.C. 318(a)*

## I. INTRODUCTION

SK hynix Inc., SK hynix America Inc., and SK hynix memory solutions Inc., (collectively “Petitioner”) filed a Petition (Paper 1, “Pet.”) pursuant to 35 U.S.C. §§ 311–319 to institute an *inter partes* review of claims 1–7 (“the challenged claims”) of U.S. Patent No. 8,001,434 B1 (“the ’434 Patent,” Ex. 1001). The Petition is supported by the Declaration of Pinaki Mazumder, Ph.D. (“Mazumder Declaration,” “Mazumder Dec.,” Ex. 1003). Netlist, Inc. (“Patent Owner”) filed a Preliminary Response (“Prelim. Resp.,” Paper 6).

On July 7, 2017, we instituted an *inter partes* review of claims 1–7 of the ’434 Patent, but did not institute on all grounds. Paper 7, 7, 33 (“Inst. Dec.”). Patent Owner filed a Response. Paper 14 (“PO Resp.”). The Patent Owner Response is supported by the Declaration of R. Jacob Baker, Ph.D. (“Baker Declaration,” “Baker Dec.,” Ex. 2010). Petitioner filed a Reply. Paper 18 (“Reply”).

On February 28, 2018, Petitioner and Patent Owner filed motions to exclude. Paper 21 (“Pet. Mot. to Excl.”); Paper 23 (“PO Mot. to Excl.”). Petitioner and Patent Owner filed responses to their respective motions to exclude. Paper 25 (“Pet. Mot. to Excl. Resp.”); Paper 26 (“PO Mot. to Excl. Resp.”). Petitioner and Patent Owner filed replies to those respective responses. Paper 29 (“Pet. Mot. to Excl. Reply”); Paper 30 (“PO Mot. to Excl. Reply”).

On March 13, 2018, we entered a *sua sponte* Order to Show Cause why the *inter partes* review should not be terminated as to claim 1 because it has been finally adjudicated as unpatentable. Paper 24 (“Show Cause

Order”). Petitioner and Patent Owner responded to the order. Paper 27 (“Pet. Show Cause Resp.”); Paper 28 (“PO Show Cause Resp.”).

An oral hearing was held on April 6, 2018. Paper 34 (“Tr.”).

On April 24, 2018, the Supreme Court held that a decision on institution under 35 U.S.C. § 314 may not institute on less than all claims challenged in the petition. 138 S. Ct. 1348 (2018). We modified our Institution Decision to institute trial on all of the challenged claims and all of the grounds presented in the Petition. Paper 35 (“SAS Order”). We invited the parties to request briefing regarding the newly added grounds and no request was made. *Id.*

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has shown by a preponderance of the evidence that claims 2–7 are unpatentable. Based on collateral estoppel, we also terminate the trial pursuant to 37 C.F.R. § 42.72 as to claim 1.

#### *A. Related Proceedings*

Petitioner recites a list of District Court proceedings related to this *inter partes* review. Pet. 5. This *inter partes* review challenges the same patent at issue in the decision entered in IPR2014-00970 (the ’970 IPR). *See Sandisk Corp. v. Netlist, Inc.*, Case IPR2014-00970 (PTAB Dec. 16, 2014) (Paper 12). In the ’970 IPR, as to the claims at issue here, claim 1 was held unpatentable as anticipated by Averbuj in a final written decision. *Sandisk Corp. v. Netlist, Inc.*, Case IPR2014-00970 (PTAB Dec. 14, 2015) (Paper 32). That decision was appealed to Federal Circuit, the decision was affirmed, and the mandate issued on December 21, 2017. *See Exs. 1029,*

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1034. In the '970 IPR, claims 2–7 were also challenged as obvious over Averbuj and Tsern, but that challenge was not instituted. *Sandisk*, IPR2014-00970 (Paper 12).

The '434 Patent was also challenged in IPR2014-01372 (the '1372 IPR). In the 1372 IPR, as to the claims at issue here, claims 1–4 were held not unpatentable as anticipated by Averbuj (under a different theory of anticipation than the '970 IPR) in a final written decision. *Smart Modular Techs. Inc. v. Netlist, Inc.*, Case IPR2014-01372 (PTAB March 9, 2016) (Paper 45). The decision in the '1372 IPR was not appealed to Federal Circuit.

The '434 Patent was also challenged in IPR2014-01373 (the '1373 IPR), in which institution was denied as to all challenges on the merits. *Smart Modular Techs. Inc. v. Netlist, Inc.*, Case IPR2014-01373 (PTAB Mar. 13, 2015) (Paper 16). Neither Averbuj nor Tsern was asserted in the '1373 IPR.

#### *B. The '434 Patent*

The '434 Patent relates to self-testing electronic memory modules. Ex. 1001, 1:23–24. A block diagram of an exemplary self-testing memory module is shown in Figure 3 of the '434 Patent, reproduced below.



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