Paper 49 Date: March 21, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE BEFORE THE PATENT TRIAL AND APPEAL BOARD INTEL CORPORATION, Petitioner, v.

QUALCOMM INCORPORATED, Patent Owner.

> IPR2018-01334¹ Patent 8,838,949 B2

Before TREVOR M. JEFFERSON, DANIEL J. GALLIGAN, and AARON W. MOORE, *Administrative Patent Judges*.

Opinion for the Board filed by *Administrative Patent Judge* DANIEL J. GALLIGAN.

Opinion Concurring-in-Part and Dissenting-in-Part filed by *Administrative Patent Judge* AARON W. MOORE.

GALLIGAN, Administrative Patent Judge.

JUDGMENT Final Written Decision on Remand Determining Challenged Claims Unpatentable 35 U.S.C. § 318(a)

¹ IPR2018-01335 and IPR2018-01336 have been consolidated with the instant proceeding.



I. INTRODUCTION

This case is on remand from the Court of Appeals for the Federal Circuit to address the patentability of claims 1–9, 12, 16, and 17 of U.S. Patent No. 8,838,949 B2 ("the '949 patent," Ex. 1001). *See Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 814 (Fed. Cir. 2021).

For the reasons discussed below, we determine that Petitioner has proven by a preponderance of the evidence that claims 1–9, 12, 16, and 17 are unpatentable. *See* 35 U.S.C. § 316(e) ("In an inter partes review instituted under this chapter, the petitioner shall have the burden of proving a proposition of unpatentability by a preponderance of the evidence.").

A. Background

On July 3, 2018, Intel Corporation ("Petitioner") filed three petitions challenging claims of the '949 patent as follows: IPR2018-01334 (claims 1–9, 22, and 23), IPR2018-01335 (claims 10–17), and IPR2018-01336 (claims 18–21). Petitioner asserts that the claims are unpatentable on the following grounds:

In IPR2018-01334:

Claim(s) Challenged	35 U.S.C. § ²	Reference(s)/Basis
1–9, 22, 23	103(a)	Bauer, ³ Svensson, ⁴ Kim ⁵

⁵ Korean Patent Application Publication No. 10-2002-0036354, published May 16, 2002 (Ex. 1011). References to Kim in this Decision are to the English translation provided by Petitioner as Exhibit 1012.



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² The Leahy-Smith America Invents Act ("AIA") included revisions to 35 U.S.C. §§ 103 and 112 that became effective after the filing of the application for the '949 patent. Therefore, we apply the pre-AIA versions of these sections.

³ US 2006/0288019, published Dec. 21, 2006 (Ex. 1009).

⁴ US 7,356,680 B2, issued Apr. 8, 2008 (Ex. 1010).

In IPR2018-01335:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
10–15	103(a)	Bauer, Svensson, Kim
16, 17	103(a)	Bauer, Svensson, Kim, Zhao ⁶

In IPR2018-01336:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
18–21	103(a)	Bauer, Svensson, Kim, Lim ⁷

We instituted review in each case on all grounds presented. IPR2018-01334, Paper 10 ("Dec. on Inst."), 29; IPR2018-01335, Paper 10 ("1335 Dec. on Inst."), 8 38; IPR2018-01336, Paper 10 ("1336 Dec. on Inst."), 32.

After institution, we consolidated IPR2018-01335 and IPR2018-01336 with IPR2018-01334 and terminated IPR2018-01335 and IPR2018-01336. Paper 12.

During the trial, Qualcomm Incorporated ("Patent Owner" or "Qualcomm") filed a Response (Paper 16, "PO Resp."), Petitioner filed a Reply (Paper 21, "Pet. Reply"), and Patent Owner filed a Sur-reply (Paper 25, "PO Sur-reply").

An oral hearing was held on December 12, 2019, a transcript of which appears in the record. Paper 29 ("Tr.").

⁸ We use prefixes "1335" and "1336" to denote papers and exhibits from IPR2018-01335 and IPR2018-01336, respectively. We do not use a prefix for papers and exhibits from IPR2018-01334.



⁶ US 2007/0140199 A1, published June 21, 2007 (Ex. 1013).

⁷ US 7,203,829 B2, published Apr. 10, 2007 (Ex. 1014).

B. Final Written Decision and Federal Circuit Appeal

We issued a Final Written Decision holding that Petitioner had proven claims 10, 11, 13–15, and 18–23 unpatentable but had not proven claims 1–9, 12, 16, and 17 unpatentable. Paper 30 ("Final Decision" or "Final Dec.") at 63–64.

Petitioner filed a Notice of Appeal of the Final Decision with the United States Court of Appeals for the Federal Circuit as to our determination with respect to claims 1–9, 12, 16, and 17. Paper 31. Patent Owner filed a Notice of Cross-Appeal as to our determination with respect to claims 10, 11, 13–15, and 18–23. Papers 32, 33.

On December 28, 2021, the Federal Circuit issued a decision in the appeal vacating our Final Decision as to claims 1–9, 12, 16, and 17 and remanding for further proceedings. *Intel*, 21 F.4th at 814. In particular, the Federal Circuit "vacate[d] the Board's construction of the term 'hardware buffer,' its determination that claims 1–9 and 12 were non-obvious over the prior art, and its conclusion that claims 16–17 lacked sufficient corresponding structure in the specification, and . . . remand[ed] for further proceedings consistent with this opinion." *Id.* At the Federal Circuit, Patent Owner dropped its challenge to our determination of unpatentability as to claims 10, 11, 13–15, and 18–23. *See id.* at 806 ("The Board ruled that Intel had proved the unpatentability of claims 10, 11, 13–15, and 18–23, but Qualcomm, despite filing a cross-appeal to raise the issue, no longer challenges that ruling.").

The Federal Circuit issued its mandate on February 3, 2022.



C. Remand Proceedings

On February 17, 2022, we held a conference call with counsel for the parties to discuss a schedule on remand. *See* Paper 34 at 2–4. Before the call, the parties met and conferred and agreed to a schedule, which we adopted. *See* Paper 34; Ex. 3001. The parties filed the following briefing according to that schedule: Petitioner's Opening Brief on Remand (Paper 35, "Pet. Remand Br."); Patent Owner's Response Brief on Remand (Paper 37, "PO Remand Br."); Petitioner's Reply on Remand (Paper 39, "Pet. Remand Reply"); and Patent Owner's Sur-reply on Remand (Paper 40, "PO Remand Sur-reply").

An oral hearing to discuss the issues on remand was held on August 4, 2022, a transcript of which appears in the record. Paper 46 ("Remand Tr.").

D. Real Parties in Interest

Petitioner identifies itself and Apple Inc. as real parties in interest. Pet. 2. Patent Owner identifies itself as the real party in interest. Paper 4, 2.

E. The '949 Patent and Illustrative Claim

The '949 patent generally relates to loading software from one processor to another in a multi-processor system. Ex. 1001, code (57). One example disclosed in the '949 patent involves loading modem image executable data by first retrieving and processing an image header, which "includes information used to identify where the modem image executable data is to be eventually placed into the system memory of the secondary processor." Ex. 1001, 8:9–21. Figure 3 of the '949 patent is reproduced below.



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