

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

INTEL CORPORATION,
Petitioner,

v.

QUALCOMM, INC,
Patent Owner.

IPR2018-01261¹
Patent 9,535,490 B2

Before DANIEL N. FISHMAN, DANIEL J. GALLIGAN, and
AARON W. MOORE, *Administrative Patent Judges*.

FISHMAN, *Administrative Patent Judge*.

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

¹ IPR2018-01293, IPR2018-01295, IPR2018-01344, and IPR2018-01346, each directed to claims of this same patent, have been consolidated with the instant proceeding in accord with 37 C.F.R. § 42.122(a).

I. INTRODUCTION

A. *Background and Summary*

Intel Corporation (“Petitioner”) requests *inter partes* review of claim 31 of U.S. Patent No. 9,535,490 B2 (the “’490 patent,” Ex. 1001) pursuant to 35 U.S.C. § 311 *et seq.* Paper 3 (“Petition,” “Pet.,” or “1261PET”). Qualcomm, Inc. (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”). On January 15, 2019, based on the record before us at that time, we instituted an *inter partes* review of claim 31 on the sole ground of unpatentability asserted in the Petition. Paper 8 (“Decision on Institution” or “Dec. on Inst.”).

Concurrently with the filing of this Petition, Petitioner filed four additional petitions in each of IPR2018-01293, IPR2018-01295, IPR2018-01344, and IPR2018-01346. Each of those four petitions challenge other claims of the ’490 patent.² Patent Owner filed a Preliminary Response in each of these additional cases presenting similar arguments to those presented in the Preliminary Response in the instant case. The grounds asserted, the references relied upon for those grounds, and the arguments presented, in each of these four additional petitions are similar to those of the instant matter. In each of these four additional, concurrently filed petitions, based on the record before us and for reasons similar to those in the instant case, we instituted review on all asserted grounds for the claims challenged in each petition. In an Order entered January 29, 2019, we consolidated cases IPR2018-01293, IPR2018-01295, IPR2018-01344, and

² Where all five petitions are substantively the same, we cite only to the petition in the instant case (IPR2018-01261). In like manner, where each of our five Decisions on Institution reaches the same conclusion, we cite only to our Decision on Institution for the instant case (IPR2018-01261).

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IPR2018-01346 into the instant case. Paper 10. Having instituted all challenged claims in each of the petitions on all grounds, the consolidated proceeding involves *inter partes* review of claims 1–6, 8, 9, 11–13, 16, 17, 20, 22–24, 26–28, 30, and 31 (the “challenged claims”).

In this consolidated proceeding, Patent Owner filed a Patent Owner’s Response (Paper 21, “PO Resp.”),³ Petitioner filed a Reply (Paper 20, “Reply”), and Patent Owner filed a Sur-Reply (Paper 23, “Sur-Reply”).

Oral argument was held on October 9, 2019 and a transcript of that hearing is in the record. Paper 29 (“Tr.”).

Upon consideration of the complete record, we determine by a preponderance of the evidence that claims 1–6, 8, 9, 11–13, 16, 17, 20, 22–24, 26–28, 30, and 31 (all challenged claims) are unpatentable.

B. Consolidated Papers and Exhibits

The petitions filed in each of the consolidated cases are entered in the record of this case (IPR2018-01261) as exhibits, namely the petition in IPR2018-01293 (“1293PET,” Ex. 1028), the petition in IPR2018-01295 (“1295PET,” Ex. 1029), the petition in IPR2018-01344 (“1344PET,” Ex. 1030), and the petition in IPR2018-01346 (“1346PET,” Ex. 1031).

Several exhibits in each of the consolidated cases are identical but are numbered differently in each of the consolidated cases. The parties jointly filed a paper describing the correspondence of the substantively identical exhibits. Paper 13. For example, Exhibit 1001 in this proceeding (IPR2018-

³ Patent Owner filed an earlier Response as Paper 17, which lacked proper page numbering. Patent Owner later filed an authorized, corrected version of its Response as Paper 21 (PO Resp.) with page numbers added and no substantive changes to the arguments. We address Patent Owner’s arguments as presented in that corrected Patent Owner Response.

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01261), the '490 patent, is identified as Exhibit 1101 in 1293PET, as Exhibit 1201 in 1295PET, as Exhibit 1301 in 1344PET, and as Exhibit 1401 in 1346PET. Paper 13, 1. For all such substantively identical exhibits, despite each consolidated petition referring to its unique exhibit numbers, we refer to the exhibit numbers used in IPR2018-01261 (this proceeding).

Of particular note, Petitioner's expert, Dr. Bill Lin, provides a declaration in each of the five consolidated petitions (Ex. 1002 in IPR2016-01261, Ex. 1102 in IPR2018-01293, Ex. 1202 in IPR2018-01295, Ex. 1302 in IPR2018-01344, and Ex. 1402 in IPR2018-01346). Although much of Dr. Lin's analysis is similar or identical in the five cases, the declarations are not substantively identical (some arguments apply to claims only challenged in the corresponding petition) nor syntactically identical (even for similar arguments, page and paragraph numbers are different). Exhibits 1102, 1202, 1302, and 1402 from these four consolidated proceedings are entered in the record of this consolidated case (IPR2018-01261) as Exhibits 1018, 1019, 1020, and 1021, respectively.

C. Real Parties in Interest

Petitioner identifies both Intel Corporation and Apple Inc. as real parties in interest. Pet. 1. Patent Owner identifies itself (Qualcomm, Inc.) as the sole real party in interest for Patent Owner. Paper 5, 2.

D. Related Matters

The parties informed us that the '490 patent is presently asserted against Petitioner in the litigation *Qualcomm Inc. v. Apple Inc.*, Case No. 3:17-cv-01375-DMS-MDD (S.D. Cal.), and against Apple in a proceeding before the International Trade Commission ("ITC") captioned *In the Matter of Certain Mobile Electronic Devices and Radio Frequency Components Thereof*, Inv. No. 337-TA-1065. Pet. 1–2; Paper 5, 2. The ITC investigation

addressed claim 31 of the '490 patent and we find the Commission's final Commission Opinion informative in this Decision. *See* Ex. 1022.

The parties further informed us that the '490 patent is at issue in the above-identified, concurrently filed petitions for *inter partes* review of claims of the '490 patent (i.e., cases IPR2018-01293, IPR2018-01295, IPR2018-01344, and IPR2018-01346). *See* Pet. 2; Paper 5, 2. As noted above, these four related proceedings before the Board have been consolidated into this proceeding.

E. The '490 Patent

The '490 patent is generally directed to power saving techniques in computing devices. Ex. 1001, code (54), code (57). According to the '490 patent, although stationary desktop computers and servers are generally immune to power consumption issues, “mobile devices constantly struggle to find a proper balance between available functions and battery life.” *Id.* at 1:28–31. The '490 patent further indicates that mobile devices utilize internal bus structures to connect components within the mobile device and that increased performance demands have led to use of faster, higher-power-consuming interconnect bus structures within mobile devices (e.g., Peripheral Component Interconnect Express “PCIe” and Universal Serial Bus “USB” 3.0). *Id.* at 1:36–60.

Figure 1C of the '490 patent is reproduced below.

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