

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TCL INDUSTRIES HOLDINGS CO., LTD. and HISENSE CO., LTD.,
Petitioner,¹

v.

PARKERVISION, INC.,
Patent Owner.

IPR2021-00985
Patent 7,292,835 B2

Before MICHAEL R. ZECHER, BART A. GERSTENBLITH, and
IFTIKHAR AHMED, *Administrative Patent Judges*.

GERSTENBLITH, *Administrative Patent Judge*.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

¹ The caption is updated to remove Petitioner ZyXEL Communications Corp. (“ZyXEL”) because ZyXEL is no longer a party to this proceeding. See Paper 13 (Settlement Prior to Institution of Trial Only as to ZyXEL Communications Corp.). The parties shall use this caption (without this footnote) going forward.

I. INTRODUCTION

A. Background

TCL Industries Holdings Co., Ltd.; Hisense Co., Ltd.; and ZyXEL filed a Petition (Paper 1, “Pet.”) requesting institution of *inter partes* review of claims 1, 12–15, and 17–20 (“the Challenged Claims”) of U.S. Patent No. 7,292,835 B2 (Ex. 1001, “the ’835 patent”). ParkerVision, Inc. (“Patent Owner”) filed a Preliminary Response (Paper 9, “Prelim. Resp.”). ZyXEL and Patent Owner reached a settlement and this proceeding was terminated only as to ZyXEL. Paper 13. TCL Industries Holdings Co., Ltd. and Hisense Co., Ltd. (collectively, “Petitioner”) remain as parties in the proceeding.

An *inter partes* review may be instituted only if “the information presented in the petition . . . and any [preliminary] response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a) (2018). For the reasons below, Petitioner has established a reasonable likelihood that it would prevail in showing the unpatentability of at least one of the Challenged Claims. Accordingly, we institute an *inter partes* review of the Challenged Claims on all grounds raised in the Petition.

B. Related Proceedings

The parties identify the following as related matters: *ParkerVision, Inc. v. TCL Industries Holdings Co., Ltd. et al.*, No. 6:20-cv-00945 (W.D. Tex.) (“the TCL Litigation”); *ParkerVision, Inc. v. Hisense Co., Ltd. et al.*, No. 6:20-cv-00870 (W.D. Tex.) (“the Hisense Litigation”)²; *ParkerVision,*

² Collectively, we refer to the TCL and Hisense Litigations as the “Related Litigations.”

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Inc. v. ZyXEL Communications Corp., No. 6:20-cv-01010 (W.D. Tex.)³; and *ParkerVision, Inc. v. LG Electronics Inc.*, No. 6:21-cv-00520 (W.D. Tex.). Pet. 13–14; Paper 6 (Petitioner’s Updated Mandatory Notice), 1; Paper 8 (Patent Owner’s Mandatory Notices), 1. Petitioner also identifies *ParkerVision, Inc. v. Buffalo Inc.*, No. 6:20-cv-01009 (W.D. Tex.), as a related matter involving the ’835 patent. Pet. 14. Additionally, Petitioner challenges several claims of U.S. Patent No. 7,110,444 B1, owned by Patent Owner, in IPR2021-00990. Pet. 14; Paper 8, 1.⁴

C. Real Parties in Interest

Petitioner identifies TCL Industries Holdings Co., Ltd.; Hisense Co., Ltd.; TCL Electronics Holdings Ltd.; Shenzhen TCL New Technology Co., Ltd.; TCL King Electrical Appliances (Huizhou) Co., Ltd.; TCL Moka Int’l Ltd.; TCL Moka Manufacturing S.A. DE C.V.; TCL Technology Group Corp.; TTE Technology, Inc.; and Hisense Visual Technology Co., Ltd. (f/k/a Qingdao Hisense Electronics Co., Ltd.) as real parties in interest.⁵ Pet. 13. Patent Owner identifies ParkerVision, Inc. as the sole real party in interest. Paper 8, 1.

³ After the parties’ briefing, the district court granted a joint motion to dismiss with prejudice and the case is now closed. *See* Ex. 3001 (Docket Entry 25, Order dated Sept. 27, 2001).

⁴ Patent Owner identifies the instant proceeding—IPR2021-00985—as a related matter, but we understand Patent Owner to refer to IPR2021-00990. *See* Paper 8, 1.

⁵ In a footnote, Petitioner also identifies ZyXEL Communications Inc., a U.S. subsidiary of ZyXEL, but contends that it is not a real party in interest. Pet. 13 n.4.

D. The Asserted Grounds of Unpatentability and Declaration Evidence

Petitioner challenges the patentability of claims 1, 12–15, and 17–20 of the '835 patent on the following grounds:

Claim(s) Challenged	35 U.S.C. § ⁶	Reference(s)/Basis
1, 12, 15, 17	103(a)	Hulkko, ⁷ Gibson ⁸
1, 12, 15, 17	103(a)	Hulkko, Gibson, Goldberg, ⁹ Thacker, ¹⁰ ITU-T J.83b, ¹¹ AAPA ¹²
1, 12–15, 17–20	103(a)	Gibson, Schiltz ¹³
1, 12–15, 17–20	103(a)	Gibson, Schiltz, Goldberg, Thacker, ITU-T J.83b, AAPA

Pet. 17. In the Petition, Petitioner first sets forth its grounds as though there are two: Hulkko and Gibson (Ground 1), and Gibson and Schiltz (Ground 2).

⁶ The Leahy-Smith America Invents Act (“AIA”) included revisions to 35 U.S.C. § 103 that became effective on March 16, 2013. Because the '835 patent has an effective filing date before March 16, 2013, we apply the pre-AIA version of the statutory basis for unpatentability.

⁷ U.S. Patent No. 5,734,683, issued Mar. 31, 1998 (Ex. 1004, “Hulkko”).

⁸ U.S. Patent No. 4,682,117, issued July 21, 1987 (Ex. 1005, “Gibson”).

⁹ L. Goldberg, “MCNS/DOCSIS MAC Clears a Path for the Cable-Modem Invasion,” *Electronic Design*; Dec. 1, 1997; 45, 27; Materials Science & Engineering Collection pg. 69 (Ex. 1007, “Goldberg”).

¹⁰ U.S. Patent No. 6,011,548, issued Jan. 4, 2000 (Ex. 1008, “Thacker”).

¹¹ ITU-T J.83 Recommendation (Apr. 1997) (Ex. 1009, “ITU-T J.83b”). Petitioner includes the letter “b” in its references to this exhibit although the title does not include the letter “b.” *See, e.g.*, Pet. 17, 42. For consistency, we refer to the exhibit in the same manner as Petitioner by including the letter “b.”

¹² Applicant admitted prior art (“AAPA”) refers to the '835 patent, at column 40, lines 17–35, which states, *inter alia*, that “[t]he cable modem receivers, transmitters, and transceivers of the present invention may be

Id. Petitioner, however, explains that “if the Board finds that the preamble of claim 1 is limiting—and thus requires a ‘cable modem’—then Petitioner[] submit[s] that the [C]hallenged [C]laims are obvious for the reasons above and further in view of publications (*e.g.*, Goldberg and Thacker) describing the then-existing cable modem standards (ITU-T J.83b and DOCSIS) and/or AAPA.” *Id.* Accordingly, the chart above includes the alternative grounds set forth in the Petition.

Additionally, Petitioner supports its challenge with a Declaration by Matthew B. Shoemake, Ph.D. (Ex. 1002) and a Declaration by Brenda Ray (Ex. 1010).

E. The '835 Patent

The '835 patent is directed to frequency translation and applications thereof, including cable modem applications. Ex. 1001, code (57). The applications include, but are not limited to, “frequency down-conversion, frequency up-conversion, enhanced signal reception, unified down-conversion and filtering, and combinations” thereof. *Id.*

implemented using a variety of well[-]known devices” and lists several examples. *See* Pet. 11. “Statements in a challenged patent’s specification may be used . . . in conjunction with one or more prior art patents or printed publications forming ‘the basis’ of the proceeding under § 311.” USPTO Memorandum, Treatment of Statements of the Applicant in the Challenged Patent in Inter Partes Reviews Under § 311 (Aug. 18, 2020), *available at* https://www.uspto.gov/sites/default/files/documents/signed_aapa_guidance_memo.pdf. For example, a permissible use of admitted prior art in an *inter partes* review is to “supply missing claim limitations that were generally known in the art prior to the invention.” *Id.* at 9.

¹³ U.S. Patent No. 5,339,459, issued Aug. 16, 1994 (Ex. 1006, “Schiltz”).

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