

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE PATENT TRIAL AND APPEAL BOARD

---

TCL INDUSTRIES HOLDINGS CO., LTD. and LG ELECTRONICS INC.,  
Petitioners,<sup>1</sup>

v.

PARKERVISION, INC.,  
Patent Owner.

---

IPR2021-00985<sup>2</sup>  
Patent 7,292,835 B2

---

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

GERSTENBLITH, *Administrative Patent Judge*.

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

---

<sup>1</sup> The caption is updated to remove Petitioner Hisense Co., Ltd. (“Hisense”) because Hisense is no longer a party to this proceeding. *See* Paper 43 (Termination due to Settlement After Institution of Trial Only as to Hisense Co., Ltd.). The parties shall use this caption (without this footnote) going forward.

<sup>2</sup> LG Electronics Inc., who filed a petition in IPR2022-00246, is joined as petitioner in this proceeding.

## I. INTRODUCTION

### A. Background

TCL Industries Holdings Co., Ltd. (“TCL”); Hisense; and ZyXEL Communications Corp. (“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). ZyXEL and Patent Owner reached a settlement and this proceeding was terminated only as to ZyXEL. Paper 13. TCL and Hisense remained as petitioners in the proceeding. Applying the standard set forth in 35 U.S.C. § 314(a), we instituted an *inter partes* review as to all claims and grounds set forth in the Petition. Paper 14 (“Inst. Dec.”).

After institution, LG Electronics Inc. (“LG”) filed a petition in IPR2022-00246 (challenging the same claims of the ’835 patent on the same grounds), and a motion for joinder (seeking to join this proceeding as a petitioner). *LG Elecs. Inc. v. ParkerVision, Inc.*, IPR2022-00246 (PTAB Dec. 17, 2021), Papers 2 (petition), 3 (motion for joinder). We granted institution in IPR2022-00246 and granted LG’s motion for joinder. *Id.* at Paper 10 (PTAB Apr. 12, 2022); IPR2021-00985, Paper 21. Recently, Hisense and Patent Owner reached a settlement and this proceeding was terminated only as to Hisense. Paper 43. Accordingly, we refer to TCL and LG, collectively, as “Petitioners.”

Also following institution, Patent Owner filed a Patent Owner Response (Paper 17, “PO Resp.”), Petitioners filed a Reply to Patent Owner’s Response (Paper 25, “Pet. Reply”), and Patent Owner filed a Sur-reply (Paper 31, “PO Sur-reply”). Additionally, we granted Petitioners’

Motion for Routine and/or Additional Discovery (Paper 18), ordering the production of Patent Owner’s Final Infringement Contentions. Paper 23 (Order), 8. And, we denied Patent Owner’s Motion to Strike portions of Petitioners’ Reply (Paper 26), finding that the “Reply does not raise new issues, is not accompanied by belatedly presented evidence, and does not otherwise exceed the proper scope of [a] reply brief as set forth in 37 C.F.R. § 42.23(b).” Paper 30 (Order), 13. An oral hearing was held on September 8, 2022, and the transcript is of record. Paper 39 (“Tr.”).<sup>3</sup>

We have jurisdiction pursuant to 35 U.S.C. § 6. This Decision is a Final Written Decision under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73 as to the patentability of the Challenged Claims. Petitioners bear the burden of proving unpatentability of the Challenged Claims. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). To prevail, Petitioners must prove unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e) (2018); 37 C.F.R. § 42.1(d) (2020). Having reviewed the arguments and the supporting evidence, we determine that Petitioners have shown, by a preponderance of the evidence, that claims 1, 12–15, and 17–20 of the ’835 patent are unpatentable.

*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.); *ParkerVision, Inc. v. Hisense Co., Ltd. et al.*, No. 6:20-cv-00870 (W.D. Tex.); *ParkerVision, Inc. v. ZyXEL Communications Corp.*, No. 6:20-

---

<sup>3</sup> Because of a substantial overlap in issues presented, the transcript includes oral argument from related case IPR2021-00990, although this proceeding and IPR2021-00990 are not consolidated or joined.

IPR2021-00985  
Patent 7,292,835 B2

cv-01010 (W.D. Tex.)<sup>4</sup>; 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. Petitioners also identify *ParkerVision, Inc. v. Buffalo Inc.*, No. 6:20-cv-01009 (W.D. Tex.), as a related matter involving the ’835 patent. Pet. 14. In joined case IPR2022-00246, Petitioner LG also identifies *ParkerVision, Inc. v. TCL Technology Group Corp.*, No. 5:20-cv-01030 (C.D. Cal.). *LG Elecs.*, IPR2022-00246, Paper 2 at 13. Additionally, Petitioners challenge several claims of U.S. Patent No. 7,110,444 B1, owned by Patent Owner, in IPR2021-00990. Pet. 14; Paper 8, 1.<sup>5</sup>

*C. Real Parties in Interest*

Petitioners identify TCL; 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.; LG; and LG Electronics U.S.A., Inc. as real parties in interest. Pet. 13; *LG*, IPR2022-00246, Paper 2 at 12. Patent Owner identifies ParkerVision, Inc. as the sole real party in interest. Paper 8, 1; *LG*, IPR2022-00246, Paper 8 (Patent Owner’s Mandatory Notices), 1.

---

<sup>4</sup> 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).

<sup>5</sup> 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.

*D. The Asserted Grounds of Unpatentability and Declaration Evidence*

Petitioners challenge 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. § <sup>6</sup>	Reference(s)/Basis
1, 12, 15, 17	103(a)	Hulkko, <sup>7</sup> Gibson <sup>8</sup>
1, 12, 15, 17	103(a)	Hulkko, Gibson, Goldberg, <sup>9</sup> Thacker, <sup>10</sup> ITU-T J.83b, <sup>11</sup> AAPA <sup>12</sup>
1, 12–15, 17–20	103(a)	Gibson, Schiltz <sup>13</sup>
1, 12–15, 17–20	103(a)	Gibson, Schiltz, Goldberg, Thacker, ITU-T J.83b, AAPA

Pet. 17. In the Petition, Petitioners first set forth the grounds as though there are two: Hulkko and Gibson, and Gibson and Schiltz. *Id.* Petitioners, however, explain that “if the Board finds that the preamble of claim 1 is limiting—and thus requires a ‘cable modem’—then Petitioners submit that the [C]hallenged [C]laims are obvious for the reasons above and further in

---

<sup>6</sup> 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.

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

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

<sup>9</sup> 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”).

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

<sup>11</sup> ITU-T J.83 Recommendation (Apr. 1997) (Ex. 1009, “ITU-T J.83b”). Petitioners include the letter “b” in 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 Petitioners by including the letter “b.”

# Explore Litigation Insights

Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

## Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time alerts** and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

## Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

## Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

## API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

## LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

## FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

## E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.