

IPR2021-00990  
U.S. Patent No. 7,110,444

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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TCL Industries Holdings Co., Ltd. and Hisense Co., Ltd., and LG Electronics Inc.,  
Petitioners,

v.

ParkerVision, Inc.  
Patent Owner

U.S. Patent No. 7,110,444

Issue Date: September 19, 2006  
Title: WIRELESS LOCAL AREA NETWORK  
(WLAN) USING UNIVERSAL FREQUENCY  
TRANSLATION TECHNOLOGY INCLUDING  
MULTI-PHASE EMBODIMENTS AND  
CIRCUIT IMPLEMENTATIONS

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*Inter Partes* Review No. IPR2021-00990<sup>1</sup>

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**PATENT OWNER'S UPDATED EXHIBIT LIST AND EXHIBIT 2040**

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<sup>1</sup> LG Electronics Inc., who filed a petition in IPR2022-00245, is joined as petitioner in this proceeding.

Pursuant to 37 CFR § 42.6 and the Board's email authorization dated June 27, 2022, Patent Owner (ParkerVision, Inc.) hereby submits an updated exhibit list and the exhibit indicated below:

- Exhibit 2040 - Claim Construction Order, *ParkerVision, Inc. v. LG Elecs., Inc.*, No. 6:21-cv-00520-ADA (W.D. Tex.).

**PATENT OWNER'S EXHIBIT LIST**

<b>Exhibit No.</b>	<b>Description</b>
2001	Complaint, <i>ParkerVision, Inc. v. TCL Technology Group Corp. et al</i> , Case No. 5:20-cv-01030 (CDCA)
2002	Proof of Service, <i>ParkerVision, Inc. v. TCL Technology Group Corp. et al</i> , Case No. 5:20-cv-01030 (CDCA)
2003	Complaint, <i>ParkerVision, Inc. v. TCL Industries Holdings Co., Ltd. et al.</i> , Case No. 6:20-cv-00945 (WDTX)
2004	Complaint, <i>ParkerVision, Inc. v. Hisense Co., Ltd. et al.</i> , Case No. 6:20-cv-00870 (WDTX)
2005	Scheduling Order, <i>ParkerVision, Inc. v. TCL Industries Holdings Co., Ltd. et al.</i> , Case No. 6:20-cv-00945 (WDTX)
2006	Scheduling Order, <i>ParkerVision, Inc. v. Hisense Co., Ltd. et al.</i> , Case No. 6:20-cv-00870 (WDTX)
2007	Relevant Excerpts of Defendant's Preliminary Invalidity Contentions, filed in <i>ParkerVision, Inc. v. TCL Industries Holdings Co., Ltd. et al.</i> , Case No. 6:20-cv-00945 (WDTX)
2008	Relevant Excerpts of Defendant's Preliminary Invalidity Contentions, filed in <i>ParkerVision, Inc. v. Hisense Co., Ltd. et al.</i> , Case No. 6:20-cv-00870 (WDTX)
2009	Published Interview of Judge Albright, IAM (Apr. 7, 2020)
2010	Hearing Transcript from <i>ParkerVision, Inc. v. Intel Corp.</i> , Case No. 6:20-cv-00108 (W.D. Texas, Sept. 2, 2020)
2011	Docket Order, <i>Kerr Machine Co. d/b/a Kerr Pumps v. Vulcan Industrial Holdings, LLC</i> , No. 6:20-cv-00200 (W.D. Tex. Aug. 2, 2020)
2012	Petition from <i>Intel Corp. v. ParkerVision, Inc.</i> , Case No. IPR2020-01265 (PTAB)
2013	Institution Decision from <i>Intel Corp. v. ParkerVision, Inc.</i> , Case No. IPR2020-01265 (PTAB)
2014	Email dated July, 8, 2021 from Robert Earle (WDTX clerk) to Ron Daignault (counsel to ParkerVision Inc.), (Subject: "Trial date – ParkerVision Inc. v. Intel Corp., Case No. 6:20-cv-00108).
2015	Relevant Excerpts of Defendant's Preliminary Invalidity Contentions, filed in <i>ParkerVision, Inc. v. Intel Corp.</i> , Case No. 6:20-cv-00108 (WDTX)
2016	Final Written Decision, <i>Intel Corp. v. ParkerVision, Inc.</i> , IPR2020-01265 (Jan. 21, 2022)

2017	Claim Construction Order, <i>ParkerVision, Inc. v. Intel Corp.</i> , No. 6:20-cv-00108-ADA (W.D. Tex.)
2018	Claim Construction Order, <i>ParkerVision, Inc. v. Intel Corp.</i> , No. 6:20-cv-00562-ADA (W.D. Tex.)
2019	Amended Claim Construction Order, <i>ParkerVision, Inc. v. Intel Corp.</i> , No. 6:20-cv-00562-ADA (W.D. Tex.)
2020	Special Master's Recommended Claim Constructions, <i>ParkerVision, Inc. v. Hisense Co., Ltd. et al.</i> , No. 6:20-cv-00870-ADA (W.D. Tex.)
2021	Special Master's Recommended Claim Constructions, <i>ParkerVision, Inc. v. TCL Industries Holdings Co.</i> , No. 6:20-cv-00945-ADA
2022	"Transistor," <i>The American Heritage College Dictionary</i> (3rd ed. 1997)
2023	Donald Christiansen, <i>Electronics Engineers' Handbook</i> (4 <sup>th</sup> ed. 1996)
2024	Richard C. Jaeger, <i>Microelectronic Circuit Design</i> (1997)
2025	Rudolf Graf, <i>Modern Dictionary of Electronics</i> (7th ed. 1999)
2026	J. Crols, "A 1.5 GHz Highly Linear CMOS Downconversion Mixer," <i>IEEE J. Solid-State Circuits</i> , Vol. 30, No.7, pp. 736-742, July 1995
2027	A. Rofougaran, J. Chang, M. Rofougaran, and A. Abidi, "A 1 GHz CMOS RF Front-End IC for a Direct-Conversion Wireless Receiver," <i>IEEE J. Solid-State Circuits</i> , Vol. 31, No. 7, pp. 880-889, July 1996
2028	B. Razavi, "Challenges in Portable RF Transceiver Design," <i>IEEE Circuits and Devices</i> , Vol. 12, No. 5, pp. 12-25, Sept. 1996
2029	U.S. Patent No. 6,061,551
2030	B. Razavi, "CMOS RF receiver design for wireless LAN applications," <i>IEEE Radio and Wireless Conference</i> , pp. 275-280, Aug. 1999
2031	Qualcomm Email dated Aug. 11, 1998
2032	Qualcomm Email dated Feb. 2, 1999
2033	Qualcomm Email dated Oct. 7, 1998
2034	Qualcomm Email dated Feb. 4, 1999
2035	Thomas L. Floyd, <i>Principles of Electric Circuits</i> (5 <sup>th</sup> ed. 1997)
2036	Martin Hartley Jones, <i>A practical introduction to electronic circuits</i> (3 <sup>rd</sup> ed. 1995)

2037	SGS-THOMSON Microelectronics, “General Purpose Single Operational Amplifier UA741” (October 1997)
2038	Declaration of Dr. Michael Steer
2039	Kevin McClaning, Wireless Receiver Design for Digital Communications (SciTech Publishing 2012)
2040	Claim Construction Order, <i>ParkerVision, Inc. v. LG Elecs., Inc.</i> , No. 6:21-cv-00520-ADA (W.D. Tex.)

Dated: June 27, 2022

Respectfully submitted,

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