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Joshua W. Phinney, Ph.D., P.E.
Principal Engineer

Professional Profile

Dr. Joshua W. Phinney is a Principal Engineer in Exponent's Electrical Engineering and Computer Science practice. Dr. Phinney's background is in electrical and electronic engineering, particularly related to power electronics, electromagnetics, and electromechanics. His specialties include power supplies, radio-frequency electronics, control systems, printed circuits, integrated-circuit packaging, magnetics design, and power transmission and distribution. He has related experience in embedded software, acoustics, and numerical methods for optimization and simulation.

At Exponent, Dr. Phinney has assisted clients with identifying the root cause of failures in mobile electronic devices, industrial and automotive controllers, capacitors, transformers, amplifiers, and power supplies. He has testified in patent and trade secret litigation regarding computer hardware and software, audio circuitry, mobile telephones, tablets, power supplies, control systems, hard disk drives, and electronic instruments. In addition, Dr. Phinney has assisted clients with electromagnetic assessment issues pertaining to utility and communication infrastructure. These issues include permitting, interference, and environmental impact of radar, AC and HVDC transmission lines, substations, photovoltaic installations, generators, broadcast antennas, and electrified mass transit systems. In addition, Dr. Phinney has written software for data classification and machine learning in radar-return and other image-analysis applications.

Dr. Phinney received his Ph.D. in Electrical Engineering from the Massachusetts Institute of Technology. His doctoral work centered on miniaturization of power converters and electromechanical power conversion. He has related experience in radio-frequency electronics (particularly phase-locked loops and RF amplifiers), network synthesis, system identification, and control. Dr. Phinney is the co-inventor on patents for improving the performance of capacitors, EMI filters, and common-mode chokes.

Academic Credentials and Professional Honors

Ph.D., Electrical Engineering, Massachusetts Institute of Technology, 2005
S.M., Electrical Engineering, Massachusetts Institute of Technology, 2001
B.S., Electrical Engineering, University of Illinois at Chicago (*summa cum laude*), 1999
B.A., Ancient and Classical Languages, Philosophy, Wheaton College, 1995

2004 IEEE Power Electronics Society Transactions Prize Paper Award (for the paper "Filters with Active Tuning for Power Applications"); 2003 William M. Pormoy Prize Paper Award (Awarded by the Power Electronics Devices and Components Committee of the IEEE Industry Applications Society)

1993-1994 Lawrence Livermore National Laboratory, Nuclear Chemistry Division. Associated Western Universities internship: Neural-network classification of gamma-ray detector events.

Work History

2005-*present* Exponent, Inc.

Licenses and Certifications

Registered Professional Electrical Engineer, New York, #084129

Languages

German

Patents

U.S. Patent No. 7,242,269: Filter Having Parasitic Inductance Cancellation, July 2007 (with D.J. Perreault and T.C. Neugebauer).

U.S. Patent No. 6,937,115: Filter Having Parasitic Inductance Cancellation, February 2002 (with D.J. Perreault and T.C. Neugebauer).

Publications

Phinney JP, Perreault DJ, Lang JH. Synthesis of lumped transmission-line analogs. IEEE Transactions on Power Electronics 2007; 22(4):1531–1542.

Phinney JP, Perreault DJ, Lang JH. Radio-frequency inverters with transmission-line input networks. IEEE Transactions on Power Electronics 2007; 22(4):1154–1161.

Phinney JP, Perreault DJ, Lang JH. Multi-resonant microfabricated inductors and transformers. IEEE Power Electronics Specialists Conference 2004; 4527–4536.

Phinney JP, Perreault DJ. Filters with active tuning for power applications. IEEE Transactions on Power Electronics 2003; 18(2):636–647.

Neugebauer TC, Phinney JP, Perreault DJ. Filters and components with inductance cancellation. IEEE Transactions on Industry Applications 2002; 939–947.

Phinney JP, Perreault DJ. Filters with active tuning for power applications. IEEE Power Electronics Specialists Conference 2001; 363–370.

Batzer MA, Arcot SS, Phinney JP, et al. Genetic variation of recent Alu insertions in human populations. Journal of Molecular Evolution 1996; 42(1):22–29.

Academic Appointments

Adjunct Professor, Hofstra University, 2008-2018

Peer Reviewer

- IEEE Transactions on Power Electronics, 2013-2015
- Health Physics Journal, 2007
- IEEE Power Electronics Letters, 2006
- Power Electronics Specialists Conference, Recife, Brazil, 2005
- Power Electronics Specialists Conference, Jeju, Korea, 2006

Professional Affiliations

- Institute of Electrical and Electronic Engineers (member)
- Tau Beta Pi

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Testimony

Convolve, Inc. and MIT v. Compaq Computer Corp. and Seagate Technology, LLC. Case No. 00 CIV. 5141 in the United States District Court, Southern District of New York. Deposition 2008

IBM v. ASUSTek Computer, Inc., ASUS Computer International, Pegatron Corporation, and Unihan Corporation, Certain Computer Products, Computer Components and Products Containing Same, Case No. 337-TA-628 before the International Trade Commission. Deposition and trial 2008

Xentaur Corporation v. Bedros Bedrossian, Index No, 23403/06 in the Supreme Court of the State of New York, County of Suffolk. Trial testimony 2010

Apple Inc. v. Samsung Electronics Corp., et al, Certain Electronic Digital Media Devices and Components Thereof, Case No. 337-TA-796 before the International Trade Commission. Deposition and trial 2011, 2012

Guzik Technical Enterprises, Inc. v. Western Digital Corporation, et al. Case No. 5:11-CV-03786-PSG, Northern District of California. Deposition 2013

L-3 Communications Corporation et al v. Jaxon Engineering & Maintenance, Civil Action No. 10-cv-2868-MSK-KMT, District of Colorado. Deposition 2014

Cypress Semiconductor Corp. v. Blackberry Ltd., IPR2014-00397 and IPR2014-00400 before the U.S. Patent Trial and Appeal Board. Depositions 2014.

Smart Skins LLC v. Microsoft Corporation. Case No. 2:15-CV-00544-MJP in the United States District Court, Western District of Washington at Seattle. Deposition 2016.

Commonwealth of Puerto Rico Treasury Department v. OPG Technology Corp., Case No. 15-3125 in the in the United States District Court, District of Puerto Rico. Hearing testimony 2016.

IPS Group, Inc. v. Duncan Solutions, Inc. and Duncan Parking Technologies, Inc., Case No. 3:15CV1526-CAB (MDD) in the United States District Court, Southern District of California. Deposition 2017.

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Maxell, Ltd. v. Huawei Device USA, Inc., Huawei Device Co., Ltd., and *Maxell, Ltd. v. ZTE Corporation, and ZTE USA, Inc.*, Lead Case No. 5:16-cv-00178-RWS in the United States District Court, Eastern District of Texas, Depositions and trial 2018.

IPS Group, Inc. v. CivicSmart, Inc., Duncan Parking Technologies, Inc., and Duncan Solutions, Inc., Case No. 3:17-CV-00632-CAB (MDD) in the United States District Court, Southern District of California. Deposition 2018.

Qualcomm, Inc. v. Apple, Inc., Case No. 17-CV-2403-BAS-NLS in the United States District Court, Southern District of California. Deposition 2018.

Siemens Industry, Inc. v. Westinghouse Air Brake Technologies Corp. and Wabtec Railway Electronics, Inc.., Case No. 1:16-CV-284-LPS in the United States District Court, District of Delaware. Deposition 2018, trial 2019.

Qualcomm, Inc. v. Apple, Inc., IPR2018-01283 and IPR2018-01452 before the U.S. Patent Trial and Appeal Board. Depositions 2019.

Spark Connected v. Semtech Corp., Case No. 4:18-CV-00748 in the United States District Court, Eastern District of Texas, Sherman Division. Hearing 2019.

Mediation between Ericsson Inc. and Tishman Construction Corporation, AAA Case No. 01-17-0001-9018. Deposition 2019.

American National Manufacturing Inc. v. Select Comfort Corp., IPR2019-0497 and IPR2019-0500 before the U.S. Patent Trial and Appeal Board. Depositions 2019.

BlueRadios, Inc v. Kopin Corporation, Inc., Case No. 16-CV-02054-JLK in the United States District Court, District of Colorado. Depositions 2019, 2023. Trial 2024.

The Hillman Group, Inc v. KeyMe, LLC., Case No. 12:19-CV-00209 in the United States District Court Eastern District of Texas, Marshall Division. Depositions 2020, 2021. Trial 2021.

Tractel Ltd. v. WTC Tower 1, LLC., AAA Case No: 01-18-0000-9638. Hearing 2020.

KeyMe, LLC. v. The Hillman Group, Inc., Case No. 19-1539-LPS in the United States District Court for the District of Delaware, Deposition 2021.

Overhead Door Corp. v The Chamberlain Group, Inc., Certain Movable Barrier Operator Systems and Components Thereof, No. 337-TA-1209 before the International Trade Commission. Deposition and Trial 2021; Hearing 2023.

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General Electric Co. v. Siemens Gamesa Renewable Energy, Inc., Certain Variable Speed Wind Turbine Generators and Components Thereof, Case No. 337-TA-1218 before the International Trade Commission. Deposition and trial 2021.

Jiaxing Super Lighting Elec. Appliance Co. and Obert, Inc. v. CH Lighting Technology Co., Inc. et al, Case No. W-20-CV-00018-ADA in the United States District Court for the Western District of Texas, Waco Division, Deposition and trial 2021.

Volterra Semiconductor LLP vs. Monolithic Power Systems, Inc., C.A. No. 19-2240-CFC in United States District Court for the District of Delaware, Deposition 2021.

Comet Technologies USA, Inc, Comet AG, and Yxlon International GmBH vs. XP Power LLC, Case No. 5:20-CV-06408-NC in United States District Court for the Northern District of California, Deposition 2021.

The Chamberlain Group, Inc. vs. Overhead Door Corp. and GMI Holdings Inc., Case No. 2:21-cv-00084-JRG in United States District Court for the Eastern District of Texas, Marshall Division, Deposition 2021.

Apple Inc. v. Aire Technology, Ltd., IPR2022-01136, 01137 before the U.S. Patent Trial and Appeal Board.

Apple Inc. v. Scramoge Technology Ltd., IPR2022-00117, 00118, 00120, 00350, 00351, before the U.S. Patent Trial and Appeal Board. Depositions 2022.

Jiaxing Super Lighting Elec. Appliance Co. v. Maxlite., Inc., Case No. 2:19-cv-04047-PSG-MAA in the United States District Court for the Central District of California. Deposition 2022.

ACS Manufacturing, Inc. v. Rolls Royce Solutions America, Inc., Case No. 4:22-cv-00687 in the United States District Court for the Eastern District of Texas, Sherman Division. Trial 2023.

Bel Power Solutions, Inc. v. Monolithic Power Systems, Inc., Case No. 6:21-cv-655-ADA in the United States District Court for the Western District of Texas, Waco Division. Deposition 2023.

Realtek Semiconductor Corp. v. Advanced Micro Devices, Inc., Certain Integrated Circuits, Component Thereof, and Products Containing Same, Case No. 337-TA-1350 before the International Trade Commission. Deposition and trial 2023

Samsung Electronics Co, Ltd. v. WiPQTUS, Inc., IPR2024-000023 before the U.S. Patent Trial and Appeal Board.

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Advanced Micro Devices, Inc. v. Realtek Semiconductor Corp., IPR2023-00788 and 00789, before the U.S. Patent Trial and Appeal Board. Depositions 2024.

Minka Lighting, LLC. v. Wangs Alliance Corp., Certain Smart Ceiling Fans, Components Thereof, and Associated Systems and Software Thereof, Case No. 337-TA-1374 before the International Trade Commission. Deposition 2024.