

Charles L. Jackson

PO Box 221
Port Tobacco, MD 20677
+1 301 656 8716 (voice)
+1 888 469 0805 (fax)
clj@jacksons.net (email)

Dr. Jackson received a B.A. degree from Harvard College in Applied Mathematics and the degrees of M.S., E.E., and Ph.D. in Electrical Engineering from the Massachusetts Institute of Technology. At MIT, he specialized in operations research, computer science, and communications. While a graduate student at MIT, he held the faculty rank of Instructor, was a teaching assistant in graduate operations research courses, and codeveloped an undergraduate course in telecommunications.

Dr. Jackson began his career as a computer programmer and worked as both a systems programmer and digital designer. In government, he worked at the Federal Communications Commission (FCC) and as staff engineer for the Communications Subcommittee of the U.S. House of Representatives. Since leaving government, he has worked as a consultant and a professor. Currently, Dr. Jackson provides consulting services as JTC, LLC.

Dr. Jackson has provided a wide variety of expert witness services, primarily in patent litigation and telecommunications regulation. His expert witness testimony has included analyses of computer software to determine whether patent-infringing elements exist in that software and to determine the similarity of various bodies of software in copyright/trade secret disputes. He also analyzed software in several wireless baseband chips in patent litigation projects.

Dr. Jackson has authored or coauthored numerous studies on public policy issues in telecommunications and has testified before Congress on technology and telecommunications policy. He has written extensively on radio spectrum management and policy, and has consulted on radio spectrum management for the governments of New Zealand, Germany, and Panama. He has also directed or participated in projects on acquisition analysis, market planning, and product pricing.

Dr. Jackson has written for professional journals and the general press, with articles appearing in publications ranging from *The IEEE Transactions on Computers* to *Scientific American* to *The St. Petersburg Times*. He holds two U.S. patents. Dr. Jackson was appointed by the Secretary of Commerce to the Commerce Department's Spectrum Planning and Policy Advisory Committee and by the Chairman of the FCC to the FCC's Technological Advisory Council.

Dr. Jackson is a member of the IEEE, the American Mathematical Society, and Sigma Xi. He has taught several courses in computer science at George Washington University—including graduate courses in mobile communications, wireless networks, computer security, and the computer-networking/Internet and an undergraduate course on programming. From 1982 to 1988, he was an adjunct professor at Duke University.

EDUCATION

Massachusetts Institute of Technology

Ph.D., Electrical Engineering

M.S. and E.E., Electrical Engineering

Harvard College

B.A., Honors in Applied Mathematics

EMPLOYMENT

1997–present **Consultant**

Provides consulting expert witness services in litigation and services in telecommunications and information technologies and public policy.

1992–1997 **Strategic Policy Research, Inc. (SPR)**, Bethesda, MD

Principal. Provided telecommunications and public policy consulting and expert witness services for a variety of clients in the telecommunications industry.

1989–1992 **National Economic Research Associates, Inc. (NERA)**, Washington, DC

Vice President. Provided telecommunications and public policy consulting services for a variety of clients in the telecommunications industry.

1980–1989 **Shooshan & Jackson Inc.**, Washington, DC

Principal. Provided telecommunications and public policy consulting services for a variety of clients in the telecommunications industry.

1977–1980 **Communications Subcommittee, U.S. House of Representatives**, Washington, DC

Staff Engineer. Was responsible for common carrier legislation and spectrum-related issues.

1976–1977 **Common Carrier Bureau, Federal Communications Commission**, Washington, DC

Special Assistant to the Chief. Was responsible for technological issues and land mobile policy.

1975–1976 **Federal Communications Commission**, Washington, DC

Engineering Assistant to Commissioner Robinson.

1973–1976 **CNR, INC.**, Boston, MA

Consultant. Worked on the implementation of digital communication systems over dispersive channels.

TESTIMONIES

Trial testimony in Case No. 6:14-cv-911-JRG-RSP (Lead Case) Case No. 6:14-cv-912-JRG-RSP (Consolidated), U.S. District Court for the Eastern District of Texas, Marshall Division, September 12-16 2016.

Deposition testimony in Case No. 6:14-cv-911-JRG-RSP (Lead Case) Case No. 6:14-cv-912-JRG-RSP (Consolidated), U.S. District Court for the Eastern District of Texas, Marshall Division, December 8, 2015 and January 13, 2016.

Expert Report of Dr. Charles L. Jackson Regarding Validity of U.S. Patent Nos. 6,266,321 and 7804,850, in Case No. 6:14-cv-911-JRG-RSP (Lead Case).

Case No. 6:14-cv-912-JRG-RSP (Consolidated), U.S. District Court for the Eastern District of Texas, Marshall Division, November 20, 2015.

Expert Report of Dr. Charles L. Jackson Regarding Infringement of U.S. Patent Nos. 6,266,321 and 7804,850, in Case No. 6:14-cv-911-JRG-RSP (Lead Case).

Case No. 6:14-cv-912-JRG-RSP (Consolidated), U.S. District Court for the Eastern District of Texas, Marshall Division, October 23, 2015.

Declaration of Charles Lee Jackson, Ph.D in International Trade Commission Investigation No. 337-TA-613 Remand, July 10, 2015.

Unlicensed Operations in the 600 MHz Band: Fatally Flawed Twice Over, Bazelon, C., Jackson, C., and Robyn, D, February 25, 2015. Filed in FCC ET Docket No. 14-165 and FCC GN Docket 12-268.

Witness statement and testimony in International Trade Commission Investigation No. 337-TA-613 Remand, January 26, 2015.

Deposition testimony in International Trade Commission Investigation No. 337-TA-613 Remand, October 28, 2014.

Expert Report of Dr. Charles L. Jackson, International Trade Commission Investigation No. 337-TA-613 Remand, September 12, 2014.

Trial testimony in *InterDigital et al. v. ZTE et al.* Civil Action No.: 1:13-cv-00009-RGA, U.S. District Court for the District of Delaware, October 21, 2014.

Joint Experts' Report on Technical Issues, (coauthor with Nordicity Inc.), in the Matter of the Ontario Energy Board Act, 1998, S.O. 1998, c.15 (Schedule B); and in the Matter of an Application by Toronto HydroElectric System Limited for an order pursuant to section 29 of the Ontario Energy Board Act, 1998; June 11, 2013.

Deposition testimony in *InterDigital et al. v. ZTE et al.* Civil Action No.: 1:13-cv-00009-RGA, U.S. District Court for the District of Delaware, May 13, 2014.

Reply Expert Report of Dr. Charles L. Jackson in InterDigital et al. v. ZTE et al. Civil Action No.: 1:13-cv-00009-RGA, U.S. District Court for the District of Delaware, May 2, 2014.

Expert Report of Dr. Charles L. Jackson in InterDigital et al. v. ZTE et al. Civil Action No.: 1:13-cv-00009-RGA, U.S. District Court for the District of Delaware, March 28, 2014.

Declaration of Charles L. Jackson on behalf of N2IT Holding BV in N2IT Holding BV adv. Native Instruments GmbH – Mediation, March 21, 2014.

Witness Statement and Testimony regarding U.S. Patent Nos. 7,190,966, 7,286,847, 7,706,830 and 8,009,636, International Trade Commission Investigation No. 337-TA-868, February 10, 2014.

Deposition testimony regarding U.S. Patent Nos. 7,190,966, 7,286,847, 7,706,830 and 8,009,636, International Trade Commission Investigation No. 337-TA-868, September 25, 2013.

Supplemented Expert Report of Dr. Charles L. Jackson Regarding U.S. Patent Nos. 7,190,966, 7,286,847, 7,706,830 and 8,009,636, International Trade Commission Investigation No. 337-TA-868, September 6, 2013.

Expert Report of Dr. Charles L. Jackson Regarding U.S. Patent Nos. 7,190,966, 7,286,847, 7,706,830 and 8,009,636, International Trade Commission Investigation No. 337-TA-868, August 23, 2013.

Expert Report of Dr. Charles L. Jackson, in the Matter of the Ontario Energy Board Act, 1998, S.O. 1998, c.15 (Schedule B); and in the Matter of an Application by Toronto HydroElectric System Limited for an order pursuant to section 29 of the Ontario Energy Board Act, 1998; June 11, 2013.

Witness statements and testimony regarding U.S. Patent Nos. 7,706,830 and 8,009,636 and U.S. Patents Nos. 7,970,127 and 7,536,013, International Trade Commission Investigation No. 337-TA-800, February 12-20, 2013.

Deposition testimony regarding U.S. Patent Nos. 7,706,830 and 8,009,636 and U.S. Patents Nos. 7,970,127 and 7,536,013, International Trade Commission Investigation No. 337-TA-800, December 5, 17, and 19, 2012 .

Supplemental Expert Report Of Dr. Charles L. Jackson Regarding U.S. Patent Nos. 7,706,830 And 8,009,636, International Trade Commission Investigation No. 337-TA-800, August 22, 2012.

Rebuttal Expert Report of Dr. Charles L. Jackson, International Trade Commission Investigation No. 337-TA-800, August 10, 2012.

Expert Report of Dr. Charles L. Jackson Regarding U.S. Patent Nos. 7,706,830 and 8,009,636, International Trade Commission Investigation No. 337-TA-800, August 1, 2012.

Expert Report of Dr. Charles L. Jackson Regarding U.S. Patents Nos. 7,970,127 and 7,536,013, International Trade Commission Investigation No. 337-TA-800, August 1, 2012.

Declaration of Charles L. Jackson in Re Patent Application Serial No. 12/630,323, Method for Signal Processing and an Apparatus Therefore, U.S. Patent and Trademark Office, July 6, 2011.

Telephonic testimony of Dr. Charles Jackson in *Alaska Communications Systems v. Department of Education and Early Development*, OAH No. 11-0120-PRO, Before the Alaska Office of Administrative Hearings, June 21, 2011.

Affidavit of Dr. Charles Jackson in *Alaska Communications Systems v. Department of Education and Early Development*, OAH No. 11-0120-PRO, Before the Alaska Office of Administrative Hearings, June 8, 2011.

Trial testimony in *Jon Coble and 8Jax Inc. v. Bagli et al.*, Case CL07-3061, Circuit Court, Henrico County, VA, June 7, 2011.

Satellite Service Can Help to Effectively Close the Broadband Gap, Attachment to *Comments of ViaSat Inc. in FCC Dockets 10-90, 09-51, 07-135, 05-337, 01-92, 96-45, and 03-103*, April 18, 2011.

Observations on Pole Access for Wireless Carriers, attachment to *CTIA Ex Parte Communication*, in *FCC WC Docket No. 07-245*, March 18, 2011.

Deposition testimony in *WI-LAN, Inc. v. Acer, Inc, et al.*, CASE NO. 2:07-CV-473-TJW, U.S. District Court for the Eastern District of Texas, Marshall Division, December 29, 2010.

Deposition testimony in *Transcom Enhanced Services, Inc. v. Qwest Corporation*. Case No. 4:09-cv-755-A, U.S. District Court for the Northern District of Texas, Fort Worth Division, December 15, 2010.

Expert witness report in *WI-LAN, Inc. v. Acer, Inc, et al.*, CASE NO. 2:07-CV-473-TJW, U.S. District Court for the Eastern District of Texas, Marshall Division, December 8, 2010.

Wireless Terminals Are Part of the Network (Updated and revised), attachment to *Comments of CTIA to the FCC In the Matter of Preserving the Open Internet Broadband Industry Practices*, in *GN Docket No. 09-191, WC Docket No. 07-52*, October 12, 2010.

Review of Transcom's Voice Termination Service, expert report in *Transcom Enhanced Services, Inc. v. Qwest Corporation*, Case No. 4:09-cv-755-A, U.S. District Court for the Northern District of Texas, Fort Worth Division, September 13, 2010.

Deposition testimony in *Jon Coble and 8Jax Inc. v. Bagli et al.*, Case CL07-3061, Circuit Court, Henrico County, VA, August 3, 2010.

Testimony in *Broz v. Commissioner*, U.S. Tax Court Docket No. 21629-06. February 17, 2010.

Testified as a telecommunications and information technologies expert regarding measurements of the levels of cell phone signals in the Georgetown area of Washington, DC. Superior Court of the District of Columbia, January 25, 2010.

Testimony in the Markman Hearing in *N2IT Holding B.V., v. M-Audio LLC*, Civil Action No. 2:08-cv-00619-HCM-TEM, U.S. District Court for the Eastern District of Virginia, November 6, 2009.

Report on the Validity of the '184 Patent, expert report in *N2IT Holding B.V., v. M-Audio LLC*, Civil Action No. 2:08-cv-00619-HCM-TEM, U.S. District Court for the Eastern District of Virginia, October 30, 2009

Statement on the Meaning of Time-Code Signal as that phrase is used in U.S. Patent 7,201,184, Expert Report in *N2IT Holding B.V., v. M-Audio LLC*, Civil Action No. 2:08-cv-00619-HCM-TEM, U.S. District Court for the Eastern District of Virginia, October 13, 2009.

Classifying the Plant and Equipment of a Cellular Telephone Carrier for Purposes of Depreciation Accounting, expert report in *Broz v. Commissioner*, U.S. Tax Court Docket No. 21629-06.

Report on M-Audio's Torq Product, expert report in *N2IT Holding B.V., v. M-Audio LLC*, Civil Action No. 2:08-cv-00619-HCM-TEM, U.S. District Court for the Eastern District of Virginia, September 24, 2009.

Engineering a Reliable and Efficient Internet: Priority Scheduling, Congestion, and Security, attachment to Reply Comments of Verizon and Verizon Wireless on a National Broadband Plan, FCC Docket GN No. 09-51, July 21, 2009.

Technological Considerations Regarding Jamming Wireless Telephone Service, January 6, 2009, attachment to CTIA's Petition for Reconsideration and Request for Referral to the Full Commission, January 6, 2009.

With several others, *ex parte comments regarding Service Rules for Advanced Wireless Services in the 2155-2175 MHz Band and Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands*, filed in FCC Proceeding 07-195, October 20, 2008.

With David Shively, Ahmad Armand, Randy Leenerts, and Yasmin Karimli, *Ex Parte Comments regarding Testing of AWS-1/ASW-3 Interference*, September 9, 2008, filed in FCC Proceeding 07-195.

The Supply of Spectrum for CMRS, August 19, 2008. Attachment to Joint Opposition to Petitions to Deny and Comments of Verizon Wireless, FCC Docket WT 08-95, August 19, 2008

With Dorothy Robyn and Coleman Bazelon, *Unlicensed Use of the TV White Space: Wasteful and Harmful*, August 20, 2008, comments filed in FCC Proceeding 04-186.

Unlicensed TV White Space Wireless Cannot Provide Substantial Rural Broadband Access, comments filed in FCC Proceeding 04-186, October 22, 2008.

Wireless Handsets Are Part of the Network, report attached to CTIA's Opposition to Petition for Rulemaking titled "Petition to Confirm A Consumer's Right to Use Internet Communications Software and Attach Devices to Wireless Networks," FCC RM-11361, April 30, 2007.

Comments of Charles L. Jackson and Dorothy Robyn *In The Matter of Unlicensed Operation in the TV Broadcast Bands*, FCC-ET Docket No. 04-186, January 31, 2007.

Testimony of Dr. Charles L. Jackson in *Inline Connection Corporation v. Earthlink et al.*, C.A. No. 02-477-MPT, C.A. No. 02-272-MPT, U.S. District for the District of Delaware, February 2007.

Reply comments of Charles L. Jackson and Dorothy Robyn *In The Matter of Unlicensed Operation in the TV Broadcast Bands*, FCC-ET Docket No. 04-186, March 2, 2007.

Statement of Charles L. Jackson in Support of ACS's Ex Parte Submission Filed November 30, 2006, FCC WC Docket No. 05-281.

Statement of Charles L. Jackson In Support of Petition of ACS of Anchorage, Inc. For Forbearance from Sections 251(C)(3) And 252(D)(1), FCC WC Docket No. 05-281, September 8, 2006.

Deposition of Dr. Charles L. Jackson in *Inline Connection Corporation v. Earthlink et al.*, C.A. No. 02-477-MPT, C.A. No. 02-272-MPT, U.S. District for the District of Delaware, July 20–21, 2006.

Deposition of Dr. Charles L. Jackson In the matter of Certain Baseband Processor Chips and Chipsets, Transmitter and Receiver (Radio) Chips, Power Control Chips, and Products Containing Same, including Cellular Telephone Handsets Inv. No. 337-TA-542, U.S. International Trade Commission, May 24, 2006.

Report of Dr. Charles L. Jackson In the matter of Certain Baseband Processor Chips and Chipsets, Transmitter and Receiver (Radio) Chips, Power Control Chips, and Products Containing Same, including Cellular Telephone Handsets Inv. No. 337-TA-542, U.S. International Trade Commission, May 19, 2006.

Declaration of Dr. Charles L. Jackson Regarding Infringement of the '596, '446, and '585 Patents, *Inline Connection Corporation v. Earthlink et al.*, C.A. No. 02-477-MPT, C.A. No. 02-272-MPT, U.S. District for the District Of Delaware, April 18, 2006.

Testimony of Dr. Charles L. Jackson in *Inline Connection Corporation v. Earthlink et al.*, C.A. No. 02-477-MPT, C.A. No. 02-272-MPT, U.S. District for the District of Delaware, March 7, 2006. (Hearing re application of confidentiality order)

Statement of Charles L. Jackson In Support of Petition of ACS of Anchorage, Inc. for Forbearance from Sections 251(C)(3) and 252(D)(1), FCC WC Docket No. 05-281, February 23, 2006.

Answers of Dr. Charles L. Jackson incorporated in the submission of TELUS to the Telecommunications Policy Review Panel (Canada), August 15, 2005.

Observations on Bidding Rules, reply comments in FCC WT Docket No. 04-356, May 24, 2005.

Deposition of Dr. Charles L. Jackson, Wireless Telephone Services Antitrust Litigation, 02 Civ. 2637(DLC), Southern District of New York, December 20, 2004.

Report of Dr. Charles L. Jackson, Wireless Telephone Services Antitrust Litigation, 02 Civ. 2637(DLC), Southern District of New York, December 20, 2004.

Declaration of Dr. Charles L. Jackson, *PCS Handset Vulnerability to H-Block Transmissions Interpreting the Test Results*, filed by CTIA in FCC Dockets WT 04-356 and WT 02-353, December 8, 2004.

Testimony in *Gerald E. Frugoli, v. Douglas v. Fougnes et al.*, CIV 02-957-PHX-RC, U.S. District Court District of Arizona, June 27, 2004.

Declaration of Dr. Charles L. Jackson Regarding Infringement of the '596, '446, and '585 Patents, in *Inline Connection Corporation v. Earthlink et al.*, C.A. No. 02-477-MPT, C.A. No. 02-272-MPT, U.S. District for the District Of Delaware, April 16, 2004. (Confidential)

Declaration of Dr. Charles L. Jackson, in *Inline Connection Corporation v. Earthlink et al.*, C.A. No. 02-477-MPT, C.A. No. 02-272-MPT, U.S. District for the District Of Delaware, April 5, 2004.

Affidavit of Dr. Charles L. Jackson, in Proceedings related to the Public Utility Commission's February 16, 2004 Section 34(3) Notice to Cable Bahamas Limited.

Declaration of Dr. Charles L. Jackson, in *Inline Connection Corporation v. Earthlink et al.*, C.A. No. 02-477-MPT, C.A. No. 02-272-MPT, U.S. District for the District Of Delaware, February 9, 2004.

Declaration of Dr. Charles L. Jackson, in *Cellco Partnership (d/b/a Verizon Wireless) v. Nextel Communications, Inc.*, Civil Action No.: 03 CV 839-A, U.S. District Court for the Eastern District of Virginia, January 12, 2003

Rebuttal report of Dr. Charles L. Jackson, in *Cellco Partnership (d/b/a Verizon Wireless Firm) v. Nextel Communications, Inc.*, Civil Action No.: 03 CV 839-A, U.S. District Court for the Eastern District of Virginia, December 22, 2003.

Deposition testimony in *Freedom Wireless Inc. vs. Boston Communications Group Inc. et al.*, 00-12234-EFH , U.S. District Court, District of Massachusetts, December 19, 2003

Report of Dr. Charles L. Jackson in Response to the Expert Reports of Dr. Richard C. Levine and Mr. Charles Gholz in *Freedom Wireless Inc. vs. Boston Communications Group Inc. et al.*, 00-12234-EFH , U.S. District Court, District of Massachusetts, August 29, 2003.

Report of Dr. Charles L. Jackson Regarding Processing of Incoming Calls as Described in U.S. Patent 6,157,823, in *Freedom Wireless Inc. vs. Boston Communications Group Inc. et al.*, 00-12234-EFH, U.S. District Court, District of Massachusetts, June 23, 2003.

Deposition testimony in *Gerald E. Frugoli, v. Douglas V. Fournies; et al.*, CIV 02-957-PHX-RC, U.S. District Court District of Arizona, June 17, 2003

Second report of Dr. Charles L. Jackson in *Gerald E. Frugoli, v. Douglas V. Fournies; et al.*, CIV 02-957-PHX-RC, U.S. District Court District of Arizona, June 2, 2003

Testimony in *GE-Harris Railway Electronics, L.L.C., and GE-Harris Railway Electronics Services, L.L.C., v. Westinghouse Air Brake Company*, Civil Action No. 99-070 GMS, U.S. District Court for the District of Delaware, May 13, 2003.

Deposition testimony in *GE-Harris Railway Electronics, L.L.C., and GE-Harris Railway Electronics Services, L.L.C., v. Westinghouse Air Brake Company*, Civil Action No. 99-070 GMS, U.S. District Court for the District of Delaware, April 24, 2003.

Testimony of Dr. Charles L. Jackson in *CBS Broadcasting et al. v. EchoStar Communications et al.*, Case No. 98-2651-CIV-Dimitrouleas/Seltzer, U.S. District Court For the Southern District of Florida, April 21, 2003.

Report on Inventorship in *Gerald E. Frugoli, v. Douglas V. Fournies et al.*, CIV 02-957-PHX-RC, U.S. District Court District of Arizona, April 1, 2003.

Report of Dr. Charles L. Jackson, *GE-Harris Railway Electronics, L.L.C., and GE-Harris Railway Electronics Services, L.L.C., v. Westinghouse Air Brake Company*, Civil Action No. 99-070 GMS, U.S. District Court for the District of Delaware, March 21, 2003.

Deposition testimony of Dr. Charles L. Jackson in *CBS Broadcasting et al. v. EchoStar Communications et al.*, Case No. 98-2651-CIV-Dimitrouleas/Seltzer, U.S. District Court For the Southern District of Florida, March 19, 2003.

Testimony in *BSC de Panamá, S.A. contra Tricom Panamá S.A.*, March 7, 2003, Panamá, March 13, 2003.

With Ramón Mouynés, Informe Pericial, *BSC de Panamá, S.A. contra Tricom Panamá S.A.*, March 7, 2003, Panamá. (In Spanish)

Testimony of Dr. Charles L. Jackson Regarding Xentex's Flip-Pad Voyager Computer in *Xen Investors, LLC v. Xentex Technologies*, In the Court of Chancery for the State of Delaware in and for New Castle County, C.A. No. 19713 NC., March 5, 2003.

Deposition of Dr. Charles L. Jackson Regarding Xentex's Flip-Pad Voyager Computer in *Xen Investors, LLC v. Xentex Technologies*, In the Court of Chancery for the State of Delaware in and for New Castle County, C.A. No. 19713 NC, February 26, 2003.

Testimony in *Nassgil Financial v. Hughes Electronics* (an arbitration), Los Angeles, CA, February 19, 2003.

Report of Dr. Charles L. Jackson Regarding Xentex's Flip-Pad Voyager Computer in *Xen Investors, LLC v. Xentex Technologies*, In the Court of Chancery for the State of Delaware in and for New Castle County, C.A. No. 19713 NC, February 7, 2003.

Summary of Opinions of Dr. Charles L. Jackson in *CBS Broadcasting et al. v. EchoStar Communications et al.*, Case No. 98-2651-CIV-Dimitrouleas/Seltzer, U.S. District Court For the Southern District of Florida, February 7, 2003.

Deposition testimony of Dr. Charles L. Jackson In re: IN-SYNC INTERACTIVE/MONTEREY, INC., Debtor-in-Possession. *IN-SYNC INTERACTIVE/AKRON, INC., et al., v. FEDERAL COMMUNICATIONS COMMISSION*, Defendants Case No. LA 01-42617-ES Chapter 11, Adversary No. AD 01-02529-ES, January 30, 2003.

Deposition testimony of Charles L. Jackson in *Isp.Net Llc D/B/A IQuest Internet v. Qwest Communications International*, case No. IP01-0480-C B/S U.S. District Court, Southern District Of Indiana, Indianapolis Division, January 24, 2003.

Expert Report of Dr. Charles L. Jackson In re: IN-SYNC INTERACTIVE/MONTEREY, INC., Debtor-in-Possession. *IN-SYNC INTERACTIVE/AKRON, INC., et al., v. FEDERAL COMMUNICATIONS COMMISSION*, Defendants Case No. LA 01-42617-ES Chapter 11, Adversary No. AD 01-02529-ES, December 19, 2002.

Summary of Opinions of Dr. Charles L. Jackson in *CBS Broadcasting et al. v. EchoStar Communications et al.*, Case No. 98-2651-CIV-Dimitrouleas/Seltzer, US District Court For the Southern District of Florida, November 12, 2002.

Deposition testimony in *Siesta v. Qwest*, Case NO. 8:01-cv-673-T-30MSS, US District Court, Middle District of Florida, October 3, 2002.

Declaration of Dr. Charles L. Jackson in Support of Motion for Order to Show Cause, *GE-Harris Railway Electronics, L.L.C., and GE-Harris Railway Electronics Services, L.L.C., v. Westinghouse Air Brake Company*, Civil Action No. 99-070 GMS, US District Court for the District of Delaware, September 20, 2002.

Deposition testimony in *Mueller v. Thomas et al.*, September 3, 2002.

Supplementary Expert Report of Dr. Charles L. Jackson Regarding Technical Issues in *Siesta v. Qwest*, Case NO. 8:01-cv-673-T-30MSS, U.S. District Court, Middle District of Florida, August 30, 2002.

Declaration of Charles L. Jackson in *Isp.Net Llc D/B/A IQuest Internet V. Qwest Communications International*, case No. IP01-0480-C B/S U.S. District Court, Southern District of Indiana, Indianapolis Division, August 22, 2002.

Expert Report of Dr. Charles L. Jackson Regarding Technical Issues in *Siesta v. Qwest*, Case NO. 8:01-cv-673-T-30MSS, US District Court, Middle District of Florida, August 16, 2002.

Expert Report of Dr. Charles L. Jackson Regarding Technical Issues in *Mueller v. Thomas et al.*, August 15, 2002, revised August 22, 2002.

Rebuttal Testimony of Dr. Charles L. Jackson on behalf of BellSouth, before the Public Service Commission of Georgia, Docket No. 14361-U, July 10, 2002.

Testimony in Claim of Meliton Aguilar, before the Supreme Court of Panama, July 2, 2002.

Deposition in *Nassgil Financial v. Hughes Electronics*, Los Angeles, CA, January 7, 2002.

Affidavit of Dr. Charles L. Jackson in *Pacific Communications, L.L.C. v. American Wireless*, L.L.C., February 23, 2001.

CONGRESSIONAL and FCC TESTIMONIES

Testimony on The FCC's Low-Power FM Rulemaking before the Subcommittee on Telecommunications, Trade and Consumer Protection, Committee on Commerce, U.S. House of Representatives, February 17, 2000.

Testimony before the U.S. Senate Committee on Commerce, Science, and Transportation. Hearings on S.255, the Public Safety Telecommunications Act. May 15, 1997.

Remarks on spectrum policy before the Federal Communications Commission en banc hearing. March 5, 1996.

Testimony before the Subcommittee on Telecommunications and Finance of the Committee on Commerce, U.S. House of Representatives. Hearings on Federal Management of the Radio Spectrum. September 7, 1995.

With Dale N. Hatfield. Testimony before the U.S. Senate Committee on Commerce, Science and Transportation. Hearings on radio spectrum issues. July 27, 1995.

Statement on personal communications service (PCS) before the Federal Communications Commission Personal Communications Services Task Force Meeting, Docket 90-314. April 12, 1994.

Statement on Personal Communications Systems (PCS) before the Federal Communications Commission en banc hearings. December 5, 1991.

Testimony on *Open Network Architecture and Comparably Efficient Interconnection Policies* before the House Subcommittee on Telecommunications and Finance. U.S. House of Representatives. July 30, 1987.

Testimony on proposed Federal Communications Commission Auction Authority before the Telecommunications, Consumer Protection, and Finance Subcommittee. U.S. House of Representatives. October 28, 1986.

Testimony on S. 880 before the Committee on Commerce, Science and Transportation, U.S. Senate. April 4, 1984. [“Daytime Broadcasters”]

Testimony on S. 66 before the Subcommittee on Communications, Committee on Commerce, Science and Transportation, U.S. Senate. February 16, 1983. [“Bypassing Cable”]

Testimony on Freedom of Expression and the Electronic Media: Technology Issues before the Committee on Commerce, Science and Transportation, U.S. Senate. September 28, 1982.

Testimony on S. 2355 before the Subcommittee on Communications, Committee on Commerce, Science and Transportation, U.S. Senate. May 6, 1982.

Testimony on Electronic Mail before the Postal Operations and Service Subcommittee, U.S. House of Representatives. May 5, 1977.

RECENT PUBLICATIONS and REPORTS

“Coase and the New Zealand Spectrum Reforms,” *Journal of Law and Economics*, Vol. 54, No. 4, November 2011, pp. S189-S205. Doi: 10.1086/661940

With Robert W. Crandall, “Antitrust in High-Tech Industries,” *Review of Industrial Organization*, Vol. 38, No. 4, June 1, 2011. Doi: 10.1007/s11151-011-9298-4. An earlier version was a Technology Policy Institute Report, January 5, 2011.

“Wireless Efficiency versus Net Neutrality,” FCLJ Special Issue on Integrating Engineering Principles into Internet Policy Debates, *Federal Communications Law Journal*, Vol. 63, No. 2, March 2011.

Letter to the Editor, *IEEE Communications Magazine*, Vol. 48, No. 1, p. 18, January 2010.

Contribution to *Can Internet Gambling Be Effectively Regulated? Managing the Risk*, by Malcolm K. Sparrow, December 2, 2009.

“The Genesis of Unlicensed Wireless Policy,” Guest Editorial, *info*, Vol. 11, No. 5, August 2009.

The Significance of Next Generation Networks Reconsidered, prepared for TELUS, July 29, 2008.

Equipment Operator Personalization Device, U.S. Patent 7,096,619. Describes a means for securing a piece of hand-held equipment so that it is easily activated by an authorized user while, at the same time, individuals without proper authorization cannot easily active the equipment.

With Michael M. Marcus, Fredrick Matos, William Webb, and K. J. Wee. "Spectrum Resource Optimization in Context," *Journal of Communications and Networks*, Vol. 8, No. 2, June 1, 2006 (Guest Editorial).

Wireless Handsets Are Part of the Network, International Telecommunications Society, 16th Biennial Conference, June 2006, Beijing, China.

With Raymond Pickholtz and Dale Hatfield. "Spread Spectrum Is Good—But It Doesn't Obsolete *NBC v. US!*," *Federal Communications Law Journal*, April 2006, Vol. 58, No. 2.

Dynamic Sharing of Radio Spectrum: A Brief History, IEEE International Symposium on New Frontiers in Dynamic Spectrum Access Networks, Baltimore, MD, November 9, 2005.

Limits to Decentralization: The Example of AM Radio Broadcasting or Was a Common Law Solution to Chaos in the Radio Waves Reasonable in 1927? Telecommunications Policy Research Conference, Arlington, VA, September 24, 2005.

With Tarek Saadawi et al. *Telecommunications Liberalization Policy in Egypt*, prepared for the Egypt Ministry of Communications and Information Technology, August 2005.

Quantifying the Cost of Radio Interference, 2004 WNCG Wireless Networking Symposium, October 20–22, 2004, Austin, TX.

Limits to the Interference Temperature Concept, prepared for Verizon, April 4, 2004.

An Overview of VoIP, prepared for TELUS, June 18, 2004.

A Quick Introduction to Voice over Internet Protocol, University of Florida Public Utilities Research Center, February 2004.

With Robert W. Crandall. "The \$500 Billion Opportunity: The Potential Economic Benefit of Widespread Diffusion of Broadband Internet Access," in *Down to the Wire: Studies in the Diffusion and Regulation of Telecommunications Technologies*, Allan L. Shampine, Ed., Nova Science Press, 2003.

"Wired High-Speed Access," Chapter 5 of *Broadband Should We Regulate?*

High-Speed Internet Access? Robert W. Crandall and James H. Alleman, Eds., AEI-Brookings Joint Center for Regulatory Studies, 2002, ISBN 0-8157-1591-9.

CLECs' Choices for Local Switching. Prepared for Bell South, July 2002.

With Christopher Weaver. "Boss Hogg and the Out-of-Town Geek," *ZDNet*, August 23, 2001.

The Likely Evolution of Local Communications. Prepared for TELUS, July 15, 2001.

RECENT SPEECHES AND PRESENTATIONS

Defining Harmful Interference Efficiently, Presented at the 2016 Telecommunications Policy Research Conference, 44rd Research Conference on Communications, Information and Internet Policy, George Mason University School of Law, Arlington, VA, September 30, 2015.

Why the Incentive Auction Is More Efficient than the Coasian Solution, (poster session) Presented at the 2016 Telecommunications Policy Research Conference, 44rd Research Conference on Communications, Information and Internet Policy, George Mason University School of Law, Arlington, VA, September 30, 2015.

Unlicensed Operations in the Lower Spectrum Bands: Why is No One Using the TV White Space and What Does That Mean for the FCC's Order on the 600 MHz Guard Bands?, with Dorothy Robyn and Coleman Bazelon. Presented at the 2015 Telecommunications Policy Research Conference, 43rd Research Conference on Communications, Information and Internet Policy, George Mason University School of Law, Arlington, VA, September 26, 2015.

Unlicensed Operations in the 600 MHz Guard Bands: Potential Impact of Interference on the Outcome of the Incentive Auction, with Dorothy Robyn and Coleman Bazelon. Presented at the 2015 Telecommunications Policy Research Conference, 43rd Research Conference on Communications, Information and Internet Policy, George Mason University School of Law, Arlington, VA, September 26, 2015.

Engineers' View of Network Management, Specialized Services and Net Neutrality. Panel discussion at the Information Technology and Innovation Foundation, February 25, 2015

The Future of Unlicensed Spectrum. Panel discussions at the Brookings Institution, Washington, DC, January 14, 2014.

Implications of Technical Issues for Auction Design. Presented at the Stanford Institute for Economic Policy Research, Conference on the FCC Incentive Auction, Stanford University, Stanford, CA, February 26, 2013.

Observations on the Promise and Problems of Strategic Plans: From the Spectrum Policy Task Force to the PCAST Report. Presented at Looking Back to Look Forward: The Next Ten Years of Spectrum Policy a Silicon Flatirons Center conference, Pew Charitable Trusts Conference Center, Washington, DC, November 13, 2012.

Spectrum Markets: Challenges Ahead. Presented at Spectrum Markets: Challenges Ahead, a workshop at Kellogg School of Management, Northwestern University, Evanston, IL, June 3, 2011.

Observations on Networking. Presented at Information Technology and Innovation Foundation Hill Staff Briefing on Network Neutrality, Washington, DC. February 11, 2011.

Antitrust in High-Tech Industries. Presented jointly with Robert Crandall at The Technology Policy Institute Conference Antitrust and the Dynamics of Competition in High-Tech Industries, Washington, DC, October 22, 2010.

Participated in panel discussion at Regulatory Developments and Unlicensed Operations in the Television Broadcast Band, Federal Communications Bar Association, CLE session, Washington, DC, October 12, 2010.

Observations on “Neutrality” and Priority. Presented at Role of Managed Services on Broadband Networks, Information Technology and Innovation Foundation, Washington, DC, October 1, 2010.

Observations on Wireless and “Neutrality.” Presented at Rough Consensus and Running Code: Integrating Engineering Principles into the Internet Policy Debates, Center for Technology, Innovation, and Competition, University of Pennsylvania Law School, Philadelphia, PA, May 7, 2010.

Coase and the New Zealand Spectrum Reforms. Presented at Markets, Firms and Property Rights—A Celebration of the Research of Ronald Coase, University of Chicago, Chicago, IL, December 4, 2009.

Observations on Network Regulation. Presented to the Information Technology and Innovation Foundation’s What Will the Internet of the Future Look Like? Washington, DC, November 2, 2009.

Control of Prison Cell Phones. Presented to the Federal Communications Bar Association Wireless Committee, Washington, DC, October 25, 2009.

Wireless Industry Overview. Presented to the Telecom, Media & Tech Boot Camp, Washington DC, September 17, 2008.

A Quick Introduction to Voice over Internet Protocol (VoIP) Presentation to the Federal Communications Bar Association’s State and Local Practice Committee, Washington, DC, October 22, 2008,

Encouraging Broadband Internet Access in the TV White Space: The Licensed Option, with Dorothy Robyn. Presented at the Telecommunications Policy Research Conference, Arlington, VA, September 30, 2007.

Licensed Access: The Smarter Policy for TV White Space and Broadband Internet Access, with Dorothy Robyn. Presented at the Conference on Smart Radio: Smart Markets and Policies, Arlington, VA, April 6, 2007. Also presented at IEEE CrownCom, Orlando, FL, August 2, 2007.

The Cost of Interference, Working Level Group (WLG) E of the President's Spectrum Policy Initiative, Washington, DC, April 12, 2005.

Status of Telecom Reform and the Telecom Industry in the U.S., National Telecommunications Regulatory Authority, Ministry of Communications and Information, Cairo, Egypt, April 4, 2005.

The Cost of Interference, Interdepartmental Radio Advisory Committee (IRAC), Washington, DC, February 23, 2005.

Observations on Interference Temperature and Underlay Operation, Telecommunications Policy Research Conference, Arlington, VA, October 3, 2004.

Quantifying the Cost of Interference, FCC Technological Advisory Council, Washington, DC, July 28, 2004.

Observations on VoIP, ICT Seminar, Johns Hopkins University, June 22, 2004.

A Quick Introduction to Voice over Internet Protocol, PURC 2004 Annual Meeting, Gainesville, FL, February 12, 2004.

Spectrum Management in Telecommunications, PURC/World Bank Ninth International Training Program on Utility Regulation & Strategy, Gainesville, FL, January 15–26, 2001.

PROFESSIONAL ACTIVITIES

Member, Sigma XI, Institute of Electrical and Electronics Engineers (IEEE), IEEE Computer Society, IEEE Communications Society, IEEE Information Theory Society, American Association for the Advancement of Science, and the American Mathematical Society.

Member of the examination drafting committee for the IEEE Wireless Communications Technologies (WCET) examination (2008–present).

Conference Organizer, *The Genesis Of Unlicensed Wireless Policy: How Spread Spectrum Devices Won Access to License-Exempt Bandwidth*, held at George Mason Law School, April 4, 2008.

Guest Editor of special issue on spectrum resource optimization, *Journal of Communications Networks* (JCN), 2006.

Member, Federal Communications Commission Technological Advisory Committee. (1998–2004). Chair, Spectrum Working Group (1998–2000).

Member, U.S. Department of Commerce Spectrum Planning and Policy Advisory Committee. (1995–2002).

Executive Committee Member, University of Florida's Public Utility Research Center (PURC) (1991–2007).

Chairman, IS/WP1 (Policy and Regulation) of the FCC's Advisory Committee on Advanced Television. (1989–1992).

From 1987–1988, served on the Board of Directors of the Telecommunications Policy Research Conference. Chairman of the Board, 1988.