

# Jeffrey H. Reed, Ph.D.

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Willis G. Worcester Professor of ECE  
The Bradley Department of Electrical and Computer Engineering  
Director of Wireless at Virginia Tech  
Virginia Tech  
432 Durham Hall, Mail code 0350  
Blacksburg, VA 24061  
Voice: (540) 231-2972  
FAX: (540) 231-2968  
Email: [reedjh@vt.edu](mailto:reedjh@vt.edu)  
[www.wireless.vt.edu](http://www.wireless.vt.edu)

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## Publications List

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### Books Authored or Co-Authored

1. Jeffrey H. Reed, editor, "An Introduction to Ultrawideband Communications Systems" published by Prentice Hall, March 2005, ISBN: 0-13-148103-7.
2. Jeffrey H. Reed, *Software Radio: A Modern Approach to Radio Design*, May 2002, Prentice Hall, ISBN 0-13-081158-0.
3. Nishith D. Tripathi, Jeffrey H. Reed, Hugh F. VanLandingham, "Radio Resource Management in Cellular Systems," Kluwer Academic Publishers, Spring 2001

### Books Edited

1. W. H. Tranter, B. D. Woerner, J. H. Reed, T. S. Rappaport, and P. M. Robert, *Wireless Personal Communications – Bluetooth and Other Technologies*, Kluwer Academic Publishers, 2000.
2. W. H. Tranter, B. D. Woerner, T. S. Rappaport, and J. H. Reed, *Wireless Personal Communications – Channel Modeling and Systems Engineering*, Kluwer Academic Publishers, 1999, 253 pages.
3. W. H. Tranter, T. S. Rappaport, B. D. Woerner, J. H. Reed, editors, *Wireless Personal Communications: Emerging Technologies for Enhanced Communications*, Kluwer Press, 1998, 329 pages.
4. T. S. Rappaport, B. D. Woerner, J. H. Reed, W. H. Tranter, editors, *Wireless Personal Communications: Improving Capacity, Services, and Reliability*, Kluwer Press, 1997, 225 pages.
5. J. H. Reed, B. D. Woerner, T. S. Rappaport, editors, *Wireless Personal Communications: Advances in Coverage and Capacity*, Kluwer Press, 1997, 223 pages.
6. T. S. Rappaport, B. D. Woerner, J. H. Reed, editors, *Wireless Personal Communications: The Evolution of PCS*, Kluwer Press, 1996, 216 pages.

7. B. D. Woerner, T. S. Rappaport, J. H. Reed, editors, *Wireless Personal Communications: Research Developments*, Kluwer Press, 1995, 295 pages.
8. T. S. Rappaport, B. D. Woerner, J. H. Reed, editors, *Wireless Personal Communications: Trends and Challenges*, Kluwer Press, 1994, 266 pages.

### Book Contributions

1. Youping Zhao, Bin Le, Jeffrey Reed, "Network Support: The Radio Environment Map", chapter written for *"Cognitive Radio Technology"* by Bruce Fette, published August 8, 2006 by Elsevier Inc., pp. 337-363 , ISBN: 978-0-7506-7952-7.
2. James O. Neel, Jeffrey H. Reed, Allen B. MacKenzie, "Cognitive Radio Performance Analysis," chapter written for *"Cognitive Radio Technology"* by Bruce Fette, published August 8, 2006 by Elsevier Inc., pp. 501-579 , ISBN: 978-0-7506-7952-7.
3. Brian M. Donlan, R. Michael Buehrer, Jeffrey H. Reed, "Ultra-wideband Wireless Systems," published in the Encyclopedia of RF and Microwave Engineering, Spring 2005, pp. 5411-5423, ISBN: 0-471-27053-9.
4. N. D. Tripathi, J.H. Reed, H.F. VanLandingham, chapter titled, "Application of a Neurofuzzy System to Handoffs in Cellular Communications," written for *"Neuro-Fuzzy and Fuzzy-Neural Applications in Telecommunications (Signals and Communication Technology)"* by Peter Stavroulakis, published May 14, 2004 by Springer Publishing, ISBN: 3540407596.
5. J. H. Reed, and C. J. Rieser, "Software Radio: Technical, Business and Market Implications," *World Market Series Business Briefing Wireless Technology 2001*, WMRC PLC – World Markets Research Centre, ISBN 1-903140-36-1, October 2000, pp. 146-150.
6. P. Petrus and J. H. Reed, "Co-channel Interference in Wireless Communication Systems," *Encyclopedia of Electrical and Electronics Engineering*, John Wiley & Sons, Inc., February 1999 (invited paper).
7. N. R. Mangalvedhe and J. H. Reed, "Analysis of an Eigenstructure Technique for DSSS Synchronization," *Wireless Personal Communications: The Evolution of PCS*, Kluwer Press, 1996 (also appears in *Virginia Tech's Sixth Annual Symposium on Wireless Personal Communications*, June 1996), pp. 201-214.
8. J. D. Laster and J. H. Reed, "A Survey of Adaptive Single Channel Interference Rejection Techniques for Wireless Communications," *Wireless Personal Communications: Research Developments*, Kluwer Press, 1995 (also appears in *Virginia Tech's Fourth Annual Symposium on Wireless Personal Communications*, June 1994), pp.29-54.
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### Papers in Refereed Journals

1. Shiwen Mao, Xiaolin Cheng, Y.T. Hou, H. D. Sherali, J. H. Reed, "On Joint Routing and Server Selection for MD Video Streaming in Ad Hoc Networks," published in the *IEEE Transactions on Wireless Communications*, January 2007, Vol. 6, Issue 1, pp. 338-347.

2. Carlos Aguayo Gonzalez, Francisco Portelinha, Jeffrey H. Reed, part 1 published in the *Military Embedded Systems Magazine*, March/April 2007 Issue. Part 2 published in the May/June 2007 Issue.
3. Nankyu Ryu, Yusuk Yun, Seung Won Choi, R. Chembil Palat, Jeffrey H. Reed, "Smart Antenna Base Station Open Architecture for SDR Networks," published in the *IEEE Wireless Communications*, June 2006, Vol. 13, Issue 3, pp. 58-69.
4. L. daSilva, G.E. Morgan, C.W. Bostian, S.F. Midkiff, J.H. Reed, C. Thompson, W.G. Newhall, and B.D. Woerner, "The Resurgence of Push-To-Talk Technologies," published in the *IEEE Communications Magazine*, January 2006, Vol. 44, No. 1, pp. 48-55.
5. V. Srivastava, J. Neel, A. Mackenzie, J. Hicks, L. DaSilva, J.H. Reed, R.P. Gilles, "Using Game Theory to Analyze Wireless Ad Hoc Networks," *IEEE Communications Surveys & Tutorials*, December 2005, pp. 46-56.
6. B. Le, T.W. Rondeau, J.H. Reed, C.W. Bostian, "Analog-to-Digital Converters," *IEEE Signal Processing Magazine*, November 2005, pp. 69-77.
7. R. Mostafa, R. Gozali, P.M. Robert, R.C. Palat, B.D. Woerner, J.H. Reed, "Design and Implementation of a DSP-Based MIMO System Prototype for Real-Time Demonstration and Indoor Channel Measurements," *Eurasip Journal of Applied Signal Processing*, September 2005, volume 2005, number 16, pp. 2673-2685.
8. R. Mostafa, A. Annamalai, J.H. Reed, "Performance Evaluation of Cellular Mobile Radio Systems with Adaptive Interference Nulling of Dominant Interferers," *IEEE Transactions on Communications*, Vol. 52, Issue 2, February 2004, pp. 326-335.
9. S. Srikanteswara, R. Chembil Palat, J.H. Reed, P. Athanas, "Overview of Configurable Computing Machines for Software Radio Handsets," *IEEE Communications Magazine*, July 2003, pp 134-141.
10. J.D. Laster, J.H. Reed, W.H. Tranter, "Bit Error Rate Estimation Using Probability Density Function Estimators," *IEEE Transactions on Vehicular Technology*, Vol. 52, Issue 1, January 2003, pp. 260-267.
11. P.Petrus, J.H. Reed, T.S. Rappaport, "Geometrical-based Statistical Macrocell Channel Model for Mobile Environments," *IEEE Transactions on Communications*, Vol. 50, No. 3, March 2002, pp. 495-502.
12. Raqibul Mostafa, Fakhru Alam, Kyung Kyoong Bae, J.H. Reed, W.H. Tranter, B.D. Woerner, "3G-Around the world and back again," *RF Design*, February 2002.
13. J. Hicks, S. Bayram, W.H. Tranter, R.J. Boyle, and J.H. Reed, "Overloaded Array Processing with Spatially Reduced Search Joint Detection," *IEEE Journal on Selected Areas in Communication*, Vol. 19, No. 8, August 2001, pp. 1584-1593.
14. T. Li, Y. M. Vasavada, B. D. Woerner, and J. H. Reed, "A Novel Direct Sequence Spread Spectrum CDMA System with Analog Frequency Modulation," *International Journal on Wireless Information Networks*, Vol. 7, No.1, 2000, pp. 43-53.

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16. T. E. Biedka, W. H. Tranter, and J. H. Reed, "Convergence Analysis of the Least Squares Constant Modulus Algorithm in Interference Cancellation Applications," *IEEE Transactions on Communications*, Vol. 48, No. 3, March 2000, pp. 491-501.
17. S. Srikanteswara, J. H. Reed, P. Athanas, and R. Boyle, "A Soft Radio Architecture for Reconfigurable Platforms," *IEEE Communications Magazine*, February 2000, pp. 140-147.
18. R.B. Ertel and J.H. Reed, "Angle and Time of Arrival Statistics for Circular and Elliptical Scattering Models," *IEEE Journal on Selected Areas in Communications: Wireless Communications Series*, pp. 1829-1840, Vol. 17, No. 11, November 1999.
19. N. Tripathi and J. H. Reed, "Handoffs in Cellular Systems," *IEEE Personal Communications*, December 1998, pp. 26-37.
20. R. B. Ertel and J. H. Reed, "Generation of Two Equal Power Correlated Rayleigh Fading Envelopes," *IEEE Communications Letters*, Vol. 2, No. 10, October 1998, pp. 276-278.
21. Peter J. Athanas, Jeffrey H. Reed, and William H. Tranter, "A Prototype Software Radio Based on Configurable Computing," *Advancing Microelectronics, 1998 Special Wireless Issue*, vol. 5, no. 3, pp. 33-38 (invited paper).
22. Jeffrey H. Reed, Kevin J. Krizman, Brian D. Woerner, and Theodore S. Rappaport, "An Overview of the Challenges and Progress in Meeting the E911 Requirement for Location Service," *IEEE Communications Magazine*, April 1998, pp. 30-37.
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27. Z. Rong, P. Petrus, T. S. Rappaport, and J. H. Reed, "Despread-Respread Multi-Target Constant Modulus Array for CDMA Systems," *IEEE Communications Letters*, July, 1997, pp. 114-116.
28. J. Laster and J. H. Reed, "Interference Rejection in Digital Wireless Communications," *IEEE Signal Processing Magazine*, May, 1997, pp. 37-62.
29. P. Petrus, J. H. Reed, and T. S. Rappaport, "Effects of Directional Antennas at the Base Station on the Doppler Spectrum," *IEEE Communications Letters*, March, 1997, p. 40-42 (also appears in

*Smart Antennas: Adaptive Arrays, Algorithms, & Wireless Position Location*, IEEE, Inc., 1998, pp.489-91).

30. F. Dominique, J.H. Reed, "Subspace Based PN Code Sequence Estimation fro Direct Sequence Signals Simplified Hebb Rule," *Electronics Letters*, June 1997, vol. 33, pp. 1119-1120.
31. F. Dominique and J. H. Reed, "Estimating Spectral Correlations using the Least Mean Square Algorithm," *IEE Electronic Letters*, January 30, 1997, pp. 182-184.
32. F. Dominique and J. H. Reed, "A Despread Data Rate Update Multi-target Adaptive Array for CDMA Signals," *IEE Electronic Letters*, January 16, 1997, pp. 119-121.
33. F. Dominique and J. H. Reed, "A Simple PN Code Sequence Estimation and Synchronization Techniques Using the Constrained Hebbian Rule," *IEE Letters*, January 2, 1997, pp. 37-38.
34. B.G. Agee, R. J. Kleinman, and J. H. Reed, "Soft Synchronization of Direct Sequence Spread Spectrum Signals," *IEEE Transactions on Communications*, November, 1996, pp.1527-1536.
35. T. S. Rappaport, J. H. Reed, B. D. Woerner, "Position Location Using Wireless Communications on Highways of the Future," *IEEE Communications Magazine*, vol. 34, no. 10, October, 1996, pp. 33-41, invited paper (also appears in *Smart Antennas: Adaptive Arrays, Algorithms, & Wireless Position Location*, IEEE, Inc., 1998, pp.393-401).
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37. F. Dominique and J. H. Reed, "A Robust Frequency Hop Synchronization Algorithm," *IEE Electronics Letters*, vol. 32, no. 16, August 1, 1996, pp. 1450-1451.
38. P. Petrus and J. H. Reed, "Time Dependent Adaptive Arrays," *IEEE Signal Processing Letters*, vol. 2, no. 12, December 1995, pp. 219-222.
39. J. H. Reed, N. Yuen, and T. C. Hsia, "An Optimal Receiver Implemented Using A Time-Dependent Adaptive Filter," *IEEE Transactions on Communications*, vol. 43, no. 2/3/4, February-March-April, 1995, pp. 187-190.
40. B. D. Woerner, J. H. Reed, T. S. Rappaport, "Simulation Issues for Future Wireless Modems," *IEEE Communications Magazine*, vol. 32, no. 7, July 1994, pp. 42-53, invited paper.
41. R. Mendoza, J. H. Reed, T. C. Hsia, and B. G. Agee, "Interference Rejection Using The Generalized Constant Modulus Algorithm And The Hybrid CMA/SCD," *IEEE Transactions on Signal Processing*, vol. 39, no. 9, September 1991, pp. 2108-2111.
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## Conference Papers

***Accepted on the basis of peer review***

1. Youping Zhao, Lizdabel Morales, Joseph Gaeddert, Kyung K. Bae, Jung-sun Um, Jeffrey H. Reed, "Applying Radio Environment Maps to Cognitive Wireless Regional Area Networks," presented at the *DYSPAN 2007*, Dublin, Ireland, April 17-20, 2007.
2. Kyouwoong Kim, Ihsan A. Akbar, Kyung K. Bae, Jung-sun Um, Jeffrey H. Reed, "Cyclostationary Approaches to Signal Detection and Classification in Cognitive Radio," presented at *DYSPAN 2007*, Dublin, Ireland, April 17-20, 2007.
3. R. Menon, A.B. MacKenzie, R.M. Buehrer, J.H. Reed, "A Game-Theoretic Framework for Interference Avoidance in Ad Hoc Networks," presented at *GlobeCom 2006*, San Francisco, CA, November 27-December 1, 2006.
4. James O. Neel, Jeffrey H. Reed, "Performance of Distributed Dynamic Frequency Selection Schemes for Interference Reducing Networks," presented at *MILCOM 2006*, Washington, DC, October 23-25, 2006.
5. Y. Zhao, J.H. Reed, S. Mao, K.K. Bae, "Overhead Analysis for Radio Environment Map (REM)-enabled Cognitive Radio Networks," presented at the *IEEE Conference on Sensor, Mesh, and Ad Hoc Communications and Networks – SECON 2006*, Reston, VA September 25-28, 2006.
6. S. Venkatesh, C.R. Anderson, R.M. Buehrer, J.H. Reed, "On the Use of Pilot-Assisted Matched Filtering in UWB Time-Interleaved Sampling," presented at the *International Conference on Ultra-Wideband – ICUWB 2006*, Waltham, MA, September 24-27, 2006, M4B-1, pp. 119-124.
7. James Neel, Max Robert, Jeffrey H. Reed, "A Formal Methodology for Estimating the Feasible Processor Solution Space for a Software Radio," presented at *Software Defined Radio Forum -- SDR Forum 2005*, Orange Co. CA, November 14-18, 2005, pp. A117-A122.
8. Christopher Anderson, Jeffrey H. Reed, "Performance Analysis of a Time-Interleaved Sampling for a Software Defined Ultra Wideband Receiver," presented at the *SDR Forum 2005*, Orange County, CA, Nov. 14-18, 2005, pp. A75-A80.
9. Ramesh Chembil Palat, A. Annamalai, Jeffrey H. Reed, "Cooperative Relaying for Ad-Hoc Ground Networks Using Swarm UAVS," presented at *IEEE Military Communications Conference -- MILCOM 2005*, Atlantic City, NJ, Oct. 17-20, 2005, pp. 3314-3320.
10. Namkyu Ryu, Yusuk Yun, Seungwon Choi, Jeffrey H. Reed, "Smart Antenna Implemented with Reconfigurable Devices foe ADR Network," *IEICE Technical Committee on Software Radio*, Yokosuka, Japan, July 28-29, 2005, pp. 15-22 .
11. Jong-Han Kim, Kyung K. Bae, A. Annamalai, Jeffrey H. Reed, "The Impact of Transmit Diversity on the Erlang Capacity of Reverse Link DS/CDMA," presented at *PIMRC 2005, International Symposium on Personal Indoor and Mobile Radio Communications*, Berlin, Germany, September 11-15, 2005.
12. Shiwen Mao, Xiaolin Cheng, Thomas Hou, Hanif Sherali, Jeffrey Reed, "Joint Routing and Server Selection for Multiple Description Video Streaming in Ad Hoc Networks," presented at *ICC 2005, International Conference on Communications*, Seoul, Korea, May 16-20, 2005, pp. 2993-2999.

13. Y. T. Hou, Y. Shi, J.H. Reed, K. Sohraby, "Flow Routing for Variable Bit Rate Source Nodes in Energy-Constrained Wireless Sensor Networks" presented at *ICC 2005, International Conference on Communications*, Seoul, Korea, May 16-20, 2005, pp. 3057-3062.
14. Kyung K. Bae, Jong-Han Kim, Annamalai Annamalai, William H. Tranter, Jeffrey H. Reed, "Impact of Transmit Diversity at Handsets on the Reverse Link DS/CDMA System Capacity," presented at *Global Telecommunications Conference 2004 (GLOBECOM 04)*, Dallas TX, Nov. 29-Dec. 3, 2004, vol. 6, pp. 3700-3704.
15. J.A. Neel, Jeffrey H. Reed, Robert P. Gilles, "Game Models For Cognitive Radio Algorithm Analysis," presented at the *SDR Forum 2004*, Scottsdale, AZ, November 15-17, 2004. This paper was awarded the Best Paper Award at the SDR Forum.
16. Rekha Menon, R.M. Buehrer, J.H. Reed, A. MacKenzie, "Game Theory and Interference Avoidance In Decentralized Networks," presented at the *SDR Forum 2004*, Scottsdale, AZ, November 15-17, 2004.
17. J. Neel, S. Srikanteswara, J.H. Reed, P.M. Athanas, "A Comparative Study of the Suitability of a Custom Computing Machine and a VLIW DSP for use in 3G Applications," presented at the *IEEE Workshop on Signal Processing Systems 2004 (SIPS '04)*, Austin, TX, Oct. 13-15, 2004, pp. 188-193.
18. F. Alam, B.L. P. Cheung, R. Mostafa, W.G. Newhall, B.D. Woerner, J.H. Reed, "Sub-Band Beamforming for OFDM Systems in Practical Channel Condition," presented at *IEEE Vehicular Technology Conference 2004 (VTC Fall '04)*, Los Angeles, CA, September 26-29, 2004, vol. 1, pp. 235-239.
19. Jong-Han Kim, Kyung K. Bae, Annamalai Annamalai, William H. Tranter, Jeffrey H. Reed, "Reverse Link Capacity and Interference Statistics of DS/CDMA with Transmit Diversity," presented at *IEEE Vehicular Technology Conference 2004 (VTC Fall '04)*, Los Angeles, CA, September 26-29, 2004, vol. 6, pp. 4320-4324.
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22. W.G. Newhall, R. Mostafa, C. Dietrich, C. Anderson, K. Dietze, G. Joshi, J.H. Reed, "Wideband Air-To-Ground Radio Channel Measurements Using an Antenna Array at 2 GHz for Low-Altitude Operations," presented at *MILCOM, IEEE Military Communications Conference 2003*, Boston, MA., October 13-16, 2003, vol.2, pp. 1422-1427.
23. S.W. Kim, D.S. Ha, J.H. Reed, "Minimum Selection GSC and Adaptive Low-Power Rake Combining Scheme," presented at *ISCAS 2003 IEEE International Symposium on Circuits and Systems*, Bangkok, Thailand, May 25-28, 2003.
24. Muhammad A. Nizamuddin, Philip H. Balister, William H. Tranter, Jeffrey H. Reed, "Nonlinear Tapped Delay Line Digital Predistorter for Power Amplifiers with Memory," presented to *IEEE*

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25. W. Newhall, J.H. Reed, "A Geometric Air-To-Ground Radio Channel Model," presented at *MILCOM 2002*, Anaheim, CA, Oct. 7-10, 2002, pp. 632-636.
26. B. Cheung, F. Alam, J.H. Reed, B.D. Woerner, "New adaptive Beamforming Algorithm for OFDM Systems," presented at the *14<sup>th</sup> International Conference on Wireless Communications, Wireless 2002*, Calgary, Alberta Canada, July 8-10, 2002, pp. 71-75. This paper received the URSI Best Student Paper Award given by the Canadian National Commission (CNC) of The International Union of Radio Science (URSI).
27. J. Hicks, J. Tsai, J.H. Reed, W.H. Tranter, "Overloaded Array Processing with MMSE-SIC," presented at *VTC 2002 Spring*, Birmingham, AL, May 6-10, 2002, pp. 542-546.
28. S. Krishnamoorthy, C.R. Anderson, S. Srikanteswara, P.M. Robert, J.H. Reed, "Background Interference Measurements at 2.45GHz in a Hospital," presented at the *Virginia Tech Center for Biomedical Engineering and the Wake Forest University School of Medicine 1<sup>st</sup> Student Research Symposium*, May 2002.
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32. R. Mostafa, A. Hannan, J.H. Reed, W.H. Tranter, "Narrowband Transmit Diversity Measurements at the Handset for an Indoor Environment," accepted but not presented at *ICICS 2001*, Mandrin, Singapore, October 28-31, 2001.
33. J. Kim, Y.M Vasavada, J.H. Reed, "Spatio-temporal Searcher Structure for 3G W-CDMA Smart Antenna Systems," presented at *VTC 2001 Fall*, Atlantic City, New Jersey, October 7-11, 2001, vol. 3, pp. 1635-1639.
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39. T. E. Biedka, J. H. Reed, and W. H. Tranter, "Mean Convergence Rate of a Decision Directed Adaptive Beamformer with Gaussian Interference," *SAM 2000 – IEEE Sensor Array and Multichannel Signal Processing Workshop*, Cambridge, MA, March 16-17, 2000.
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41. S. K. Yao and J. H. Reed, "GMSK Differential Detectors with Decision Feedback in Multipath and CCI Channels," *1996 Globecom Conference*, London, November 1996, pp. 1830-1834.
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43. N. Mangalvedhe and J. H. Reed, "An Eigenstructure Technique for Soft Synchronization of Spread Spectrum," *1996 IEEE Conference on Acoustics, Speech and Signal Processing*, Atlanta, May 7-10, 1996, pp. 1751-1754.
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47. P. Petrus and J. H. Reed, "Least Squares CM Adaptive Array for Co-Channel Interference Rejection for AMPS and IS-54," *Wireless 95*, Calgary, July 1995, pp. 7.41-7.47.
48. F.J. Cheng, P. Lemson, J. H. Reed, I. Jacobs, "A Dynamic Range Enhancement Technique for Fiber Optic Microcell Radio Systems," *IEEE Vehicular Technology Conference*, Chicago, July 1995, pp. 774-778.
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