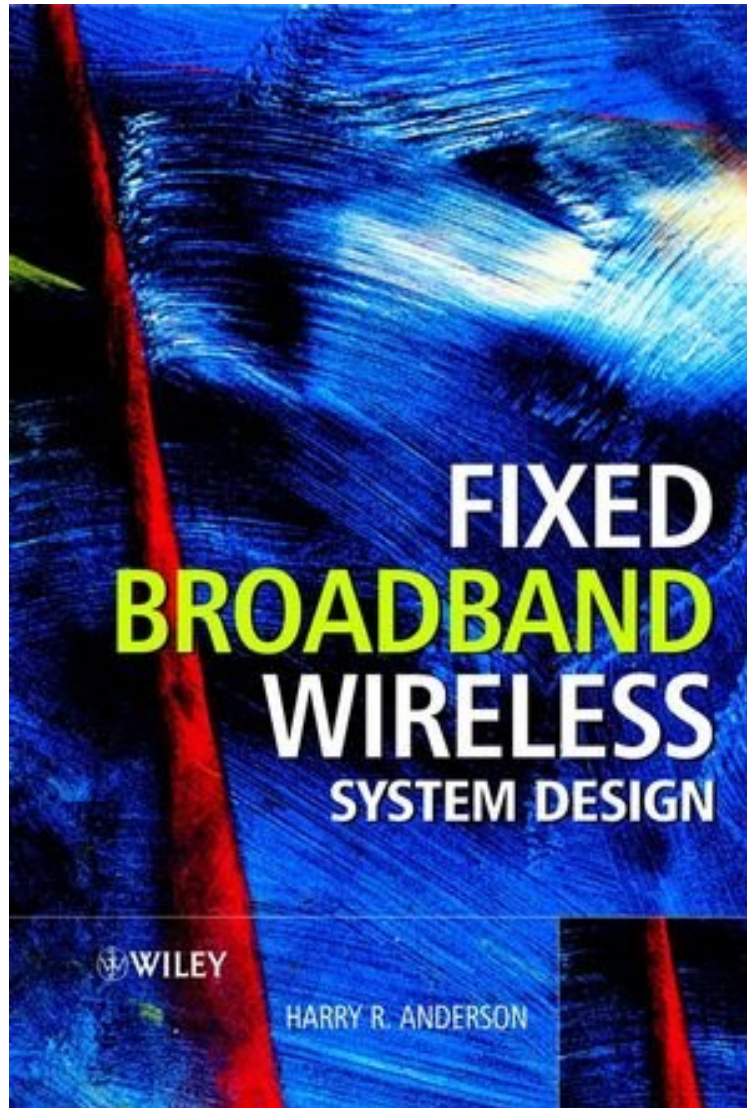


Fixed Broadband Wireless System Design

Harry R. Anderson

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Harry R. Anderson : Fixed Broadband Wireless System Design before purchasing it in order to gage whether or not it would be worth my time, and all praised Fixed Broadband Wireless System Design:

0 of 0 people found the following review helpful. Good referenceBy Vincent Tan T Call the main subjects are in this book. Useful point of reference to go further explore the details info. Good for engineering reference.16 of 16 people found the following review helpful. Comprehensive, new engineering materialBy Wireless engineerAs well as being a good overall book covering many traditional wireless topics, this book also offers detailed information on several subjects like propagation databases (terrain, buildings, etc), traffic loading models for cell sectors and spectrum

utilization that are not found in any other books I've seen on wireless engineering. Other books I have on propagation modeling (like Rappaport's or Bertoni's) don't treat the subject of database construction and potential errors. This book also brings together traditional microwave link design (rain fades, etc.) with design of multipoint systems using new CDMA and OFDM technologies - again, not found together in other books. Even the stuff of WiFi is useful, but I would have liked more included on this subject. Highly recommended if you're involved in fixed wireless design.

Fixed broadband networks can provide far higher data rates and capacity than the currently envisioned 3G and 4G mobile cellular systems. Achieving higher data rates is due to the unique technical properties of fixed systems, in particular, the use of high gain and adaptive antennas, wide frequency bands, dynamic data rate and channel resource allocation, and advanced multiple access techniques. Fixed Broadband Wireless System Design is a comprehensive presentation of the engineering principles, advanced engineering techniques, and practical design methods for planning and deploying fixed wireless systems, including: Point-to-point LOS and NLOS network design Point-to-point microwave link design including active and passive repeaters Consecutive point and mesh network planning Advanced empirical and physical propagation modeling including ray-tracing Detailed microwave fading models for multipath and rain NLOS (indoor and outdoor) propagation and fading models Propagation environment models including terrain, morphology, buildings, and atmospheric effects Novel mixed application packet traffic modeling for dimensioning network capacity Narrow beam, wide beam, and adaptive (smart) antennas MIMO systems and space-time coding Channel planning including fixed and dynamic channel assignment and dynamic packet assignment IEEE 802.11b and 802.11a (WLAN) system design Free space optic (FSO) link design At present, there are no titles available that provide such a concise presentation of the wide variety of systems, frequency bands, multiple access techniques, and other factors that distinguish fixed wireless systems from mobile wireless systems. Fixed Broadband Wireless System Design is essential reading for design, system and RF engineers involved in the design and deployment of fixed broadband wireless systems, fixed wireless equipment vendors, and academics and postgraduate students in the field.

From the Back Cover Fixed broadband wireless systems provide an alternative solution for the "last mile" delivery of high-speed Internet and other data services to businesses and homes. Two-way wireless connections can be deployed more rapidly and less expensively than traditional optical fiber, coaxial cable, or wired telephone connections. Fixed broadband networks can also provide much higher data rates and capacity than the currently envisioned 3G and 4G cellular systems. Achieving these higher data rates and capacity is a result of the unique technical properties of fixed wireless systems, in particular, the use of high gain directional antennas, wide frequency bands, dynamic data rate allocation, and advanced multiple access techniques. Provides a comprehensive discussion of the fundamental elements of fixed Details the technologies that are currently being developed or deployed for fixed broadband wireless communications including W-CDMA, OFDM, FDD/TDD, MIMO, smart antennas, free space optics (FSO), Wi-Fi and more Features in-depth explanations of fixed wireless network design techniques for point-to-point (PTP) microwave links and point-to-multipoint (PMP) networks, as well as strategies for optimum channel planning and network layout Describes practical system design methods using the most advanced propagation and fading models for line-of-sight (LOS) and non-line-of-sight (NLOS) networks operating in urban, suburban and rural environments Includes new research results for modeling mixed-application packet traffic capacity demands in multipoint networks Based on the author's wealth of research and industrial experience, this volume will be extremely useful and informative for RF engineers currently involved in the development, design and deployment of fixed broadband wireless systems. It will also be a valuable reference for technical managers, equipment suppliers, academics and postgraduate students.