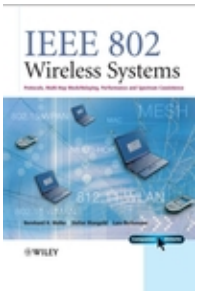
by Bernhard Walke, Stefan Mangold, Lars Berlemann



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Throughout the next decade, 802 wireless systems will become an integral part of fourth generation (4G) cellular communication systems, where the convergence of wireless and cellular networks will materialize through support of interworking and seamless roaming across dissimilar wireless and cellular radio access technologies. IEEE 802 Wireless Systems clearly describes the leading systems, covering IEEE 802.11 WLAN, IEEE 802.15 WPAN, IEEE 802.16 WMAN systems architecture, standards and protocols (including mesh) with an instructive approach allowing individuals unfamiliar with wireless systems to follow and understand these technologies. Ranging from digital radio transmission fundamentals, duplex, multiplexing and switching to medium access control, radio spectrum regulation, coexistence and spectrum sharing, this book also offers new solutions to broadband multi-hop networking for cellular and ad hoc operation. The book

- Gives a comprehensive overview and performance evaluation of IEEE 802.11, 802.15 and 802.16
- Includes a tutorial like introduction to the basics of wireless communication
- Discusses challenges in mesh/multi-hop relaying networks and provides profound solutions for their realization with 802 Wireless Systems
- Covers spectrum sharing on different levels and provides solutions for coexistence, cooperation and interworking of 802 Wireless Systems that are following the same or different standards, but share the same spectrum
- Includes a detailed overview and introduction on cognitive radio and dynamic spectrum access

This book is an essential text for advanced undergraduate students with a basic working knowledge of wireless communication, graduate students and engineers working in the field of wireless communications.