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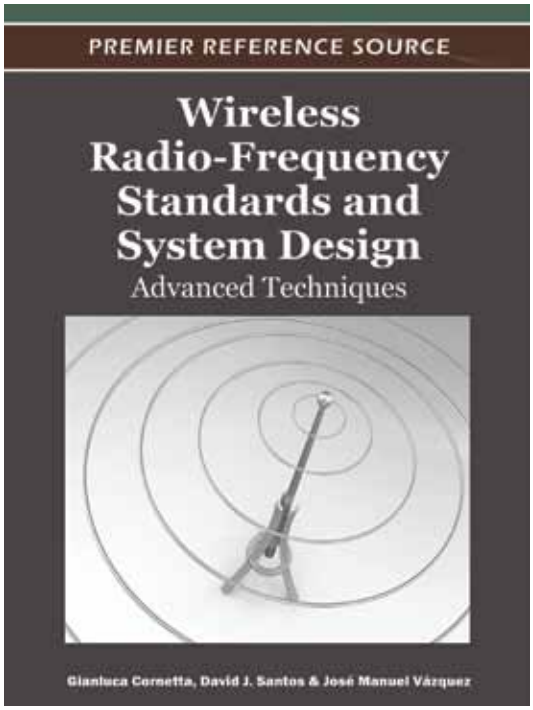
Wireless Radio-Frequency Standards and System Design: Advanced Techniques



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Radio-frequency (RF) integrated circuits in CMOS technology are gaining increasing popularity in the commercial world, and CMOS technology has become the dominant technology for applications such as GPS receivers, GSM cellular transceivers, wireless LAN, and wireless short-range personal area networks based on IEEE 802.15.1 (Bluetooth) or IEEE 802.15.4 (ZigBee) standards. Furthermore, the increasing interest in wireless technologies and the widespread of wireless communications has prompted an ever increasing demand for radio frequency transceivers.

Wireless Radio-Frequency Standards and System Design: Advanced Techniques provides perspectives on radio-frequency circuit and systems design, covering recent topics and developments in the RF area. Exploring topics such as LNA linearization, behavioral modeling and co-simulation of analog and mixed-signal complex blocks for RF applications, integrated passive devices for RF-ICs and baseband design techniques and wireless standards, this is a comprehensive reference for students as well as practicing professionals.

Topics Covered:

- CMOS Nanometer Technologies
- EM/Circuit Co-Simulation
- Frequency Synchronization
- Frequency Synthesizer
- Intra Vehicle Communications
- Linearity in RF Circuits
- Multi-Mode Multi-Standard Transceivers
- RF-MEMS
- WiMAX
- Wireless Transceivers

Market: This premier publication is essential for all academic and research library reference collections. It is a crucial tool for academicians, researchers, and practitioners and is ideal for classroom use.

Gianluca Cornetta obtained his MSc Degree from Politecnico di Torino (Italy) in 1995 and his PhD from Universidad Politécnica de Cataluña (Spain) in 2001, both in Electronic Engineering. In 2003 he joined Universidad CEU-San Pablo in Madrid (Spain), where he is presently an Associate Professor. Prior to joining Universidad CEU-San Pablo, he was a Lecturer in the Departement of Electronic Engineering of Universidad Politécnica de Cataluña (Spain), a Digital Designer at Infineon Technologies Gmbh (Germany), and an ICT Consultant at Tecsidel SA (Spain) in the field of real-time embedded systems. In 2004 he founded the Department of Electronic System Engineering and Telecommunications, which he chaired until February 2008. He is also a research fellow at the Vrije Universiteit Brussel and an invited Professor at the Institut Superieur d'Electronique de Paris (ISEP) where he teaches Wireless System Design in the Advances in Communication Environment (ACE) Master. His current research interests include RF circuit design for wireless sensor networks with special emphasis on IEEE 802.15.4 (ZigBee), digital communication circuits, software radio, and distributed real-time embedded systems.

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