ASK THE EXPERTS

Recently Published Books for Engineers Specializing in High Frequency Design

Instead of a Q&A column, this month we offer notes on a few books that have been released in the past few months.

Wireless Network Coexistence
By: Robert Morrow
ISBN: 0071399151
McGraw-Hill (www.books.mcgraw-hill.com)

The author examines issues related to interference between various wireless systems and its management. The author's preface states that a wireless network should be able to coexist with thermal noise, incoming multipath components, other nodes in its own network, independent networks using the same protocol, independent networks using other protocols and with all other services.

This is a useful reference for engineers who are responsible for designing, building and maintaining reliable wireless networks.

Microwave Engineering, 3rd Edition
David M. Pozar
ISBN: 0471448788
John Wiley & Sons (www.wiley.com

The newest edition (January 2004) of this book focuses on the design of microwave circuits and components, introducing the fundamental concepts necessary for real world design. This Third Edition offers greatly expanded coverage with new material on: noise, nonlinear effects, RF MEMS, transistor power amplifiers, FET mixers, oscillator phase noise, transistor oscillators and frequency multipliers.

Wireless Spectrum Management
By: Amit K. Maitra
ISBN: 0071409874
McGraw-Hill (www.books.mcgraw-hill.com)

RF spectrum is the most valuable commodity in the wireless market—the wireless equivalent of real estate. Government agencies and private companies developing, using, or selling communications systems and services must be certain their systems are compatible with national and international frequency assignments.

This book is a practical planning guide for any operation offering or planning to offer wireless, clearly explaining the technical, regulatory, and legal aspects of spectrum use. It not only provides rigorous engineering analysis of the properties and availability of key radio bands, but also interprets complex FCC and ITU regulations

RFID
By: Steven Shepard
ISBN: 0071442995
McGraw-Hill (www.books.mcgraw-hill.com)

With estimates of the market as high as $10 billion over the next decade, RFID (Radio Frequency Identification) is a booming new wireless technology. This book is a basic introduction, walking readers through the complete implementation and monitoring process, and offers in-depth coverage of related business and security issues. While not an circuit design book, it presents the important system issues that must be met by the design.

Passive RF and Microwave Integrated Circuits
Leo G. Maloratsky
ISBN: 075067699X
Newnes—An imprint of Elsevier (800-545-2512)

Integration of RF and microwave circuits offers the advantages of compact, lightweight, designs with enhanced performance, higher reliability, and low cost. In order to focus on the fundamentals of RF and microwave circuits design, this book treats passive components and control devices. The reader will progress from microwave fundamentals of transmission lines and simplest elements to more complicated devices and subassemblies, covering more than 20 novel transmission lines, components, devices, and subassemblies along the way. The final chapter concludes with an overview of the principal concepts of design and fabrication technology of RF and microwave integrated circuits.

WCDMA for UMTS: Radio Access for Third Generation Mobile Communications, Third Edition
Harri Holma (Editor), Antti Toskala (Editor)
ISBN: 0470870966
John Wiley & Sons (www.wiley.com

This highly regarded book describes the air interface of 3G cellular systems. The third edition now covers the key features of 3GPP Release 6 ensuring it remains the leading principal resource in this constantly progressing area. It explains the key parts of the 3GPP/WCDMA standard, presents network dimensioning, coverage and capacity of WCDMA, and introduces TDD and discusses its differences from FDD. Many new topics are included in this edition.