2 4 Ghz Rf Front End Datasheet Ti

The importance and ubiquity of wireless networks in the modern age justifies the depth and scope of the chapters included in this boo its special focus on sensors. Topics covered include MAC protocols, with one contribution offering a literature review on them. Energy efficiency is also important, with several chapters addressing cooperative beamforming, modern spatial-diversity techniques and MEMS. Hardware issues are addressed by a batch of chapters, on extending network coverage areas, CMOS RF transceivers, the use of an accelerometer sensor module and a fall-detection monitoring system and a couple of contributions on hierarchical paradigms in wireless sensor networks. More mathematical approaches are also included, with chapters on data aggregation tree construction and distribute localization algorithms.

The recent shift in focus from defense and government work to commercial wireless efforts has caused the job of the typical microwave engineer to change dramatically. The modern microwave and RF engineer is expected to know customer expectations, market trends, manufacturing technologies, and factory models to a degree that is unprecedented in the

Session 2 includes 110 papers selected from 2011 3rd International Asia Conference on Informatics in Control, Automation and Robotic (CAR 2011), held on December 24-25, 2011, Shenzhen, China. As we all know, the ever growing technology in robotics and automation help build a better human society. This session will provide a unique opportunity for the academic and industrial communities to addres challenges, share solutions, and discuss research directions for the future. Robotics research emphasizes intelligence and adaptability t cope with unstructured environments. Automation research emphasizes efficiency, productivity, quality, and reliability, focusing on syste that operate autonomously. The main focus of this session is on the autonomous acquisition of semantic information in intelligent robo systems, as well as the use of semantic knowledge to guide further acquisition of information.

This book constitutes the proceedings of the 6th International ICST Conference, TridentCom 2010, held in Berlin, Germany, in May 2010 of more than 100 submitted contributions the Program Committee finally selected 15 full papers, 26 practices papers, and 22 posters. focus on topics as Internet testbeds, future Internet research, wireless sensors, media and mobility, and monitoring in large scale testb Ultra-Low-Power and Ultra-Low-Cost Short-Range Wireless Receivers in Nanoscale CMOS

Silicon-on-insulator Technology and Devices XII

Third Generation Communication Systems

7. AAL-Kongress 2014 Berlin, Germany, January 21-22, 2014

Microwave Noncontact Motion Sensing and Analysis

Handbook on Advancements in Smart Antenna Technologies for Wireless Networks

The third edition of this highly respected market study provides a detailed insight into the global developments of the GaAs industry to 2004, and the implications for both suppliers and users of GaAs technology. The report has been completely revised and updated with a new chapter added on competitive technologies. The report also supplies market analysis by component type and application sectors. For a PDF version of the report please call Tina Enright on +44 (0) 1865 843008 for price details.

Monolithic Microwave Integrated Circuit (MMIC) is an electronic device that is widely used in all high frequency wireless systems. In developing MMIC as a product, understanding analysis and design techniques, modeling, measurement methodology, and current trends are essential.Advances in Monolithic Microwave Integrated Circuits for Wireless Systems: Modeling and Design Technologies is a central source of knowledge on MMIC development, containing research on theory, design, and practical approaches to integrated circuit devices. This book is of interest to researchers in industry and academia working in the areas of circuit design, integrated circuits, and RF and microwave, as well as anyone with an interest in monolithic wireless device development.

Inhaltsangabe:Abstract: The Bluetooth wireless technology is the worlds new short-range RF transmission standard for small form factor, low-cost, short-range radio links between portable or desktop devices. The technology promises to eliminate the confusion of cables, connectors and protocols confounding communications between today high tech products. In the first step a 2.45 GHz Low Noise Amplifier (LNA), intended for use in a Bluetooth receiver, has been designed in a standard 0.18 um CMOS process. The amplifier provides a simulated switchable forward voltage gain of +16 / -7.7 dB with a simulated noise Figure (NF) of only 3 dB while drawing 2.8 mA from a 1.8 V supply. The die area of the LNA (pads included) is 0.79 mm2. In the second step a 2.45 GHz Power Amplifier (PA), also intended for the Bluetooth standard, has been designed in the same 0.18 um CMOS process as for the LNA. The class-A PA achieves a simulated forward gain (S21) of 23 dB and a simulated output 1 dB compression point (P1dB) of 5.5 dBm, with a power-added efficiency (PAE) of 23 % while drawing 15.8 mA from a 1.8 V supply. The die area of the PA (pads included) is 2.1 mm2. Inhaltsverzeichnis:Table of Contents: 1.Introduction1 1.1Motivation1 1.2Organization2 2.The Bluetooth standard3 2.1Bluetooth as branding-name3 2.2Bluetooth RF requirements4 2.3System design4 2.3.1Receiver architectures4 2.3.2Transmitter architectures6 3.RF CMOS technology9 3.1The foundry9 3.1.1Technology overview9 3.1.2Process Characteristic9 3.2Design Flow10 3.2.1Cadence10 3.2.2SpectreRF10 4.Integrated spiral inductors11 4.1View and physical dimension of spiral11 4.2Model for on-chip spiral inductors12 5.Low Noise Amplifier13 5.1Architecture choices13 5.1.1Recent studies13 5.1.2LNA Architectures13 5.1.3Architecture properties14 5.1.4Architecture choice14 5.2A little piece of theory15 5.2.1Standard MOS noise model15 5.2.2Noise Figure16 5.2.3Input impedance16 5.2.4Voltage Gain18 5.2.5Stability19 5.2.6Noise Figure20 5.3Design approach for the LNA21 5.3.1Circuit topology21 5.3.2RF circuit design strategy21 5.3.3DC operating point design strategy23 5.3.4Input matching24 5.3.5Voltage gain25 5.3.6Noise Figure26 5.3.7Stability27 5.3.8LNA core schematics with component values28 5.4Design approach for the attenuation path of the LNA29 5.4.1Circuit Topology29 5.4.2Switching network29 5.4.3Input matching31 5.4.4Attenuation32 5.4.5Switchable LNA schematics with [...]

In this book, leading authors in the field discuss developments of Ambient Assisted Living. The contributions have been chosen and invited at the 7th AAL congress, Berlin. It presents new technological developments which support the autonomy and independence of individuals with special needs. As the technological innovation raises also social issues, the book addresses micro and macro economical aspects of assistive systems and puts an additional emphasis on the ethical and legal discussion. The presentation is supported by real world examples and applications.

Extended Papers
Informatics in Control, Automation and Robotics
Modeling and Design Technologies
Analog Circuit Design
VLSI Modulation Circuits - Signal Processing, Data Conversion, and Power Management
Communication and Signal Processing

Describes and evaluates recent developments in the integration of passive components in wireless RF front ends, using real-world examples.

Beside technological issues, this book discusses the administrative and industrial aspects of third generation mobile communications. The authors emphasize existing problems and propose solutions. They provide the most comprehensive and topical information on 3G mobile communications currently available. As the first wave of third-generation communication devices arrives, technological and societal effects will be widespread. The ability to communicate via hand-held devices voice, data, and video raises many challenges and questions. Beside detailed looks at technological issues, from the system protocol to implementation technologies, this book discusses the administrative and industrial aspects of third-generation mobile communications. The authors emphasize existing problems and propose solutions. They seek to provide the most comprehensive and topical information on 3G mobile communications currently available. Chapters offer an overview of wireless technology and terminology, protocols for mobility management, the safety of radio-frequency energy, WLAN (wireless local area networks), multiple access schemes, and microwave photonics. It is intended as an introduction and reference for engineers entering the field of wireless communications.

Wireless Body Area Networks (WBANs) are expected to promote new applications for the ambulatory health monitoring of chronic patients and elderly population, aiming to improve their quality of life and independence. These networks are composed by wireless sensor nodes (WSNs) used for measuring physiological variables (e.g., glucose level in blood or body temperature) or controlling therapeutic devices (e.g., implanted insulin pumps). These nodes should exhibit a high degree of energy autonomy in order to extend their battery lifetime or even make the node supply to rely on harvesting techniques. Typically, the power budget of WSNs is dominated by the wireless link and, hence, many efforts have been directed during the last years toward the implementation of power efficient transceivers. Because of the short range (typically no more than a few meters) and low data rate (typically in between 10 kb/s and 1 Mb/s), simple communication protocols can be employed. One of these protocols, specifically tailored for WBAN applications, is the Bluetooth low energy (BLE) standard. This book describes the challenges and solutions for the design of ultra-low power transceivers for WBANs applications and presents the implementation details of a BLE transceiver prototype. Coverage includes not only the main concepts and architectures for achieving low power consumption, but also the details of the circuit design and its implementation in a standard CMOS technology.

This volume contains revised and extended research articles written by prominent researchers participating in ICFWI 2011 conference. The 2011 International Conference on Future Wireless Networks and Information Systems (ICFWI 2011) has been held on November 30 ~ December 1, 2011, Macao, China. Topics covered include Wireless Information Networks, Wireless Networking Technologies, Mobile Software and Services, intelligent computing, network management, power engineering, control engineering, Signal and Image Processing, Machine Learning, Control Systems and Applications, The book will offer the states of arts of tremendous advances in Wireless Networks and Information Systems and also serve as an excellent reference work for researchers and graduate students working on Wireless Networks and Information Systems.

Future Wireless Networks and Information Systems
MOSFET Technologies for Double-Pole Four-Throw Radio-Frequency Switch
Future Developments and Advanced Topics
Surface Acoustic Wave Devices for Mobile and Wireless Communications, Four-Volume Set
Design of 2.4 GHZ CMOS Frontend for Bluetooth
Mobile and Personal Satellite Communications

Fully-depleted SOI CMOS Circuits and Technology for Ultralow-Power Applications addresses the problem of reducing the supply voltage of conventional circuits for ultralow-power operation and explains power-efficient MTCMOS circuit design for FD-SOI devices at a supply voltage of 0.5 V. The topics include the minimum required knowledge of the fabrication of SOI substrates; FD-SOI devices and the latest developments in device and process technologies; and ultralow-voltage circuits, such as digital circuits, analog/RF circuits, and DC-DC converters. Each ultra-low-power technique related to devices and circuits is fully explained using figures to help understanding.

The book elaborates selected, extended and peer reviewed papers on Communication and Signal Proceesing. As Vol. 8 of the series on "Advances on Signals, Systems and Devices" it presents main topics such as: content based video retrieval, wireless communication systems, biometry and medical imaging, adaptive and smart antennae.

This book offers a comprehensive report on the technological aspects of Mobile Health (mHealth) and discusses the main challenges and future directions in the field. It is divided into eight parts: (1) preventive and curative medicine; (2) remote health monitoring; (3) interoperability; (4) framework, architecture, and software/hardware systems; (5) cloud applications; (6) radio technologies and applications; (7) communication networks and systems; and (8) security and privacy mechanisms. The first two parts cover sensor-based and bedside systems for remotely monitoring patients' health condition, which aim at preventing the development of health problems and managing the prognosis of acute and chronic diseases. The related chapters discuss how

new sensing and wireless technologies can offer accurate and cost-effective means for monitoring and evaluating behavior of individuals with dementia and psychiatric disorders, such as wandering behavior and sleep impairments. The following two parts focus on architectures and higher level systems, and on the challenges associated with their interoperability and scalability, two important aspects that stand in the way of the widespread deployment of mHealth systems. The remaining parts focus on telecommunication support systems for mHealth, including radio technologies, communication and cloud networks, and secure health-related applications and systems. All in all, the book offers a snapshot of the state-of-art in mHealth systems, and addresses the needs of a multidisciplinary audience, including engineers, computer scientists, healthcare providers, and medical professionals, working in both academia and the industry, as well as stakeholders at government agencies and non-profit organizations.

This edited book presents the results of the 5th Workshop on Real-world Wireless Sensor Networks (REALWSN). The purpose of this workshop was to bring together researchers and practitioners working in the area of sensor networks, with focus on real-world experiments or deployments of wireless sensor networks. Included were, nonetheless, emerging forms of sensing such as those that leverage smart phones, Internet of Things, RFIDs, and robots. Indeed, when working with real-world experiments or deployments, many new or unforeseen issues may arise: the network environment may be composed of a variety of different technologies, leading to very heterogeneous network structures; software development for large scale networks poses new types of problems; the performance of prototype networks may differ significantly from the deployed system; whereas actual sensor network deployments may need a complex combination of autonomous and manual configuration. Furthermore, results obtained through simulation are typically not directly applicable to operational networks; it is therefore imperative for the community to produce results from experimental research. The workshop collected the state of the art in emerging and current research trends dealing with Real-world Wireless Sensor Networks, with the aim of representing a stepping stone for future research in this field.

The RF and Microwave Handbook

The World Wide Wi-Fi

Integrated Circuits for Analog Signal Processing

Handbook of Research on Software-Defined and Cognitive Radio Technologies for Dynamic Spectrum Management

Proceedings of the 1st European Workshop on Mobile/Personal Satcoms (EMPS'94)

An ISM 2.4 GHz Low Power Low-IF RF Receiver Front-end

This is a textbook developed for a VLSI circuit design course series (EEE598) that the author has been offering in the Schools of Engineering at Arizona State University. The materials are organized into eighteen special topics covering the principles, the circuit design techniques and the applications of VLSI modulation in signal processing, data conversion, power amplification and power management.

This book presents theory, design methods and novel applications for integrated circuits for analog signal processing. The discussion covers a wide variety of active devices, active elements and amplifiers, working in voltage mode, current mode and mixed mode. This includes voltage operational amplifiers, current operational amplifiers, operational transconductance amplifiers, operational transresistance amplifiers, current conveyors, current differencing transconductance amplifiers, etc. Design methods and challenges posed by nanometer technology are discussed and applications described, including signal amplification, filtering, data acquisition systems such as neural recording, sensor conditioning such as biomedical implants, actuator conditioning, noise generators, oscillators, mixers, etc. Presents analysis and synthesis methods to generate all circuit topologies from which the designer can select the best one for the desired application; Includes design guidelines for active devices/elements with low voltage and low power constraints; Offers guidelines for selecting the right active devices/elements in the design of linear and nonlinear circuits; Discusses optimization of the active devices/elements for process and manufacturing issues of nanometer technology.

This book covers the fundamental principles behind the design of ultra-low power radios and how they can form networks to facilitate a variety of applications within healthcare and environmental monitoring, since they may operate for years off a small battery or even harvest energy from the environment. These radios are distinct from conventional radios in that they must operate with very constrained resources and low overhead. This book provides a thorough discussion of the challenges associated with designing radios with such constrained resources, as well as fundamental design concepts and practical approaches to implementing working designs. Coverage includes integrated circuit design, timing and control considerations, fundamental theory behind low power and time domain operation, and network/communication protocol considerations.

Written for readers with or without surface acoustic wave (SAW) experience, this book covers a wide range of SAW filter- and device-design techniques as well as applications to mobile and wireless circuitry. It provides numerous references and worked examples on SAW devices to highlight various design aspects, and contains illustrations from many leading electronic companies around the world. The first half of the book covers the principles of SAW devices. The second half focuses on applications to the mobile/wireless field, including SAW devices for antenna duplexers, RF and IF filters for cellular cordless phones, front-end filters for wireless transceivers, fixed and tunable oscillators, filters for on-board satellite communications, as well as coding and convolvers for indoor/outdoor spread-spectrum communications. Surface Acoustic Wave Devices for Mobile and Wireless Communications serves as an excellent sourcebook for engineers and designers with some SAW background, or for technical staff with no prior knowledge of SAW devices who need to know how this technology can help their products. It can be used as a textbook for senior and graduate students engaged in the study of signal processing techniques and systems for mobile communications. Key Features * First SAW text applied to mobile and wireless communications * Written by an award-winning researcher with over 20 years of SAW device experience * Presents the theory and design of major SAW devices for mobile/wireless communications as applied to some of the major telecommunication standards * Accessible to both engineering and scientific readers with or without prior SAW device knowledge

MOST RF Circuits, Sigma-Delta Converters and Translinear Circuits

Implementation and Analysis of RF Front-End Receiving Module for 2.4GHz Bluetooth Application

Ambient Assisted Living

Real-World Wireless Sensor Networks

6th International ICST Conference, TridentCom 2010, Berlin, Germany, May 18-20, 2010, Revised Selected Papers

Gallium Arsenide, Electronics Materials and Devices. A Strategic Study of Markets, Technologies and Companies Worldwide 1999-2004

Provides information on smart antenna technologies featuring contributions with in-depth descriptions of terminologies, concepts, methods, and applications related to smart antennas in various wireless systems.

Design of 2.4 GHZ CMOS Frontend for Bluetoothdiplom.de

Radio-Frequency Microelectronic Circuits for Telecommunication Applications covers the design issues of radio-frequency

microelectronic circuits for telecommunication applications with emphasis on devices and circuit-level design. It uses a large number of real examples from industrial design as a vehicle both to teach the principles and to ensure relevance starting from device level modeling to basic RF microelectronic circuit cell design. Modeling for high-frequency operation of both active and passive integrated devices is covered starting from the bipolar transistor to the MOS transistor to the modeling of integrated spiral inductors, resistors, capacitors, varactors and package parasitics structures. A chapter is also devoted to the presentation of the basic definitions and terminology used in RF IC design. The book continues with the presentation of the principal building blocks of an integrated RF front-end, namely, the LNA, the mixer, the VCO and integrated filters. Design paradigms are provided classified on the technology used in each case: pure bipolar, CMOS, BiCMOS or SiGe. Radio-Frequency Microelectronic Circuits for Telecommunication Applications is essential reading for all researchers, practising engineers and designers working in RF electronics. It is also a reference for use in advanced undergraduate or graduate courses in the same field.

All the design and development inspiration and direction a harware engineer needs in one blockbuster book! Janine Love site editor for RF Design Line,columnist, and author has selected the very best RF design material from the Newnes portfolio and has compiled it into this volume. The result is a book covering the gamut of RF front end design from antenna and filter design fundamentals to optimized layout techniques with a strong pragmatic emphasis. In addition to specific design techniques and practices, this book also discusses various approaches to solving RF front end design problems and how to successfully apply theory to actual design tasks. The material has been selected for its timelessness as well as for its relevance to contemporary RF front end design issues. Contents: Chapter 1 Radio waves and propagation Chapter 2 RF Front End Design Chapter 3 Radio Transmission Fundamentals Chapter 4 Advanced Architectures Chapter 5 RF Power Amplifiers Chapter 6 RF Amplifiers CHAPTER 7 Basics of PA Design Chapter 8 Power Amplifiers Chapter 9 RF/IF Circuits Chapter 10 Filters Chapter 11 Transmission Lines and PCBs as Filters Chapter 12 Tuning and Matching Chapter 13 Impedance Matching Chapter 14 RF Power Linearization Techniques *Hand-picked content selected by Janine Love, RF DesignLine site editor and author *Proven best design practices for antennas, filters, and layout *Case histories and design examples get you off and running on your current project

Antennas, Propagation, and RF Systems
Proceedings of the 5th International Workshop, REALWSN 2013, Como (Italy), September 19-20, 2013
Design of Ultra-Low Power Impulse Radios
Fully-Depleted SOI CMOS Circuits and Technology for Ultralow-Power Applications
Microwave Receivers and Related Components
Advances in Monolithic Microwave Integrated Circuits for Wireless Systems: Modeling and Design Technologies
The International Conference on Signals, Systems and Automation (ICSSA 2011) aims to spread awareness in the research and academic community regarding cutting-edge technological advancements revolutionizing the world. The main emphasis of this conference is on dissemination of information, experience, and research results on the current topics of interest through in-depth discussions and participation of researchers from all over the world. The objective is to provide a platform to scientists, research scholars, and industrialists for interacting and exchanging ideas in a number of research areas. This will facilitate communication among researchers in different fields of Electronics and Communication Engineering. The International Conference on Intelligent System and Data Processing (ICISD 2011) is organized to address various issues that will foster the creation of intelligent solutions in the future. The primary goal of the conference is to bring together worldwide leading researchers, developers, practitioners, and educators interested in advancing the state of the art in computational intelligence and data processing for exchanging knowledge that encompasses a broad range of disciplines among various distinct communities. Another goal is to promote scientific information interchange between researchers, developers, engineers, students, and practitioners working in India and abroad.
Using a broad-based, real-world orientation, this text aims to bridge the gap between circuit design and the systems concepts that predetermine circuit requirements in particular applications. This fourth edition includes new problems and expanded coverage of digital electronics.
This book provides analysis and discusses the design of various MOSFET technologies which are used for the design of Double-Pole Four-Throw (DP4T) RF switches for next generation communication systems. The authors discuss the design of the (DP4T) RF switch by using the Double-Gate (DG) MOSFET, as well as the Cylindrical Surrounding double-gate (CSDG) MOSFET. The effect of HFO2 (high dielectric material) in the design of DG MOSFET and CSDG MOSFET is also explored. Coverage includes comparison of Single-gate MOSFET and Double-gate MOSFET switching parameters, as well as testing of MOSFETs parameters using image acquisition.
*Your success guide to the next wireless revolution The next watershed innovation in wireless technology is here: IEEE 802.11 wireless local area networks (LANs). Recent studies from IDC indicate that the Wi-Fi wireless LAN market will likely account for ninety percent of projected LAN equipment revenues by 2005-a trend that promises to spill over into home wireless networks. Yet this amazing growth has also created confusion: Which version of 802.11 is best for vendors and end-users? What about solutions such as the a/g and a/b combinations of the 802.11 standards? In World Wide Wi-Fi: Technological Trends and Business Strategies, Teik-Kheong (TK) Tan and Benny Bing provide a clear, accessible road map of the Wi-Fi wireless LAN market. Unlike most books on wireless local area networks (WLANs), this must-have resource explains both the business and technology of WLANs, and offers ready-to-use tactics and strategies for thriving in this lucrative field. Along the way, you'll also gain insight into the emerging Wi-Fi standards. World Wide Wi-Fi presents: * Key technological issues related to the design and deployment of Wi-Fi wireless LANs * An insider's look at market dynamics, market segmentation, service provider, enterprise, and chipset strategies * The interrelationship between the 802.11a, b, and g standards * And much more Supported by real statistics and case studies, plus profiles of suppliers, regulators, and other market players, this one-of-a-kind guide helps you create effective market penetration strategies and evaluate vendor-specific features. Ultimately, World Wide Wi-Fi defines the 802.11 market: its rapid expansion, its challenges, and its future. Most of all, it's your invitation to profit from everything that this red-hot industry has to offer.*
Mobile Health
Proceedings of the Multi-Conference 2011
Volume 2
Proceedings of the International Symposium
Microwave Journal
Testbeds and Research Infrastructures, Development of Networks and Communities
This book contains the revised contributions of all the speakers of the fifth AACD Workshop which was held in Lausanne on April 2-4, 1996. It was organized by Dr Vlado Valence of the EPFL University and MEAD of Lausanne. The program consisted of six tutorials per day during three days. The tutorials were presented by experts in the field. They were selected by a program committee consisting of Prof. Willy Sansen of the Katholieke Universiteit Leuven, Prof. Rudy van de Plassche of Philips Research and the University of Technology Eindhoven and Prof.

10han Huijsing of the Delft University of Technology. The three topics mentioned above have been selected because of their importance in present days analog design. The other topics that have been discussed before are: in 1992 : Operational amplifiers Analog to digital convereters Analog computer aided design in 1993 : Mixed AID cicuit design Sensor interface circuits Communication circuits in 1994 : Low-power low-voltage design Integrated filters Smart power circuits in 1995 : Low-noise, low-power, low-voltage design Mixed-mode design with CAD tools Voltage, current and time references Each AACD workhop has given rise to the publication of a book by Kluwer entitled "Analog Circuit Design". This is thus the fifth book. This series of books provides a valuable overview of all analog circuit design techniques and achievements. It is a reference for whoever is engaged in this discipline.

The book is a comprehensive treatment of the field, covering fundamental theoretical principles and new technological advancements, state-of-the-art device design, and reviewing examples encompassing a wide range of related sub-areas. In particular, the first area focuses on the recent development of novel wearable and implantable antenna concepts and designs including metamaterial-based wearable antennas, microwave circuit integrated wearable filtering antennas, and textile and/or fabric material enabled wearable antennas. The second set of topics covers advanced wireless propagation and the associated statistical models for on-body, in-body, and off-body modes. Other sub-areas such as efficient numerical human body modeling techniques, artificial phantom synthesis and fabrication, as well as low-power RF integrated circuits and related sensor technology are also discussed. These topics have been carefully selected for their transformational impact on the next generation of body-area network systems and beyond.

The shift from network-oriented to user-oriented services in the 80s and early 90s has increased the penetration of satellite services into the user community. Parallel to this, worldwide interest has arisen in Personal Communication Services (PCS), where satellites play a crucial role in the provision of PCS all over the world. Satellite Personal Communication Networks (S-PCN) are extremely attractive because they can serve a significant sector of the rapidly growing cellular market. This publication presents market perspectives and technological aspects in relation to satellite mobile and personal communication services. Papers were written by some of the most acclaimed European specialists in PCS. They present basic concepts and the latest research results.

The inadequate use of wireless spectrum resources has recently motivated researchers and practitioners to look for new ways to improve resource efficiency. As a result, new cognitive radio technologies have been proposed as an effective solution. The Handbook of Research on Software-Defined and Cognitive Radio Technologies for Dynamic Spectrum Management examines the emerging technologies being used to overcome radio spectrum scarcity. Providing timely and comprehensive coverage on topics pertaining to channel estimation, spectrum sensing, communication security, frequency hopping, and smart antennas, this research work is essential for use by educators, industrialists, and graduate students, as well as academicians researching in the field.

Electronic Communication Techniques

Integration of Passive RF Front End Components in SoCs

Ultra Low Power Transceiver for Wireless Body Area Networks

2nd International Conference on Signals, Systems & Automation (ICSSA 2011) & 1st International Conference on Intelligent Systems & Data Processing (ICISD 2011)

Volume 1

Wireless Sensor Networks

Compiling the authors? combined decades of experience, Microwave Noncontact Motion Sensing and Analysis sheds light on microwave noncontact vital sign detection from bench-top module to CMOS integrated microchip, covering a frequency range of over 30 GHz. Providing timely coverage of a technology integral to the future healthcare of the elderly, the text presents a full-bodied history of this technology, introduces current developments, and reveals future trends. Practicing engineers and researchers will discover the theory and technical details of related technologies, as well as a wide range of applications in healthcare, military, and industry.

This comprehensive treatment of the challenges in low-power RF CMOS design deals with the design and implementation of low- power wireless transceivers in a standard digital CMOS process. It addresses trade-offs and techniques that improve performance, from the component level to the architectural level.

This book provides readers with a state-of-the-art description of techniques to be used for ultra-low-power (ULP) and ultra-low-cost (ULC), short-range wireless receivers. Readers will learn what is required to deploy these receivers in short-range wireless sensor networks, which are proliferating widely to serve the internet of things (IoT) for "smart cities." The authors address key challenges involved with the technology and the typical tradeoffs between ULP and ULC. Three design examples with advanced circuit techniques are described in order to address these trade-offs, which special focus on cost minimization. These three techniques enable respectively, cascading of radio frequency (RF) and baseband (BB) circuits under an ultra-low-voltage (ULV) supply, cascading of RF and BB circuits in current domain for current reuse and a novel function-reuse receiver architecture, suitable for ULV and multi-band ULP applications such as the sub-GHz ZigBee.

Low-Power CMOS Design for Wireless Transceivers

Technological Trends and Business Strategies

Radio-Frequency Microelectronic Circuits for Telecommunication Applications

RF Front-End: World Class Designs

A Technology Road Map