Design Of C Band Microstrip Patch Antenna For Radar

In the last 40 years, the microstrip antenna has been developed for many communication systems such as radars, sensors, wireless, satellite, broadcasting, ultra-wideband, radio frequency identifications (RFIDs), reader devices etc. The progress in modern wireless communication systems has dramatically increased the demand for microstrip antennas. In this book some recent advances in microstrip antennas are presented.

The book covers recent trends in the field of devices, wireless communication and networking. It presents the outcomes of the International Conference in Communication, Devices and Networking (ICCDN 2018), which was organized by the Department of Electronics and Communication Engineering, Sikkim Manipal Institute of Technology, Sikkim, India on 2–3 June, 2018. Gathering cutting-edge research papers prepared by researchers, engineers and industry professionals, it will help young and experienced scientists and developers alike to explore new perspectives, and offer them inspirations on addressing real-world problems in the field of electronics, communication, devices and networking.

The book is compilation of technical papers presented at International Research Symposium on Computing and Network Sustainability (IRSCNS 2016) held in Goa, India on 1st and 2nd July 2016. The areas covered in the book are sustainable computing and security, sustainable systems and technologies, sustainable methodologies and applications, sustainable networks applications and solutions, user-centered services and systems and mobile data management. The novel and recent technologies presented in the book are going to be helpful for researchers and industries in their advanced works.

Wearable continuous monitoring systems are necessary in risky environments such as mining and diving and are especially important in the medical monitoring of patients both in medical facilities and at home. All these applications of monitoring with data transmission functions can be achieved by using wearable antennas. Recently, possibilities of connecting completely independent appliances with textiles have emerged. However, full success will be achieved only when antennas and all related components are entirely converted into 100% textile materials. Design and Optimization of Sensors and Antennas for Wearable Devices: Emerging Research and Opportunities provides innovative insights on the development of adaptable materials and textile antennas that can be used in the construction of wearable devices that are biocompatible and offer high conductivity, low cost, simplistic manufacturing, are comfortable for the wearer, and are water/climate safe and condition amicable. The content within this publication examines data transmission, wearable computing, and medical applications. It is designed for engineers, manufacturers, researchers, academicians, and scientists who are interested in the development of wearable technologies.

This book gathers high-quality papers presented at the 2nd International Conference on Communication, Devices & Computing (ICCDC 2019), held at Haldia Institute of Technology from March 14–15, 2019. The papers are divided into three main areas: communication technologies, electronics circuits & devices and computing. Written by students and researchers from around the world, they accurately reflect the global status quo.

The second international conference on INformation Systems Design and Intelligent Applications (INDIA – 2015) held in Kalyani, India during January 8-9, 2015. The book covers all aspects of information system design, computer science and technology, general sciences, and educational research. Upon a double blind review process, a number of high quality papers are selected and collected in the book, which is composed of two different volumes, and covers a variety of topics, including natural language processing, artificial intelligence, security and privacy, communications, wireless and sensor networks, microelectronics, circuit and systems, machine learning, soft computing, mobile computing and applications, cloud computing, software engineering, graphics and image processing, rural engineering, e-commerce, e-governance, business computing, molecular computing, nano-computing, chemical computing, intelligent computing for GIS and remote sensing, bio-informatics and bio-computing. These fields are not only limited to computer researchers but also include mathematics, chemistry, biology, bio-chemistry, engineering, statistics, and all others in which computer techniques may assist.

This volume comprises the proceedings of the International Conference on Recent Cognizance in Wireless Communication & Image Processing. It brings together content from academicians, researchers, and industry experts in areas of Wireless Communication and Image Processing. The volume provides a snapshot of current progress in computational creativity and a glimpse of future possibilities. The proceedings include two kinds of paper submissions: (i) regular papers addressing foundation issues, describing original research on creative systems development and modeling; and (ii) position papers describing work-in-progress or research directions for computational creativity. This work will be useful to professionals and researchers working in the core areas of wireless communications and image processing.

Today, computer science engineering and telecommunications are two important areas linked and even inseparable. This is obvious for the user who connects the modem of his computer on his mobile phone or telephone line to access, via the global data network, the information available on the servers. The both domains are evolving rapidly and the development of new architectures of systems dedicated to telecommunications and computing becomes essential. Especially, wireless transmission systems with high data rate. Two parts of these systems should be developed software and hardware. Another area that is renewable energies becomes more attractive for researchers in order to develop new conversion systems with good performances, and a good optimization of energy. For example, in wireless sensor systems, we try to develop new protocols permitting to have a good autonomy in terms of energy.

The volume contains 94 best selected research papers presented at the Third International Conference on Micro Electronics, Electromagnetics and Telecommunications (ICMEET 2017) The conference was held during 09-10, September, 2017 at Department of Electronics and Communication Engineering, BVRIT Hyderabad College of Engineering for Women, Hyderabad, Telangana, India. The volume includes original and application based research papers on microelectronics, electromagnetics, telecommunications, wireless communications, signal/speech/video processing and embedded systems.

The book discusses basic and advanced concepts of microstrip antennas, including design procedure and recent applications. Book topics include discussion of arrays, spectral domain, high Tc superconducting microstrip antennas, optimization, multiband, dual and circular polarization, microstrip to waveguide transitions, and improving bandwidth and resonance frequency. Antenna synthesis, materials, microstrip circuits, spectral domain, waveform evaluation, aperture coupled antenna geometry and miniaturization are further book topics. Planar UWB antennas are widely covered and new dual polarized UWB antennas are newly introduced. Design of UWB antennas with single or multi notch bands are also considered. Recent applications such as,

cognitive radio, reconfigurable antennas, wearable antennas, and flexible antennas are presented. The book audience will be comprised of electrical and computer engineers and other scientists well versed in microstrip antenna technology.

This book highlights the latest advances in engineering mathematics with a main focus on the mathematical models, structures, concepts, problems and computational methods and algorithms most relevant for applications in modern technologies and engineering. In particular, it features mathematical methods and models of applied analysis, probability theory, differential equations, tensor analysis and computational modelling used in applications to important problems concerning electromagnetics, antenna technologies, fluid dynamics, material and continuum physics and financial engineering. The individual chapters cover both theory and applications, and include a wealth of figures, schemes, algorithms, tables and results of data analysis and simulation. Presenting new methods and results, reviews of cutting-edge research, and open problems for future research, they equip readers to develop new mathematical methods and concepts of their own, and to further compare and analyse the methods and results discussed.The book consists of contributed chapters covering research developed as a result of a focused international seminar series on mathematics and applied mathematics and a series of three focused international research workshops on engineering mathematics organised by the Research Environment in Mathematics and Applied Mathematics at Mälardalen University from autumn 2014 to autumn 2015: the International Workshop on Engineering Mathematics for Electromagnetics and Health Technology; the International Workshop on Engineering Mathematics, Algebra, Analysis and Electromagnetics; and the 1st Swedish-Estonian International Workshop on Engineering Mathematics, Algebra, Analysis and Applications.It serves as a source of inspiration for a broad spectrum of researchers and research students in applied mathematics, as well as in the areas of applications of mathematics considered in the book.

Bendable wearable materials like conductive strands, fluid metallic mixes, and polymer in paper are generally utilized as a part of the current adaptable electronic gadgets. Extra necessities are implemented in wearable applications. Characteristic elastic, for example, is an appealing exchange adaptable material that is biocompatible and offers high conductivity, low lost, simplicity to make, and most importantly, it is water/climate safe and condition amicable. The wearable antenna is one of the key components to establish body area network (BAN) for wireless communication, which is why it has become such an important part of antenna research. Wearable antennas are being applied successfully in various parts of life such as health monitoring, physical training, navigation, RFID, medicine, military, and more. Emerging Materials and Advanced Designs for Wearable Antennas explores how wearable antenna technology is being employed to enhance the quality of life in various industries. The technologies implemented and success of these antenna technologies is essential in the emerging field of wearable computing and is discussed in detail within the contents of this book. While covering essential topics such as the optimization of antenna material, improvement in flexible antenna performance, synthesis and design aspects of antennas, and transmission and receiving of the bendable antenna, this book is ideal for the military field, scientists, the medical field, practitioners, stakeholders, researchers, academicians, and students looking for the most advanced and updated research on the technology and implementation of wearable antennas spanning multiple industries.

This book, divided in two volumes, originates from Techno-Societal 2020: the 3rd International Conference on Advanced Technologies for Societal Applications, Maharashtra, India, that brings together faculty members of various engineering colleges to solve Indian regional relevant problems under the guidance of eminent researchers from various reputed organizations. The focus of this volume is on technologies that help develop and improve society, in particular on issues such as sensor and ICT based technologies for the betterment of people, Technologies for agriculture and healthcare, micro and nano technological applications. This conference aims to help innovators to share their best practices or products developed to solve specific local problems which in turn may help the other researchers to take inspiration to solve problems in their region. On the other hand, technologies proposed by expert researchers may find applications in different regions. This offers a multidisciplinary platform for researchers from a broad range of disciplines of Science, Engineering and Technology for reporting innovations at different levels.

These proceedings contain research papers that were accepted for presentation at the 14th International Conference Inter-Eng 2020 ,Interdisciplinarity in Engineering, which was held on 8–9 October 2020, in Târgu Mure?, Romania. It is a leading international professional and scientific forum for engineers and scientists to present research works, contributions, and recent developments, as well as current practices in engineering, which is falling into a tradition of important scientific events occurring at Faculty of Engineering and Information Technology in the George Emil Palade University of Medicine, Pharmacy Science, and Technology of Târgu Mures, Romania. The Inter-Eng conference started from the observation that in the 21st century, the era of high technology, without new approaches in research, we cannot speak of a harmonious society. The theme of the conference, proposing a new approach related to Industry 4.0, was the development of a new generation of smart factories based on the manufacturing and assembly process digitalization, related to advanced manufacturing technology, lean manufacturing, sustainable manufacturing, additive manufacturing, and manufacturing tools and equipment. The conference slogan was "Europe's future is digital: a broad vision of the Industry 4.0 concept beyond direct manufacturing in the company".

This book is a collection of the best research papers presented at the 8th International Conference on Innovations in Electronics and Communication Engineering at Guru Nanak Institutions Hyderabad, India. Featuring contributions by researchers, technocrats and experts, the book covers various areas of communication engineering, like signal processing, VLSI design, embedded systems, wireless communications, and electronics and communications in general, as well as cutting-edge technologies. As such, it is a valuable reference resource for young researchers.

The book features original papers from the 2nd International Conference on Smart IoT Systems: Innovations and Computing (SSIC 2019), presenting scientific work related to smart solution concepts. It discusses computational collective intelligence, which includes interactions between smart devices, smart environments and smart interactions, as well as information technology support for such areas. It also describes how to successfully approach various government organizations for funding for business and the humanitarian technology development projects. Thanks to the high-quality content and the broad range of the topics covered, the book appeals to researchers pursuing advanced studies.

Exchange of information and innovative ideas are necessary to accelerate the development of technology. With advent of technology, intelligent and soft computing techniques came into existence with a wide scope of implementation in engineering sciences. Keeping this ideology in preference, this book includes the insights that reflect the 'Advances in Computer and Computational Sciences' from upcoming researchers and leading academicians across the globe. It contains high-quality peer-reviewed papers of 'International Conference on Computer, Communication and Computational Sciences (ICCCCS 2016), held during 12-13 August, 2016 in Ajmer, India. These papers are

arranged in the form of chapters. The content of the book is divided into two volumes that cover variety of topics such as intelligent hardware and software design, advanced communications, power and energy optimization, intelligent techniques used in internet of things, intelligent image processing, advanced software engineering, evolutionary and soft computing, security and many more. This book helps the perspective readers' from computer industry and academia to derive the advances of next generation computer and communication technology and shape them into real life applications.

IMDC-SDSP conference offers an exceptional platform and opportunity for practitioners, industry experts, technocrats, academics, information scientists, innovators, postgraduate students, and research scholars to share their experiences for the advancement of knowledge and obtain critical feedback on their work. The timing of this conference coincides with the rise of Big Data, Artificial Intelligence powered applications, Cognitive Communications, Green Energy, Adaptive Control and Mobile Robotics towards maintaining the Sustainable Development and Smart Planning and management of the future technologies. It is aimed at the knowledge generated from the integration of the different data sources related to a number of active real-time applications in supporting the smart planning and enhance and sustain a healthy environment. The conference also covers the rise of the digital health, well-being, home care, and patient-centred era for the benefit of patients and healthcare providers; in addition to how supporting the development of a platform of smart Dynamic Health Systems and self-management.

This book gathers high-quality research papers presented at the First International Conference, ICSC 2019, organised by THDC Institute of Hydropower Engineering and Technology, Tehri, India, from 20 to 21 April 2019. The book is divided into two major sections – Intelligent Computing and Smart Communication. Some of the areas covered are Parallel and Distributed Systems, Web Services, Databases and Data Mining Applications, Feature Selection and Feature Extraction, High-Performance Data Mining Algorithms, Knowledge Discovery, Communication Protocols and Architectures, High-speed Communication, High-Voltage Insulation Technologies, Fault Detection and Protection, Power System Analysis, Embedded Systems, Architectures, Electronics in Renewable Energy, CAD for VLSI, Green Electronics, Signal and Image Processing, Pattern Recognition and Analysis, Multi-Resolution Analysis and Wavelets, 3D and Stereo Imaging, and Neural Networks.

This book introduces research presented at the "International Conference on Artificial Intelligence: Advances and Applications-2019 (ICAIAA 2019)," a two-day conference and workshop bringing together leading academicians, researchers as well as students to share their experiences and findings on all aspects of engineering applications of artificial intelligence. The book covers research in the areas of artificial intelligence, machine learning, and deep learning applications in health care, agriculture, business and security. It also includes research in core concepts of computer networks, intelligent system design and deployment, real-time systems, WSN, sensors and sensor nodes, SDN and NFV. As such it is a valuable resource for students, academics and practitioners in industry working on AI applications.

Introduction to reflectarray antennas -- Analysis and design of reflectarray elements -- System design and aperture efficiency analysis -- Radiation analysis techniques -- Bandwidth of reflectarray antennas -- Reflectarray design examples -- Broadband and multi-band reflectarray antennas -- Terahertz, infrared, and optical reflectarray antennas -- Multi-beam and shaped-beam reflectarray antennas -- Beam-scanning reflectarray antennas -- Reflectarray engineering and emerging applications

This reference book entitled 'Design and Development of Dual-Frequency Circularly Polarized Circular Microstrip Patch Antenna for C-Band Applications' covers basic equation based design of dual-frequency slotted circular microstrip patch antenna using Finite Element Method (FEM) analysis.It highlights fundamental design concepts, design formulas, numerical and mathematical analysis of circular microstrip patch antenna.All antennas can be applicable for various C-Band (4 GHz-8 GHz) applications.

This comprehensive resource presents antenna fundamentals balanced with the design of printed antennas. Over 70 antenna projects, along with design dimensions, design flows and antenna performance results are discussed, including antennas for wireless communication, 5G antennas and beamforming. Examples of smartphone antennas, MIMO antennas, aerospace and satellite remote sensing array antennas, automotive antennas and radar systems and many more printed antennas for various applications are also included. These projects include design dimensions and parameters that incorporate the various techniques used by industries and academia. This book is intended to serve as a practical microstrip and printed antenna design guide to cover various real-world applications. All Antenna projects discussed in this book are designed, analyzed and simulated using full-wave electromagnetic solvers. Based on several years of the author's research in antenna design and development for RF and microwave applications, this book offers an in-depth coverage of practical printed antenna design methodology for modern applications.

JPL spacecraft antennas-from the first Explorer satellite in 1958 to current R & D Spaceborne Antennas for Planetary Exploration covers the development of Jet Propulsion Laboratory (JPL) spacecraft antennas, beginning with the first Explorer satellite in 1958 through current research and development activities aimed at future missions. Readers follow the evolution of all the new designs and technological innovations that were developed to meet the growing demands of deep space exploration. The book focuses on the radio frequency design and performance of antennas, but covers environmental and mechanical considerations as well. There is additionally a thorough treatment of all the analytical and measurement techniques used in design and performance assessment. Each chapter is written by one or more leading experts in the field of antenna technology. The presentation of the history and technology of spaceborne antennas is aided by several features: * Photographs and drawings of JPL spacecraft * Illustrations to help readers visualize concepts and designs * Tables highlighting and comparing the performance of the antennas * Bibliographies at the end of each chapter leading to a variety of primary and secondary source material This book complements Large Antennas of the Deep Space Network (Wiley 2002), which surveys the ground antennas covered in support of spacecraft. Together, these two books completely cover all JPL antenna technology, in keeping with the JPL Deep Space Communications and Navigation Series mission to capture and present the many innovations in deep space telecommunications over the past decades. This book is a fascinating and informative read for all individuals working in or interested in deep space telecommunications.

This book presents selected papers from the International Conference on Emerging Research in Computing, Information, Communication and Applications, ERCICA 2018. The conference provided an interdisciplinary forum for researchers, professional engineers and scientists, educators, and technologists to discuss, debate and promote research and technology in the emerging areas of computing, information, communication and their applications. The book discusses these research areas, providing a valuable resource for researchers and practicing engineers alike.

This two-volume set (CCIS 955 and CCIS 956) constitutes the refereed proceedings of the Second International Conference on Advanced Informatics for Computing Research, ICAICR 2018, held in Shimla, India, in July 2018. The 122 revised full papers presented were carefully reviewed and selected from 427 submissions. The papers are organized in topical sections on computing methodologies; hardware; information systems; networks; security and privacy; computing methodologies.

These proceedings of the SAI Intelligent Systems Conference 2016 (IntelliSys 2016) offer a remarkable collection of chapters on a wide range of topics in intelligent systems, artificial intelligence and their applications to the real world. Authors hailing from 56 countries on 5 continents submitted 404 papers to the conference, attesting to the global importance of the conference's themes. After being reviewed, 222 papers were accepted for presentation, and 168 were ultimately selected for these proceedings. Each

has been reviewed on the basis of its originality, novelty and rigorousness. The papers not only present state-of-the-art methods and valuable experience from researchers in the related research areas; they also outline the field's future development.

This book presents the latest developments in packaging for high-frequency electronics. It is a companion volume to "RF and Microwave Microelectronics Packaging" (2010) and covers the latest developments in thermal management, electrical/RF/thermal-mechanical designs and simulations, packaging and processing methods, and other RF and microwave packaging topics. Chapters provide detailed coverage of phased arrays, T/R modules, 3D transitions, high thermal conductivity materials, carbon nanotubes and graphene advanced materials, and chip size packaging for RF MEMS. It appeals to practicing engineers in the electronic packaging and high-frequency electronics domain, and to academic researchers interested in understanding the leading issues in the commercial sector. It is also a good reference and self-studying guide for students seeking future employment in consumer electronics.

This book offers a collection of high-quality peer-reviewed research papers presented at the Second International Conference on Communication and Computational Technologies (ICCCT 2019), held at Rajasthan Institute of Engineering and Technology, Jaipur, Rajasthan, India, on 30–31 August 2019. In contributions prepared by researchers from academia and industry alike, the book discusses a wide variety of industrial, engineering and scientific applications of emerging techniques.

"This anthology combines 15 years of microstrip antenna technology research into one significant volume and includes a special introductory tutorial by the co-editors. Covering theory, design and modeling techniques and methods, this source book is an excellent reference tool for engineers who want to become more familiar with microstrip antennas and microwave systems. Proven antenna designs, novel solutions to practical design problemsand relevant papers describing the theory of operation and analysis of microstrip antennas are contained within this convenient reference."

The book reviews developments in the following fields:circular microstrip antennas; microstrip patch antennas; circular polarisation and bandwidth; microstrip dipoles; multilayer and parasitic configurations; wideband flat dipole and short-circuit microstrip patch elements and arrays; numerical analysis; multiport network approach; transmission-line model; rectangular microstrip antennas; low-cost printed antennas; printed phased-array antennas; circularly polarised antenna arrays; microstrip antenna feeds; substrate technology; computer-aided design of microstrip and triplate circuits; resonant microstrip antenna elements and arrays for aerospace applications; mobile and satellite systems; conical conformal microstrip tracking antenna; and microstrip field diagnostics.

Microstrip and Printed Antennas: Applications-Based DesignsArtech House

This volume contains selected papers presented at the 10th International Conference on Advanced Computing and Communication Technologies (10th ICACCT 2016), technically sponsored by Institution of Electronics and Telecommunication Engineers (India), held during 18 – 20 November 2016 at Asia Pacific Institute of Information Technology, Panipat, India. The volume reports latest research on a wide range of topics spanning theory, system, applications and case studies in the fields of computing and communication technologies. Topics covered are robotics, computational intelligence encompassing fuzzy logic, neural networks, GA and evolutionary computing, applications, knowledge representation, data encryption, distributed computing, data analytics and visualization, knowledge representation, wireless sensor networks, MEM sensor design, analog circuit, statistical machine translation, cellular automata and antenna design. The volume has 31 chapters, including an invited paper on swarm robotics, grouped into three parts, viz., Advanced Computing, Communication Technologies, and Micro Electronics and Antenna Design. The volume is directed to researchers and practitioners aspiring to solve practical issues, particularly applications of the theories of computational intelligence, using recent advances in computing and communication technologies.

The first of its kind, this comprehensive work details the theory and practical design of new multi-band filters.

The book presents high-quality papers from the Third International Conference on Microelectronics, Computing & Communication Systems (MCCS 2018). It discusses the latest technological trends and advances in MEMS and nanoelectronics, wireless communications, optical communication, instrumentation, signal processing, image processing, bioengineering, green energy, hybrid vehicles, environmental science, weather forecasting, cloud computing, renewable energy, RFID, CMOS sensors, actuators, transducers, telemetry systems, embedded systems, and sensor network applications. It includes papers based on original theoretical, practical and experimental simulations, development, applications, measurements, and testing. The applications and solutions discussed in the book provide excellent reference material for future product development.

This wide-ranging presentation of applied superconductivity, from fundamentals and materials right up to the details of many applications, is an essential reference for physicists and engineers in academic research as well as in industry. Readers looking for a comprehensive overview on basic effects related to superconductivity and superconducting materials will expand their knowledge and understanding of both low and high Tc superconductors with respect to their application. Technology, preparation and characterization are covered for bulk, single crystals, thins fi lms as well as electronic devices, wires and tapes. The main benefit of this work lies in its broad coverage of significant applications in magnets, power engineering, electronics, sensors and quantum metrology. The reader will find information on superconducting magnets for diverse applications like particle physics, fusion research, medicine, and biomagnetism as well as materials processing. SQUIDs and their usage in medicine or geophysics are thoroughly covered, as are superconducting radiation and particle detectors, aspects on superconductor digital electronics, leading readers to quantum computing and new devices.