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[Planar Microwave Engineering Jun 01 2022 Sample Text](#)

[Frequenzkamm-basiertes breitbandiges MIMO-OFDM-Radar Feb 03 2020](#) In den vergangenen Jahren hat OFDM im Radarbereich immer mehr an Bedeutung gewonnen. Ein Nachteil ist jedoch die Notwendigkeit hoher Abtastraten, weshalb das Frequency-Comb-OFDM-Radar-Verfahren genau an diesem Punkt ansetzt. Mit dessen Hilfe kann die Signalbandbreite vergrößert werden, ohne gleichzeitig die Abtastraten erhöhen zu müssen. Hierdurch kann trotz eines Verzichts auf schnelle Wandler eine hohe Entfernungsauflösung erreicht werden. - In recent years, OFDM has become more and more important for radar applications. A disadvantage, however, is the need for high sampling rates, which is exactly the starting point of the frequency comb OFDM radar scheme. With its help, the bandwidth in the radar channel can be enhanced without increasing the sampling rates at the same time. In this way, a high range resolution can be achieved without using fast converters with high sampling rates.

[Microwave Engineering, 3Rd Ed Oct 05 2022](#) This classic text provides a thorough coverage of RF and microwave engineering concepts based on fundamental principles of electrical engineering and applied to microwave circuits and devices of practical importance. Coverage includes microwave network analysis, impedance matching, directional couplers and hybrids, microwave filters, ferrite devices, noise, nonlinear effects, and the design of microwave oscillators, amplifiers, and mixers. A large number of examples and end-of-chapter problems test the reader's understanding of the material. · Electromagnetic Theory · Transmission Line Theory · Transmission Lines and Waveguides · Microwave Network Analysis · Impedance Matching and Tuning · Microwave Resonators · Power Dividers and Directional Couplers · Microwave Filters · Theory and Design of Ferrimagnetic Components · Noise and Active RF Components · Microwave Amplifier Design · Oscillators and Mixers · Introduction to Microwave Systems [Handbook of Research on Recent Developments in Electrical and Mechanical Engineering Apr 06 2020](#) Technological advancements continue to enhance the field of engineering and have led to progress in branches that include electrical and mechanical engineering. These technologies have allowed for more sophisticated circuits and components while also advancing renewable energy initiatives. With increased growth in these fields, there is a need for a collection of research that details the variety of works being studied in our globalized world. The Handbook of Research on Recent Developments in Electrical and Mechanical Engineering is a pivotal reference source that discusses the latest advancements in these engineering fields. Featuring research on topics such as materials manufacturing, microwave photons, and wireless power transfer, this book is ideally designed for graduate students, researchers, engineers, manufacturing managers, and academicians seeking coverage on the works and experiences achieved in electrical and mechanical engineering.

[Design and Development of Radio Frequency Identification \(RFID\) and RFID-enabled Sensors on Flexible Low Cost Substrates Jun 20 2021](#) This book presents a step-by-step discussion of the design and development of radio frequency identification (RFID) and RFID-enabled sensors on flexible low cost substrates for UHF frequency bands. Various examples of fully function building blocks (design and fabrication of antennas, integration with ICs and microcontrollers, power sources, as well as inkjet-printing techniques) demonstrate the revolutionary effect of this approach in low cost RFID and RFID-enabled sensors fields. This approach could be easily extended to other microwave and wireless applications as well. The first chapter describes the basic functionality and the physical and IT-related principles underlying RFID and sensors technology. Chapter two explains in detail inkjet-printing technology providing the characterization of the conductive ink, which consists of nano-silver-particles, while highlighting the importance of this technology as a fast and simple fabrication technique especially on flexible organic substrates such as Liquid Crystal Polymer (LCP) or paper-based substrates. Chapter three demonstrates several compact inkjet-printed UHF RFID antennas using antenna matching techniques to match IC's complex impedance as prototypes to provide the proof of concept of this technology. Chapter four discusses the benefits of using conformal magnetic material as a substrate for miniaturized high-frequency circuit applications. In addition, in Chapter five, the authors also touch up the state-of-the-art area of fully-integrated wireless sensor modules on organic substrates and show the first ever 2D sensor integration with an RFID tag module on paper, as well as the possibility of 3D multilayer paper-based RF/microwave structures. Table of Contents: Radio Frequency Identification Introduction / Flexible Organic Low Cost Substrates / Benchmarking RFID Prototypes on Organic Substrates / Conformal Magnetic Composite RFID Tags / Inkjet-Printed RFID-Enabled Sensors

[Practical RF System Design Jan 04 2020](#) The ultimate practical resource for today's RF system design professionals Radio frequency components and circuits form the backbone of today's mobile and satellite communications networks. Consequently, both practicing and aspiring industry professionals need to be able to solve ever more complex problems of RF design. Blending

theoretical rigor with a wealth of practical expertise, *Practical RF System Design* addresses a variety of complex, real-world problems that system engineers are likely to encounter in today's burgeoning communications industry with solutions that are not easily available in the existing literature. The author, an expert in the field of RF module and system design, provides powerful techniques for analyzing real RF systems, with emphasis on some that are currently not well understood. Combining theoretical results and models with examples, he challenges readers to address such practical issues as: * How standing wave ratio affects system gain * How noise on a local oscillator will affect receiver noise figure and desensitization * How to determine the dynamic range of a cascade from module specifications * How phase noise affects system performance and where it comes from * How intermodulation products (IMs) predictably change with signal amplitude, and why they sometimes change differently An essential resource for today's RF system engineers, the text covers important topics in the areas of system noise and nonlinearity, frequency conversion, and phase noise. Along with a wealth of practical examples using MATLAB(r) and Excel, spreadsheets are available for download from an FTP Web site to help readers apply the methods outlined in this important resource.

Microwave Engineering Aug 03 2022

Instrument and Automation Engineers' Handbook Jul 30 2019 The Instrument and Automation Engineers' Handbook (IAEH) is the Number 1 process automation handbook in the world. The two volumes in this greatly expanded Fifth Edition deal with measurement devices and analyzers. Volume one, Measurement and Safety, covers safety sensors and the detectors of physical properties, while volume two, Analysis and Analysis, describes the measurement of such analytical properties as composition. Complete with 245 alphabetized chapters and a thorough index for quick access to specific information, the IAEH, Fifth Edition is a must-have reference for instrument and automation engineers working in the chemical, oil/gas, pharmaceutical, pollution, energy, plastics, paper, wastewater, food, etc. industries.

Advanced RF MEMS Dec 03 2019 An up-to-date guide to the theory and applications of RF MEMS. With detailed information about RF MEMS technology as well as its reliability and applications, this is a comprehensive resource for professionals, researchers, and students alike. • Reviews RF MEMS technologies • Illustrates new techniques that solve long-standing problems associated with reliability and packaging • Provides the information needed to incorporate RF MEMS into commercial products • Describes current and future trends in RF MEMS, providing perspective on industry growth • Ideal for those studying or working in RF and microwave circuits, systems, microfabrication and manufacturing, production management and metrology, and performance evaluation
High-Frequency and Microwave Circuit Design Mar 06 2020 An integral part of any communications system, high-frequency and microwave design stimulates major progress in the wireless world and continues to serve as a foundation for the commercial wireless products we use every day. The exceptional pace of advancement in developing these systems stipulates that engineers be well versed in multiple areas of electronics engineering. With more illustrations, examples, and worked problems, *High-Frequency and Microwave Circuit Design, Second Edition* provides engineers with a diverse body of knowledge they can use to meet the needs of this rapidly progressing field. The book details the modulation and demodulation of circuits and relates resonant circuits to practical needs. The author provides a logical progression of material that moves from medium frequencies to microwave frequencies. He introduces rectangular waveguides as high-pass devices and explains conditions under which dielectric breakdown may limit the amount of power that may be transmitted in a completely expanded chapter. The section on antennas is completely updated to demystify the useful characteristic of antennas and relate their performance to the requirements of digital communication systems. Exploring the latest developments in communications engineering, this reference outlines a variety of topics using sufficient mathematical derivations and provides an overview of the concepts engineers need to understand current technologies and develop those of the future.

The Electrical Engineering Handbook, Second Edition Nov 25 2021 In 1993, the first edition of *The Electrical Engineering Handbook* set a new standard for breadth and depth of coverage in an engineering reference work. Now, this classic has been substantially revised and updated to include the latest information on all the important topics in electrical engineering today. Every electrical engineer should have an opportunity to expand his expertise with this definitive guide. In a single volume, this handbook provides a complete reference to answer the questions encountered by practicing engineers in industry, government, or academia. This well-organized book is divided into 12 major sections that encompass the entire field of electrical engineering, including circuits, signal processing, electronics, electromagnetics, electrical effects and devices, and energy, and the emerging trends in the fields of communications, digital devices, computer engineering, systems, and biomedical engineering. A compendium of physical, chemical, material, and mathematical data completes this comprehensive resource. Every major topic is thoroughly covered and every important concept is defined, described, and illustrated. Conceptually challenging but carefully explained articles are equally valuable to the practicing engineer, researchers, and students. A distinguished advisory board and contributors including many of the leading authors, professors, and researchers in the field today assist noted author and professor Richard Dorf in offering complete coverage of this rapidly expanding field. No other single volume available today offers this combination of broad coverage and depth of exploration of the topics. *The Electrical Engineering Handbook* will be an invaluable resource for electrical engineers for years to come.

Praktische C++-Programmierung Nov 01 2019

Microwave and RF Design of Wireless Systems Sep 04 2022 David Pozar, author of *Microwave Engineering, Second Edition*, has written a new text that introduces students to the field of wireless communications. This text offers a quantitative and, design-oriented presentation of the analog RF aspects of modern wireless telecommunications and data transmission systems from the antenna to the baseband level. Other topics include noise, intermodulation, dynamic range, system aspects of antennas and filter design. This unique text takes an integrated approach to topics usually offered in a variety of separate courses on topics such as antennas and propagation, microwave systems and circuits, and communication systems. This approach allows for a complete presentation of wireless telecommunications systems designs. The author's goal with this text is for the student to be able to analyze a complete radio system from the transmitter through the receiver front-end, and quantitatively evaluate factors. Suitable for a one-semester course, at the senior or first year graduate level. Note certain sections have been denoted as advanced topics, suitable for graduate level courses.

Handbook of Engineering Electromagnetics Dec 15 2020 Engineers do not have the time to wade through rigorously theoretical books when trying to solve a problem. Beginners lack the expertise required to understand highly specialized treatments of individual topics. This is especially problematic for a field as broad as electromagnetics, which propagates into many diverse engineering fields. The time h

Radio-Frequency and Microwave Communication Circuits Mar 30 2022 The products that drive the wireless communication

industry, such as cell phones and pagers, employ circuits that operate at radio and microwave frequencies. Following on from a highly successful first edition, the second edition provides readers with a detailed introduction to RF and microwave circuits. Throughout, examples from real-world devices and engineering problems are used to great effect to illustrate circuit concepts. * Takes a top-down approach, describing circuits in the overall context of communication systems. * Presents expanded coverage of waveguides and FT mixers. * Discusses new areas such as oscillators design and digital communication. *An Instructor's Manual presenting detailed solutions to all the problems in the book is available from the Wiley editorial department.

Microwave NDT Jul 10 2020 Microwave testing has been paid only scant attention in the literature as a method for nondestructive testing of materials, yet it offers some attractive features, especially for the testing of composite and other non-metallic materials. Microwave techniques have been used in a large number of applications that can be classified as nondestructive testing applications, ranging from large scale remote sensing to detection of tumors in the body. This volume describes a unified approach to microwave nondestructive testing by presenting the three essential components of testing: theory, practice, and modelling. While recognizing that each of these subjects is wide enough to justify a volume of its own, the presentation of the three topics together shows that these are interrelated and should be practiced together. While few will argue against a good theoretical background, modelling and simulation of the testing environment is seldom part of the NDT training in any method, but particularly so in microwave testing. The text is divided in four parts. The first part presents the field theory background necessary for understanding the microwave domain. The second part treats microwave measurements as well as devices and sources and the third part discusses practical tests applicable to a variety of materials and geometries. The fourth part discusses modelling of microwave testing. Each chapter contains a bibliography intended to expand on the material given and, in particular, to point to subjects which could not be covered either as not appropriate or for lack of space. For engineers, applied physicists, material scientists.

Designing Microwave Sensors for Glucose Concentration Detection in Aqueous and Biological Solutions Oct 13 2020 This book presents a comprehensive study covering the design and application of microwave sensors for glucose concentration detection, with a special focus on glucose concentration tracking in watery and biological solutions. This book is based on the idea that changes in the glucose concentration provoke variations in the dielectric permittivity of the medium. Sensors whose electrical response is sensitive to the dielectric permittivity of the surrounding media should be able to perform as glucose concentration trackers. At first, this book offers an in-depth study of the dielectric permittivity of water–glucose solutions at concentrations relevant for diabetes purposes; in turn, it presents guidelines for designing suitable microwave resonators, which are then tested in both water–glucose solutions and multi-component human blood plasma solutions for their detection ability and sensitivities. Finally, a portable version is developed and tested on a large number of individuals in a real clinical scenario. All in all, the book reports on a comprehensive study on glucose monitoring devices based on microwave sensors. It covers in depth the theoretical background, provides extensive design guidelines to maximize sensitivity, and validates a portable device for applications in clinical settings.

Emerging Innovations in Microwave and Antenna Engineering Feb 26 2022 Continuing advancements in electronics creates the possibility of communicating with more people at greater distances. Such an evolution calls for more efficient techniques and designs in radio communications. *Emerging Innovations in Microwave and Antenna Engineering* provides innovative insights into theoretical studies on propagation and microwave design of passive and active devices. The content within this publication is separated into three sections: the design of antennas, the design of the antennas for the RFID system, and the design of a new structure of microwave amplifier. Highlighting topics including additive manufacturing technology, design application, and performance characteristics, it is designed for engineers, electricians, researchers, students, and professionals, and covers topics centered on modern antenna and microwave circuits design and theory.

Swarm Intelligence for Electric and Electronic Engineering Jun 28 2019 With growing developments in artificial intelligence and focus on swarm behaviors; algorithms have been utilized in solving a variety of problems in the field of engineering. This approach has been specifically suited to face the challenges in electric and electronic engineering. *Swarm Intelligence for Electric and Electronic Engineering* provides an exchange of knowledge on the advances, discoveries, and improvements of swarm intelligence in electric and electronic engineering. This comprehensive collection aims to bring together new swarm-based algorithms as well as approaches to complex problems and various real-world applications.

The Electrical Engineering Handbook Sep 11 2020 The *Electrical Engineer's Handbook* is an invaluable reference source for all practicing electrical engineers and students. Encompassing 79 chapters, this book is intended to enlighten and refresh knowledge of the practicing engineer or to help educate engineering students. This text will most likely be the engineer's first choice in looking for a solution; extensive, complete references to other sources are provided throughout. No other book has the breadth and depth of coverage available here. This is a must-have for all practitioners and students! The *Electrical Engineer's Handbook* provides the most up-to-date information in: Circuits and Networks, Electric Power Systems, Electronics, Computer-Aided Design and Optimization, VLSI Systems, Signal Processing, Digital Systems and Computer Engineering, Digital Communication and Communication Networks, Electromagnetics and Control and Systems. About the Editor-in-Chief... Wai-Kai Chen is Professor and Head Emeritus of the Department of Electrical Engineering and Computer Science at the University of Illinois at Chicago. He has extensive experience in education and industry and is very active professionally in the fields of circuits and systems. He was Editor-in-Chief of the *IEEE Transactions on Circuits and Systems, Series I and II*, President of the *IEEE Circuits and Systems Society* and is the Founding Editor and Editor-in-Chief of the *Journal of Circuits, Systems and Computers*. He is the recipient of the Golden Jubilee Medal, the Education Award, and the Meritorious Service Award from the *IEEE Circuits and Systems Society*, and the Third Millennium Medal from the *IEEE*. Professor Chen is a fellow of the *IEEE* and the American Association for the Advancement of Science. * 77 chapters encompass the entire field of electrical engineering. * THOUSANDS of valuable figures, tables, formulas, and definitions. * Extensive bibliographic references.

Leadership Challenge Jul 02 2022 Ein Leadershipbuch, das alle anderen in den Schatten stellt! Basierend auf umfangreicher Forschung und Interviews mit Führungskräften auf allen Ebenen (öffentlicher und privater Unternehmen weltweit) befasst sich das Buch mit dem anhaltenden Interesse an Leadership als kritischem Aspekt menschlicher Organisationen. Kouzes und Posner, die führenden Leadership-Experten unserer Zeit, zeigen, wie Führungskräfte mit Visionen Außergewöhnliches erreichen. Mit packenden Geschichten und tiefen Einsichten befassen sie sich eingehend mit den fundamentalen Aspekten von Leadership, um dem Leser dabei zu helfen, mit der sich stetig verändernden Welt Schritt zu halten. Die Autoren ergreifen dabei die Gelegenheit zu unterstreichen, dass Leadership nicht nur jeden angeht, sondern, dass es sich dabei um eine Beziehung handelt: eine Beziehung zwischen der eigenen Weiterentwicklung und der Entwicklung derer, die geführt werden. 'Es hat mir nicht nur Spaß gemacht ...

ständig erappte ich mich dabei, zu nicken und zu mir selbst zu sagen: 'Das ist richtig! So wird es gemacht! So fühlt es sich an!' Die Autoren haben es geschafft, die Quintessenz dessen, was ich für das Herzstück von sich verändernder Leadership halte, zu erfassen.' Robert D. Haas, Vorsitzender und CEO, Levi Strauss & Co. 'Leadershipbücher gibt es wie Sand am Meer und die meisten überdauern keine Woche, ganz zu schweigen von Jahren. The Leadership Challenge gibt es immer noch, weil es auf Forschung beruht, es praktisch ist und Herz besitzt. Glauben Sie mir, Jim Kouzes und Barry Posner haben harte Beweise für ein Thema, das wir normalerweise als weich betrachten.' Tom Peters, Management-Guru, Gründer und Vorsitzender, Tom Peters Company '25 Jahr lang habe ich über Leadership geschrieben und darüber gelehrt. The Leadership Challenge ist eines der fünf besten Bücher, die ich jemals gelesen habe. Ich empfehle es fortlaufend anderen Menschen.' John C. Maxwell, Gründer von The INJOY Group, einem Unternehmen zur Beratung und Training von Führungskräften in USA und Kanada 'Jim Kouzes und Barry Posner haben die praktischste, verständlichste und inspirierendste Forschung zum Thema Leadership verfasst, die ich je gelesen habe. Anstelle einer weiteren Version von 'Promi Leadership', hilft The Leadership Challenge dabei, praktische Weisheiten von realen Führungskräften aller Ebenen in unterschiedlichen Arten von Unternehmen zu erfahren. Jede Führungskraft kann sich auf das Wissen in diesem Buch beziehen.' Marschall Goldsmith, Bestseller-Autor und bei Forbes als einer der 5 Top-Trainer für Führungskräfte genannt

Architekturen der digitalen Signalverarbeitung Oct 01 2019 Mit den Fortschritten in der Mikroelektronik wächst auch der Bedarf an VLSI-Realisierungen von digitalen Signalverarbeitungseinheiten. Die zunehmende Komplexität der Signalverarbeitungsverfahren führt insbesondere bei Signalen mit hoher Quellenrate auf Anforderungen, die nur durch spezielle Schaltungsstrukturen erfüllt werden können. Dieses Buch behandelt Schaltungstechniken und Architekturen zur Erzielung hoher Durchsatzraten von Algorithmen der Signalverarbeitung. Neben alternativen Schaltungstechniken zur Realisierung der Basisoperationen, Addition, Multiplikation und Division werden CORDIC-Architekturen zur Implementierung transzendenter Funktionen vorgestellt. Zur Konzeption von Systemen mit Parallelverarbeitung und Pipelining wird ein allgemeines Verfahren zur Abbildung von Signalverarbeitungsalgorithmen auf anwendungsspezifischen Architekturen erläutert. Hierzu werden beispielhaft spezielle Architekturen für Filter, Matrixoperationen und die diskrete Fouriertransformation erörtert. Architekturen programmierbarer digitaler Signalprozessoren sowie beispielhafte zugehörige Implementierungen sind eingeschlossen. Das Buch soll sowohl Studenten und Ingenieure der Elektrotechnik als auch der technischen Informatik mit Architekturkonzepten der digitalen Signalverarbeitung vertraut machen.

Antenna Design Using Personal Computers Apr 30 2022

Optimizing Higher Education Learning Through Activities and Assessments Jul 22 2021 The mission of higher education in the 21st century must focus on optimizing learning for all students. In a shift from prioritizing effective teaching to active learning, it is understood that computer-enhanced environments provide a variety of ways to reach a wide range of learners who have differing backgrounds, ages, learning needs, and expectations. Integrating technology into teaching assumes greater importance to improve the learning experience. **Optimizing Higher Education Learning Through Activities and Assessments** is a collection of innovative research that explores the link between effective course design and student engagement and optimizes learning and assessments in technology-enhanced environments and among diverse student populations. Its focus is on providing an understanding of the essential link between practices for effective "activities" and strategies for effective "assessments," as well as providing examples of course designs aligned with assessments, positioning college educators both as leaders and followers in the cycle of lifelong learning. While highlighting a broad range of topics including collaborative teaching, active learning, and flipped classroom methods, this book is ideally designed for educators, curriculum developers, instructional designers, administrators, researchers, academicians, and students.

Planar Spiral Inductors. Planar Antennas and Embedded Planar Transformers May 08 2020 This book presents a novel, automated, accurate and unified scheme to design and determine the performance characteristics of standalone planar, spiral inductors and multiple coupled planar spiral inductors (as in embedded transformers), for RF/microwave MMIC designers. The author demonstrates with a set of analysis/design examples a novel scheme that exploits judiciously the existing transmission theory and concepts, organizing and condensing available, scattered information/knowledge about planar spiral inductor, embedded planar transformer and planar antenna design and performance evaluation, into one coherent and unified electronic circuit model easily used by radio frequency electronic circuit engineers. A dedicated chapter contains an exhaustive (19) set of design examples. Presents a bottom-up scheme, starting with Maxwell's equations of classical electrodynamics and transmission line theory (Telegrapher's equation), specifically microstrips; Demonstrates design of standalone planar, spiral inductors and multiple coupled planar spiral inductors; Includes a set of ready-to-use, C executables (for both Linux and Windows), that accept predefined input parameters for each of the sub-circuits discussed and generate SPICE netlists for the equivalent electrical circuit; Automates execution of multi-step design calculations to guarantee their accuracy and reliability.

Handbook of Research on Developing a Post-Pandemic Paradigm for Virtual Technologies in Higher Education Apr 18 2021 The COVID-19 pandemic has forced companies, institutions, citizens, and students to rapidly change their behaviors and use virtual technologies to perform their usual working tasks. Though virtual technologies for learning were already present in most universities, the pandemic has forced virtual technologies to lead the way in order to continue teaching and learning for students and faculty around the world. Universities and teachers had to quickly adjust everything from their curriculum to their teaching styles in order to adapt to an online learning environment. Online learning is a complex issue and one that comes with both challenges and opportunities; there is plenty of room for growth, and further study is required to better understand how to improve online education. **The Handbook of Research on Developing a Post-Pandemic Paradigm for Virtual Technologies in Higher Education** is a comprehensive reference book that presents the testimonials of teachers and students with various degrees of experience with distance learning and their utilization of current virtual tools and applications for learning, as well as the impact of these technologies and their potential future use. With topics ranging from designing an online learning course to discussing group work in an online environment, this book is ideal for teachers, educational software developers, IT consultants, instructional designers, administrators, professors, researchers, lecturers, students, and all those who are interested in learning more about distance learning and all the positive and negative aspects that accompany it.

Photonik einfach erklärt May 20 2021 Wir befinden uns am Scheideweg einer neuen Epoche: Das Zeitalter der Elektronik wird abgelöst vom Zeitalter der Photonik. Dieses Buch führt Sie in die faszinierende Entwicklung der Photonik ein und verzichtet dabei auf komplizierte Fachsprache, vielmehr werden die physikalischen Grundlagen anschaulich erklärt. Darauf aufbauend werden wichtige Entwicklungen wie zum Beispiel der Laser und dessen Anwendungen in der Industrie, Forschung und im Alltag beschrieben. Komplizierte physikalische Eigenschaften und technische Details werden dem Leser in verständlicher Art und Weise

erklärt. Die Autoren: Dr. Patrick Steglich ist Dozent für Photonik und optische Technologien an der Technischen Hochschule Wildau und Wissenschaftler am Leibniz-Institut für innovative Mikroelektronik IHP in Frankfurt (Oder). Katja Heise arbeitet als Redakteurin in Berlin. Als gelernte Politologin und Journalistin hat sie sich darauf spezialisiert, komplexe Fachthemen in einfache Sprache zu übersetzen. Die Autoren leben gemeinsam mit ihrem Sohn und ihren zwei Töchtern in Berlin.

An Introduction to Radio Frequency Engineering Aug 23 2021 Originally published in 2004, this book provides a detailed introduction to radio frequency (RF) engineering, using a straightforward and easily understood approach combined with numerous worked examples, illustrations and homework problems. The author focuses on minimising the mathematics needed to grasp the subject while providing a solid theoretical foundation for the student. Emphasis is also placed on the practical aspects of radio engineering. The book provides a broad coverage of RF systems, circuit design, antennas, propagation and digital techniques. It will provide an excellent introduction to the subject for graduate students, researchers and practising engineers.

Computational Electromagnetics for RF and Microwave Engineering Dec 27 2021 This hands-on introduction to computational electromagnetics (CEM) links theoretical coverage of the three key methods - the FDTD, MoM and FEM - to open source MATLAB codes (freely available online) in 1D, 2D and 3D, together with many practical hints and tips gleaned from the author's 25 years of experience in the field. Updated and extensively revised, this second edition includes a new chapter on 1D FEM analysis, and extended 3D treatments of the FDTD, MoM and FEM, with entirely new 3D MATLAB codes. Coverage of higher-order finite elements in 1D, 2D and 3D is also provided, with supporting code, in addition to a detailed 1D example of the FDTD from a FEM perspective. With running examples through the book and end-of-chapter problems to aid understanding, this is ideal for professional engineers and senior undergraduate/graduate students who need to master CEM and avoid common pitfalls in writing code and using existing software.

Microwave Engineering Nov 06 2022 Pozar's new edition of *Microwave Engineering* includes more material on active circuits, noise, nonlinear effects, and wireless systems. Chapters on noise and nonlinear distortion, and active devices have been added along with the coverage of noise and more material on intermodulation distortion and related nonlinear effects. On active devices, there's more updated material on bipolar junction and field effect transistors. New and updated material on wireless communications systems, including link budget, link margin, digital modulation methods, and bit error rates is also part of the new edition. Other new material includes a section on transients on transmission lines, the theory of power waves, a discussion of higher order modes and frequency effects for microstrip line, and a discussion of how to determine unloaded.

Implementation Patterns - Studentenausgabe Sep 23 2021

Microstrip Patch Antennas: A Designer's Guide Oct 25 2021 This useful tool provides the reader with a current overview of where microstrip patch antenna technology is at, and useful information on how to design this form of radiator for their given application and scenario. Practical design cases are provided for each goal.

Measurement and Safety Aug 30 2019 The *Instrument and Automation Engineers' Handbook (IAEH)* is the #1 process automation handbook in the world. Volume one of the Fifth Edition, *Measurement and Safety*, covers safety sensors and the detectors of physical properties. *Measurement and Safety* is an invaluable resource that: Describes the detectors used in the measurement of process variables Offers application- and method-specific guidance for choosing the best measurement device Provides tables of detector capabilities and other practical information at a glance Contains detailed descriptions of domestic and overseas products, their features, capabilities, and suppliers, including suppliers' web addresses Complete with 163 alphabetized chapters and a thorough index for quick access to specific information, *Measurement and Safety* is a must-have reference for instrument and automation engineers working in the chemical, oil/gas, pharmaceutical, pollution, energy, plastics, paper, wastewater, food, etc. industries. About the eBook The most important new feature of the IAEH, Fifth Edition is its availability as an eBook. The eBook provides the same content as the print edition, with the addition of thousands of web addresses so that readers can reach suppliers or reference books and articles on the hundreds of topics covered in the handbook. This feature includes a complete bidders' list that allows readers to issue their specifications for competitive bids from any or all potential product suppliers.

RF and Microwave Electromagnetism Mar 18 2021 Microwave and radio frequency (RF) elements play an important role in communication systems, and, due to the proliferation of radar, satellite and mobile wireless systems, there is a need for the study of electromagnetism. Each of the nine chapters of this book provides a complete analysis and modeling of the microwave structure used for emission or reception technology, providing students with a set of approaches that can be used for current and future RF and microwave circuit designs. The authors emphasize the practical nature of the subject by summarizing the analysis steps and giving numerous examples of problems and exercises complete with solutions, making this book theoretical, but also experimental, with over 16 microwave problems. This approach has produced a coherent and practical treatment of the subject. The book has grown out of the authors' own teaching and, as such, has a unity of methodology and style. It provides basic knowledge of microwave and RF range and is intended for microwave engineers and for advanced graduate students.

Introduction to RF Equipment and System Design Nov 13 2020 An excellent resource for engineers and technicians alike, this practical design guide offers a comprehensive and easy-to-understand overview of the most important aspects and components of radio frequency equipment and systems. The book applies theoretical fundamentals to real-world issues, heavily relying on examples from recent design projects. Key discussions include system design schemes, circuits and components for system evaluations and design, RF measurement instrumentation, antennas and associated hardware, and guidelines for purchasing test equipment. The book also serves as a valuable on-the-job training resources for sales engineers and a graduate-level text for courses in this area.

Principles and Applications of RF/Microwave in Healthcare and Biosensing Aug 11 2020 This reference, written by leading authorities in the field, gives basic theory, implementation details, advanced research, and applications of RF and microwave in healthcare and biosensing. It first provides a solid understanding of the fundamentals with coverage of the basics of microwave engineering and the interaction between electromagnetic waves and biomaterials. It then presents the state-of-the-art development in microwave biosensing, implantable devices -including applications of microwave technology for sensing biological tissues - and medical diagnosis, along with applications involving remote patient monitoring. This book is an ideal reference for RF and microwave engineer working on, or thinking of working on, the applications of RF and Microwave technology in medicine and biology. Learn: The fundamentals of RF and microwave engineering in healthcare and biosensing How to combine biological and medical aspects of the field with underlying engineering concepts How to implement microwave biosensing for material characterization and cancer diagnosis Applications and functioning of wireless implantable biomedical devices and microwave non-contact biomedical radars How to combine devices, systems, and methods for new practical applications The first book to review

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