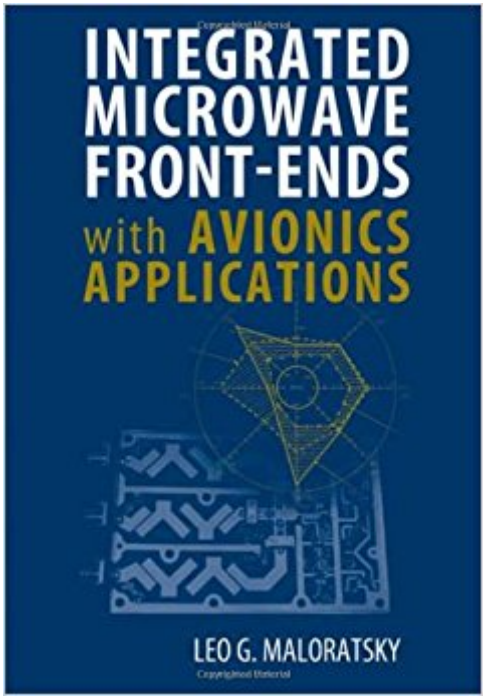
Integrated Microwave Front-Ends With Avionics Applications (Artech House Microwave Library (Hardcover))



Synopsis

A microwave front-end refers the components in the receiver that process the signal at the original incoming frequency. This highly practical resource offers an in-depth understanding of microwave front end integration and how it is applied in the avionics field. Engineers find detailed guidance on circuit integration, including coverage of component miniaturization, hybrid and monolithic integrated circuits, and 3D design. The book addresses system integration with discussions on the combination of different avionic systems, single antenna design, top/bottom front end combination, and integration of passive and active antenna modules. This first-of-its-kind volume features unique material on novel structures of avionics front-ends and new strategies for microwave front-end design. Supported with nearly 200 illustrations and more than 160 equations, this book is a valuable professional reference and also serves well as a postgraduate textbook.

Book Information

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Customer Reviews

Leo G. Maloratsky currently works for Aerospace Electronics Co. Previously, he was a staff engineer at Allied Signal, a principle engineer at Rockwell Collins, and an assistant professor at the Moscow Institute or Radioelectronics. He is the author of four monographs, one text book, and over 50 articles. He also holds over 20 patents. He received is M.S. in electrical engineering from the Moscow Aviation Institute and his Ph.D. from the Moscow Institute of Communications.

In his book "Integrated Microwave Front-Ends with Avionics Applications," Leo G. Maloratsky summarizes the results of his many years of experience with a high level of expertise in development, invention, design and testing of a wide range of avionic microwave front-ends. The book covers a broad range of topics including, but not limited to the following: *Architectures and characteristics of microwave front-ends; *Novel passive and active devises as various planar transmission lines, phase shifters, diplexers, duplexers, mixers, receivers, low-noise amplifiers, etc; *Technology processes and multilayer and 3D designs; *Various front-end avionic systems; *Integrated multifunctional front-ends.All topics presented in the book are clearly and completely described. Each topic includes theoretical and practical analysis of various options. For example, all practically usable planar transmission lines are described along with all of the necessary and sufficient details for selection of the optimum structure and implementation.Different technologies such as the monolithic process and those related to low-cost multilayer ceramic printed circuit boards, etc are analyzed and compared.By using detailed analysis of multiple topics, the author makes it possible to develop various options of full systems. Maloratsky describes full systems including various antennas and antenna arrays starting with the proper selection of architecture with their components and up to calibration and testing of implemented designs.The explanations of the concepts as well as for theory and technical details of implementation and testing are written in a clear language with a good overall structure.The combination of conceptual explanations with deep analysis and the design options for a wide range of passive and active units makes this book very useful not only for avionic applications but also for post-graduate students and experienced developers of microwave front-end systems. With selected references, this book is encyclopedically in character. All of the figures in book are highly informative.

Second Edition (Artech House Telecommunications Library) Avionics: Development and Implementation (The Avionics Handbook, Second Edition) Avionics: Elements, Software and Functions (The Avionics Handbook, Second Edition) Jane's Avionics 2007-2008 (Jane's Flight Avionics) Tiny Houses: MinimalistÃ¢â ¬â„¢s Tiny House Living (Floor Plans Included) (tiny house construction,tiny homes,tiny house design,small houses,small homes,tiny house building,tiny house lifestyle,micro homes) House Plants: A Guide to Keeping Plants in Your Home (House Plants Care, House Plants for Dummies, House Plants for Beginners, Keeping Plants in Your Home, DIY House Plants Book 1) Simulation and Software Radio for Mobile Communications (Artech House Universal Personal Communications) Security, Rights, & Liabilities in E-Commerce (Artech House Computer Security Series) Modern Receiver Front-Ends: Systems, Circuits, and Integration Microwave Dessert Cookbook: 34 Easy Microwave Recipes for Desserts Learn How to Cook Some Delightful Dishes in Your Microwave: Microwave Recipes You Can Enjoy As a Bachelor, As a Couple or As a Family