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Sommario/riassunto

This book presents and discusses strategies for the design and implementation of common-mode suppressed balanced microwave filters, including narrowband, wideband, and ultra-wideband filters. This book examines differential-mode, or balanced, microwave filters by discussing several implementations of practical realizations of these

passive components. Topics covered include selective mode suppression, designs based on distributed and semi-lumped approaches, multilayer technologies, defect ground structures, coupled resonators, metamaterials, interference techniques, and substrate integrated waveguides, among others. Divided into five parts, *Balanced Microwave Filters* begins with an introduction that presents the fundamentals of balanced lines, circuits, and networks. Part 2 covers balanced transmission lines with common-mode noise suppression, including several types of common-mode filters and the application of such filters to enhance common-mode suppression in balanced bandpass filters. Next, Part 3 examines wideband and ultra-wideband (UWB) balanced bandpass filters with intrinsic common-mode suppression. Narrowband and dual-band balanced bandpass filters with intrinsic common-mode suppression are discussed in Part 4. Finally, Part 5 covers other balanced circuits, such as balanced power dividers and combiners, and differential-mode equalizers with common-mode filtering. In addition, the book: . Explores a research topic of increasing interest due to the growing demand of balanced transmission lines and circuits in modern communication systems. Includes contributions from prominent worldwide experts in the field. Provides readers with the necessary knowledge to analyze and synthesize balanced filters and circuits *Balanced Microwave Filters* is an important text for R&D engineers, professionals, and specialists working on the topic of microwave filters. Post graduate students and Masters students in the field of microwave engineering and wireless communications, especially those involved in courses related to microwave filters, and balanced filters and circuits will also find it to be a vital resource.
