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Descrizione fisica	1 online resource (xv, 214 pages) : illustrations
Collana	Artech House microwave library
Soggetti	Frequency synthesizers Frequency changers
Lingua di pubblicazione	Inglese
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Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Parameters and architectures -- Building blocks -- Synthesizer construction -- Design process -- Improving performance -- Advanced functions.
Sommario/riassunto	A frequency synthesizer is an electronic system for generating any of a range of frequencies from a single fixed oscillator. They are found in modern devices like radio receivers, mobile phones, and GPS systems. This comprehensive resource offers RF and microwave engineers a thorough overview of both well-established and recently developed frequency synthesizer design techniques. Professionals find expert guidance on all design aspects, including main architectures, key building blocks, and practical circuit implementation. Engineers learn the development process and gain a solid understanding of how to build a synthesizer from a basic diagram to the final product. Starting with a simple single-loop PLL example, the book progressively examines various alternatives -- fractional-N, DDS, frequency offset, multiloop and more - to achieve required performance objectives. This unique volume gathers a collection of block diagrams, clever circuits, design recipes, and other hard-to-find information that is usually treated as "design secrets". Written in a simple yet rigorous style with numerous illustrations, the book is an all-in-one reference for both beginner and experienced designers.