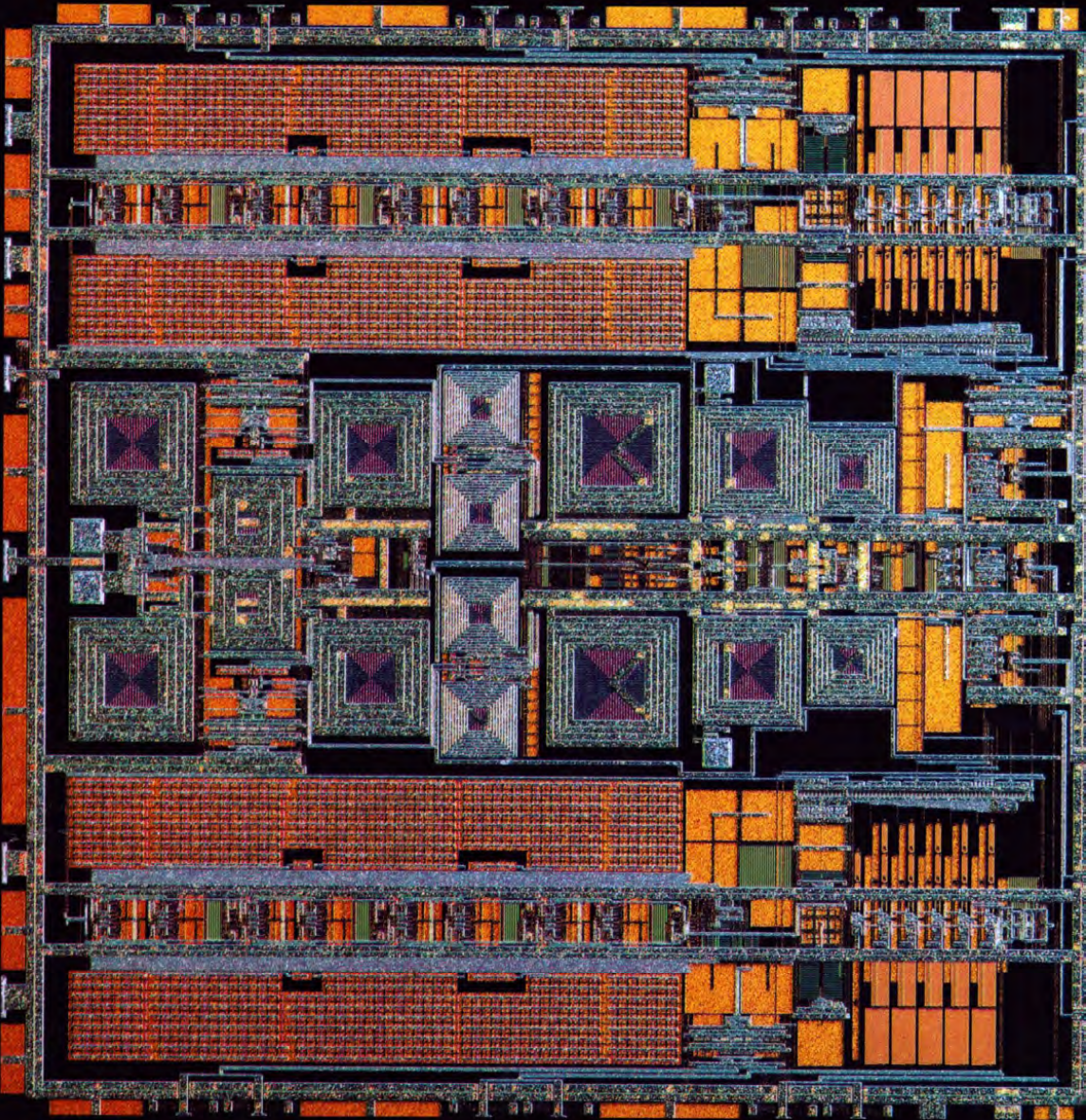


The Design of CMOS Radio-Frequency Integrated Circuits



Thomas H. Lee

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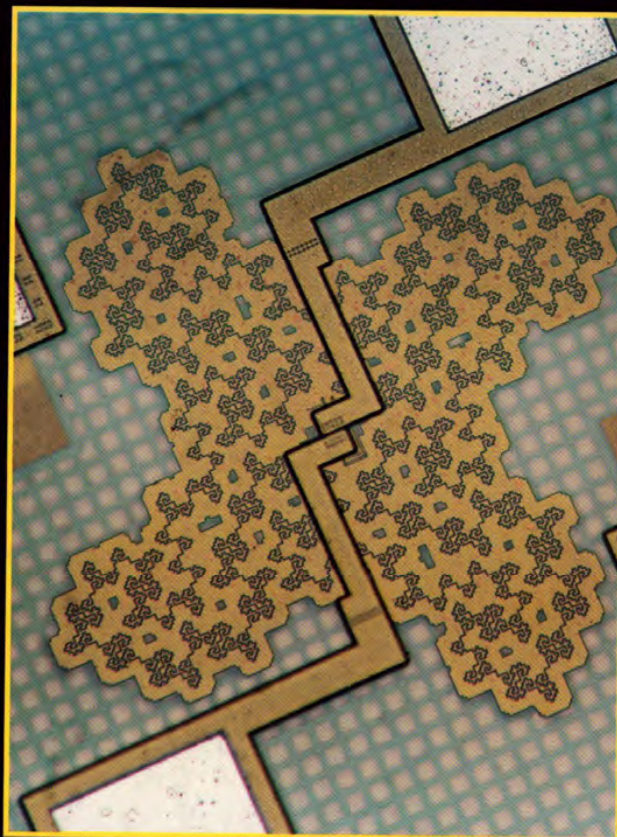
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THIS COMPREHENSIVE AND INSIGHTFUL BOOK sets out in detail how to design gigahertz-speed radio-frequency integrated circuits in CMOS technology.

Starting with a history of radio to establish a foundation and to differentiate the discrete era from the IC age, the book reviews passive RLC networks, the characteristics of IC components, and transistor models. The design of high-frequency tuned and broadband amplifiers follows, with an emphasis on approximate methods that provide important design insight as a complement to simulation results. Key RF building blocks, such as low-noise amplifiers (LNAs), mixers, power amplifiers, high spectral purity oscillators, and frequency synthesizers are studied in detail. The book closes with an examination of transceiver architectures.

With over 350 circuit diagrams and illustrations, and many homework problems, this will be an ideal textbook for anyone taking graduate (or advanced undergraduate) courses in RF electronics, as well as a useful reference for practicing engineers.



Cover photographs: (front) CMOS GPS receiver (T. H. Lee) and (back) Fractal capacitor (courtesy Dr. Gitty Nasserbakht, Texas Instruments)

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This document is a copy of the original document. It is a technical report on the design and construction of a new type of engine. The report is written by a team of engineers and is intended for use by other engineers and researchers in the field of engine design. The report is divided into several sections, including an introduction, a description of the engine, a discussion of the design process, and a conclusion. The report is written in a clear and concise style, and it includes many diagrams and photographs to illustrate the design and construction of the engine. The report is a valuable resource for anyone interested in engine design and construction.

THE DESIGN OF CMOS RADIO-FREQUENCY INTEGRATED CIRCUITS

THOMAS H. LEE

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