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Autore	Staszewski Robert Bogdan <1965->
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Nota di contenuto	ALL-DIGITAL FREQUENCY SYNTHESIZER IN DEEP-SUBMICRON CMOS; CONTENTS; PREFACE; Acknowledgments; 1 INTRODUCTION; 1.1 Frequency Synthesis; 1.1.1 Noise in Oscillators; 1.1.2 Frequency Synthesis Techniques; 1.2 Frequency Synthesizer as an Integral Part of an RF Transceiver; 1.2.1 Transmitter; 1.2.2 Receiver; 1.2.3 Toward Direct Transmitter Modulation; 1.3 Frequency Synthesizers for Mobile Communications; 1.3.1 Integer-N PLL Architecture; 1.3.2 Fractional-N PLL Architecture; 1.3.3 Toward an All-Digital PLL Approach; 1.4 Implementation of an RF Synthesizer 1.4.1 CMOS vs. Traditional RF Process Technologies 1.4.2 Deep-Submicron CMOS; 1.4.3 Digitally Intensive Approach; 1.4.4 System Integration; 1.4.5 System Integration Challenges for Deep-Submicron CMOS; 2 DIGITALLY CONTROLLED OSCILLATOR; 2.1 Varactor in a Deep-Submicron CMOS Process; 2.2 Fully Digital Control of Oscillating Frequency; 2.3 LC Tank; 2.4 Oscillator Core; 2.5 Open-Loop

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4.14 Nonlinear Differential Term of an ADPLL

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## Sommario/riassunto

A new and innovative paradigm for RF frequency synthesis and wireless transmitter design Learn the techniques for designing and implementing an all-digital RF frequency synthesizer. In contrast to traditional RF techniques, this innovative book sets forth digitally intensive design techniques that lead the way to the development of low-cost, low-power, and highly integrated circuits for RF functions in deep submicron CMOS processes. Furthermore, the authors demonstrate how the architecture enables readers to integrate an RF front-end with the digital back-end onto a single silicon die

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