1. Record Nr. UNINA9910814317303321 Autore De Ranter Carl Titolo High data rate transmitter circuits: RF CMOS design and techniques for design automation / / by Carl De Ranter and Michiel Steyaert Boston, : Kluwer Academic Publishers, c2003 Pubbl/distr/stampa **ISBN** 0-306-48713-6 Edizione [1st ed.] Descrizione fisica 1 online resource (XVIII, 227 p.) Collana Kluwer international series in engineering and computer science. Analog circuits and signal processing Altri autori (Persone) SteyaertMichiel <1959-> Disciplina 621.384/131 Radio - Transmitters and transmission Soggetti Radio frequency integrated circuits - Design and construction Metal oxide semiconductors, Complementary Data transmission systems Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Nota di bibliografia Includes bibliographical references. List of Figures -- List of Tables -- 1: Introduction. 1.1. Some Nota di contenuto Observations. 1.2. To CMOS or Not to CMOS. 1.3. Covered Topics -- 2: RF Modeling, Quadrature Generation and Flip-Chip Bonding. 2.1. Introduction. 2.2. Influence of Substrate Resistivity on RF-designs. 2.3. RF-Modeling. 2.4. Quadrature LO Generation. 2.5. Manufacturing. 2.6. Conclusions and Use of Presented Topics -- 3: Automated VCO Synthesis, 3.1. Introduction, 3.2. Structured Analog Design Methodology. 3.3. Automation in Functional-Block Design. 3.4. The CYCLONE Tool. 3.5. Final Conclusion -- 4: Voltage-Controlled Oscillators for High Data Rate Applications. 4.1. Oscillators for Broadband Systems. 4.2. Oscillators for RF Frequencies. 4.3. Conclusions -- 5: Design of an Upconverter for High-Speed Data Transmission, 5.1, Introduction: Market Perspective, 5.2, High-Speed Data Link Systems. 5.3. High-Level Design Considerations. 5.4. CMOS Implementation of a High-Bandwidth Upconvertor. 5.5. Final Conclusion -- 6: Conclusions. 6.1. Realized Work. 6.2. Possibilities for Future Research. References. Sommario/riassunto High Data Rate Transmitter Circuits is a practical guide and

introduction to the design of key RF building blocks used in high data rate transmitters. The emphasis lies on CMOS circuit techniques

applicable to oscillators and upconvertors. Furthermore, a method for RF-specific design automation is exemplified by the CYCLONE tool for automated LC-VCO synthesis. Written in an easily accessible manner, High Data Rate Transmitter Circuits is essential reading for both students and practicing engineers interested in analog RF design and RF-specific design automation. The book has been praised for its pleasant and light style of writing, without losing detail on the technical side.