

1. Record Nr.	UNINA9910734844703321
Autore	Harpe Pieter
Titolo	Biomedical Electronics, Noise Shaping ADCs, and Frequency References [[electronic resource] ] : Advances in Analog Circuit Design 2022 // edited by Pieter Harpe, Andrea Baschirotto, Kofi A.A. Makinwa
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2023
ISBN	3-031-28912-9
Edizione	[1st ed. 2023.]
Descrizione fisica	1 online resource (345 pages)
Altri autori (Persone)	BaschirottoAndrea MakinwaKofi A. A
Disciplina	621.3815
Soggetti	Electronic circuits Biomedical engineering Telecommunication Solid state physics Electronic Circuits and Systems Biomedical Devices and Instrumentation Microwaves, RF Engineering and Optical Communications Electronic Devices
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Part I Introduction -- Chapter 1 -- Overview of Design Challenges in High-Performance Exg Interfaces -- Chapter 2 -- VCO-based ADCs for direct digitization of ExG signals -- Chapter 3 -- Circuits and Architectures for Neural Recording Interfaces -- Chapter 4 -- Chip-integrated spin detection for Biomedical applications -- Chapter 5 -- Models and Interfaces for Electrochemical Sensors: Architectures and Implementations -- Chapter 6 -- Next-generation molecular detection With a CMOS-capacitive sensor -- Part II -- Noise Shaping ADCs -- Chapter 7 -- The Evolution of Noise-Shaping Successive Approximation (SAR) ADC -- Chapter 8 -- Noise Shaped SAR ADCs Current trends and challenges -- Chapter 9 -- Noise-Shaping SAR ADCS: From Discrete Time to Continuous Time -- Chapter 11 -- Pushing the Limits of kT/C Noise in Delta-Sigma Modulators -- Chapter 12 -- A 2nd Order 5bit

hybrid CT/DT Delta-Sigma ADC implementing novel techniques for ELD compensation and coefficients trimming -- Part III -- Frequency References -- Chapter 13 -- RC Frequency References based on Dual-RC FLLs -- Chapter 14 -- RC Oscillators with Non-linear Temperature Compensation -- Chapter 15 -- RC frequency references based on pulse-density trimmed resistors -- Chapter 16 -- Integrated BAW-based frequency references -- Chapter 17 -- Fast Startup and Fully Differential Crystal Oscillator -- Chapter 18 -- Fast startup and fully differential crystal oscillator.

---

Sommario/riassunto

This book is based on the 18 lectures presented during the 30th workshop on Advances in Analog Circuit Design. Expert designers present readers with information about a variety of topics at the frontier of analog circuit design, with specific contributions focusing on biomedical electronics, noise shaping ADCs, and frequency references. This book serves as a valuable reference to the state-of-the-art, for anyone involved in analog circuit research and development. Provides a state-of-the-art reference in analog circuit design, written by experts from industry and academia; Presents material in a tutorial-based format; Covers biomedical electronics, noise shaping ADCs, and frequency references.

---