

IEEE JOURNAL OF SOLID-STATE CIRCUITS

A PUBLICATION OF THE IEEE SOLID-STATE CIRCUITS SOCIETY



SEPTEMBER 2017

VOLUME 52

NUMBER 9

IJSCBC

(ISSN 0018-9200)

New Associate Editor *J. Craninckx* 2223

SPECIAL SECTION ON THE 2016 IEEE BCTM AND IEEE CSICS

SPECIAL SECTION PAPERS

Introduction to the Special Section on the 2016 IEEE BCTM and IEEE CSICS *B. Sadhu and S. P. Voinigescu* 2224

A 76- to 81-GHz Multi-Channel Radar Transceiver
..... *T. Fujibayashi, Y. Takeda, W. Wang, Y.-S. Yeh, W. Stapelbroek, S. Takeuchi, and B. Floyd* 2226

Multi-Purpose Fully Differential 61- and 122-GHz Radar Transceivers for Scalable MIMO Sensor Platforms
..... *H. J. Ng, M. Kucharski, W. Ahmad, and D. Kissinger* 2242

A Total-Power Radiometer Front End in a 0.25- μ m BiCMOS Technology With Low 1/f-Corner
..... *S. Malotaux, M. Babaie, and M. Spirito* 2256

An Ultra-Low-Power Dual-Polarization Transceiver Front-End for 94-GHz Phased Arrays in 130-nm InP HBT
..... *S.-K. Kim, R. Maurer, A. Simsek, M. Urteaga, and M. J. W. Rodwell* 2267

W-Band Direct-Modulation >20-Gb/s Transmit and Receive Building Blocks in 32-nm SOI CMOS
..... *H. Al-Rubaye and G. M. Rebeiz* 2277

REGULAR PAPERS

A SAW-Less 2.4-GHz Receiver Front-End With 2.4-mA Battery Current for SoC Coexistence
..... *M. Ramella, I. Fabiano, D. Manstretta, and R. Castello* 2292

A 5 GHz Digital Fractional- N PLL Using a 1-bit Delta-Sigma Frequency-to-Digital Converter in 65 nm CMOS
..... *M. Talegaonkar, T. Anand, A. Elkholy, A. Elshazly, R. K. Nandwana, S. Saxena, B. Young, W.-S. Choi, and P. K. Hanumolu* 2306

A High-Speed Efficient 220-GHz Spatial-Orthogonal ASK Transmitter in 130-nm SiGe BiCMOS
..... *C. Jiang, A. Cathelin, and E. Afshari* 2321

A Flash-Based Non-Uniform Sampling ADC With Hybrid Quantization Enabling Digital Anti-Aliasing Filter
..... *T.-F. Wu, C.-R. Ho, and M. S.-W. Chen* 2335

Analysis and Design of Continuous-Time Delta-Sigma Converters Incorporating Chopping
..... *S. Billa, A. Sukumaran, and S. Pavan* 2350

A 950 nW Analog-Based Data Reduction Chip for Wearable EEG Systems in Epilepsy
..... *S. Iranmanesh and E. Rodriguez-Villegas* 2362

A Fully Integrated Battery-Powered System-on-Chip in 40-nm CMOS for Closed-Loop Control of Insect-Scale Pico-Aerial Vehicle	<i>X. Zhang, M. Lok, T. Tong, S. K. Lee, B. Reagen, S. Chaput, P.-E. J. Duhamel, R. J. Wood, D. Brooks, and G.-Y. Wei</i>	2374
Fully Integrated Fluorescence Biosensors On-Chip Employing Multi-Functional Nanoplasmonic Optical Structures in CMOS	<i>L. Hong, H. Li, H. Yang, and K. Sengupta</i>	2388
A 40-Gb/s 14-mW CMOS Wireline Receiver	<i>A. Manian and B. Razavi</i>	2407
A 50 Gb/s 190 mW Asymmetric 3-Tap FFE VCSEL Driver	<i>G. Belfiore, M. Khafaji, R. Henker, and F. Ellinger</i>	2422
A Reconfigurable 16/32 Gb/s Dual-Mode NRZ/PAM4 SerDes in 65-nm CMOS	<i>A. Roshan-Zamir, O. Elhadidy, H.-W. Yang, and S. Palermo</i>	2430
A 2.6 μ W–1.2 mW Autonomous Electromagnetic Vibration Energy Harvester Interface IC with Conduction-Angle-Controlled MPPT and up to 95% Efficiency	<i>J. Leicht and Y. Manoli</i>	2448
A Nanosecond-Transient Fine-Grained Digital LDO With Multi-Step Switching Scheme and Asynchronous Adaptive Pipeline Control	<i>F. Yang and P. K. T. Mok</i>	2463
Near- and Sub- V_t Pipelines Based on Wide-Pulsed-Latch Design Techniques	<i>W. Jin, S. Kim, W. He, Z. Mao, and M. Seok</i>	2475
A Dual-Imaging Speed-Enhanced CMOS Image Sensor for Real-Time Edge Image Extraction	<i>H.-J. Kim, S.-I. Hwang, J.-H. Chung, J.-H. Park, and S.-T. Ryu</i>	2488
A Compact-Area Low-VDDmin 6T SRAM With Improvement in Cell Stability, Read Speed, and Write Margin Using a Dual-Split-Control-Assist Scheme	<i>M.-F. Chang, C.-F. Chen, T.-H. Chang, C.-C. Shuai, Y.-Y. Wang, Y.-J. Chen, and H. Yamauchi</i>	2498
Corrections to “A 10/20/30/40 MHz Feed-Forward FIR DAC Continuous-Time $\Delta\Sigma$ ADC With Robust Blocker Performance for Radio Receivers”	<i>S. Loeda, J. Harrison, F. Pourchet, and A. Adams</i>	2515
