



**River Publishers**

## FM-UWB Transceivers for Autonomous Wireless Systems

### Authors:

Nitz Saputra, Qualcomm Inc., USA

John R. Long, University of Waterloo, Canada

Significant research effort has been devoted to the study and realization of autonomous wireless systems for wireless sensor and personal-area networking, the internet of things, and machine-to-machine communications. Low-power RF integrated circuits, an energy harvester and a power management circuit are fundamental elements of these systems.

*An FM-UWB Transceiver for Autonomous Wireless Systems* presents state-of-the-art developments in low-power FM-UWB transceiver realizations. The design, performance and implementation of prototype transceivers in CMOS technology are presented. A working hardware realization of an autonomous node that includes a prototype power management circuit is also proposed and detailed in this book.

Technical topics include:

- Low-complexity FM-UWB modulation schemes
- Low-power FM-UWB transceiver prototypes in CMOS technology
- CMOS on-chip digital calibration techniques
- Solar power harvester and power management in CMOS for low-power RF circuits

*An FM-UWB Transceiver for Autonomous Wireless Systems* is an ideal text and reference for engineers working in wireless communication industries, as well as academic staff and graduate students engaged in electrical engineering and communication systems research.

River Publishers Series in Circuits and Systems

## FM-UWB Transceivers for Autonomous Wireless Systems

Nitz Saputra and John R. Long



## River Publishers Series in Electronic Materials, Circuits and Devices

ISBN: 9788793519169

e-ISBN: 9788793519152

Available From: February 2017

Price: € 80.00 \$ 105.00

### KEYWORDS:

Ultrawideband, FM-UWB, low-power RF transceiver, autonomous wireless systems, SAR-FLL, digital calibration, RF-CMOS, programmable RF matching, regenerative RF amplifier, current-controlled oscillator, frequency tripling PA, bias current reuse, power harvester, power management, solar antenna, switched-capacitor, DC-DC converter, charge pump, LDO, RF circuit design



[www.riverpublishers.com](http://www.riverpublishers.com)  
[marketing@riverpublishers.com](mailto:marketing@riverpublishers.com)