

2012 Fourth International EURASIP Workshop on RFID Technology

(EURASIP RFID 2012)

**Torino, Italy
27 – 28 September 2012**



**IEEE Catalog Number: CFP1252T-PRT
ISBN: 978-1-4673-2602-5**

2012 Fourth International EURASIP Workshop on RFID Technology

RFID 2012

Table of Contents

Welcome Message.....	viii
Committees.....	ix
Reviewers.....	x
Keynotes.....	xi
Organizers and Sponsors.....	xiv

Session 1 - Interference Management

Advanced Collision Recovery Receiver for RFID	1
<i>Jelena Kaitovic, Robert Langwieser, and Markus Rupp</i>	
Evaluation of the Additive Interference Model for RFID Reader Collision Problem.....	9
<i>Linchao Zhang, Filippo Gandino, Renato Ferrero, and Maurizio Rebaudengo</i>	
Optimal Scheduling in Single Channel Dense Reader RFID Environments	14
<i>J. Vales-Alonso, F.J. Parrado-García, J.J. Alcaraz, and E. Egea-López</i>	
Measurement and Simulation of Crosstalk and Crosstalk Compensation in UHF RFID	22
<i>R. Langwieser and G. Lasser</i>	

Session 2 – RF Transmission

A Toolbox for RFID Protocol Analysis	27
<i>Roel Verdult, Gerhard de Koning Gans, and Flavio D. Garcia</i>	
Flexible Development and Testing Environment for Implementation of New Algorithms in RFID Systems	35
<i>Salvador Grey, Gerd vom Bögel, and Anton Grabmaier</i>	
Hardware and Software Stack for an SDR-Based RFID Test Platform	41
<i>Martin Dusek, Vojtech Derbek, Ales Povalac, Jiri Sebesta, and Roman Marsalek</i>	

Session 3 - Test and Emulation

Fast Algorithm for Leaking Carrier Cancellation Adjustment	46
<i>Gregor Lasser, Wolfgang Gartner, Robert Langwieser, and Christoph F. Mecklenbräuer</i>	
Evaluating On-Body RFID Systems at 900 MHz and 2.45 GHz	52
<i>Jasmin Grosinger and Michael Fischer</i>	
On the Transmit Signal Design at the Reader for RFID MIMO Systems	59
<i>Feng Zheng and Thomas Kaiser</i>	
Development of a Wireless Power Transmission System for Embedded Passive Sensors Using LF RFID Technology	65
<i>Iker Mayordomo, Norbert van der Heyd, Tobias Dräger, and Josef Bernhard</i>	

Session 4 – Applications

An Analysis of the Performances of Low Frequency Cylinder Glass Tags for the Underwater Tracking of Pebbles on a Natural Beach	72
<i>Giuliano Benelli, Alessandro Pozzebon, Duccio Bertoni, Giovanni Sarti, Paolo Ciavola, and Edoardo Grottoli</i>	
RFID Standardization for Logistics Applications – Status Quo and Challenges from the Automotive Industry’s Perspective	78
<i>Malte Schmidt, Hanno Wolff, Florian Peppel, and Lars Thoro</i>	
Occupancy Monitoring Using Passive RFID Technology for Efficient Building Lighting Control	83
<i>Farhan Manzoor, David Linton, and Michael Loughlin</i>	
Improving Safety in Operating Room: Design and Experimentation of a RFID-Based Medical Device for Surgical Sponges Management	89
<i>L. Armisi, A. Corona, S. Colangelo, N. Rosato, A. Lazzaro, L. Iezzi, N. Di Lorenzo, A. L. Gaspari, I. Piccolo, C.M. Medaglia, S. Sbrenni, and S. Croci</i>	

Session 5 – Improvements in RFID Technology

The PTF-Determinator: A Run-Time Method Used to Save Energy in NFC-Systems	92
<i>Manuel Menghin, Norbert Druml, Christian Steger, Reinhold Weiss, Holger Bock, and Josef Haid</i>	
Low-Power CMOS Voltage Regulator Architecture for Implantable RF Circuits	99
<i>Lijun Luo, Kyle De Gannes, Kyle Fricke, Shawon Senjuti, and Robert Sobot</i>	

Enhancing WSN-Based Indoor Positioning and Tracking through RFID Technology	107
<i>Zhoubing Xiong, Zhen Yu Song, Andrea Scalera, Francesco Sottile, Riccardo Tomasi, and Maurizio A. Spirito</i>	
Barcode Data Fusion through Application Level Events Compliant Middleware	115
<i>Nikos Zarokostas, Panagiotis D. Dimitropoulos, John Soldatos, and George Stamoulis</i>	
 Session 6 – Tag Design and Development	
Design and Characterization of Ink-Jet and Screen Printed HF RFID Antennas	119
<i>José F. Salmerón, Almudena Rivadeneyra Torres, Jesús Banqueri, Migue A. Carvajal, and Manuel Agudo</i>	
Model Based Development of the Digital Part of a RFID Transponder with Xilinx System Generator for a FPGA Platform	124
<i>Venkata Rajesh Pamula, Wolfram Strauß, and Josef Bernhard</i>	
Automatic Optimization of Multichip RFID Tags	128
<i>Yuanhe Xiong, Stefano Caizzone, Cecilia Occhiuzzi, Gaetano Marrocco, Giuseppe Vecchi, and Mario Orefice</i>	
 Author Index	 132