RSU5A : RFIC Plenary

Chair: Tina Quach, Freescale Semiconductor, USA — Co-Chairs: Yann Deval, IMS, France; David Ngo, RFMD, USA
Venue Westin Hotel - Grand Ballroom A, Time 17:30, Sunday June 7th 2009

17:30  Welcome message from General and TPC Chairs, Announcement of Student Paper Awards

17:45  Cost-Effective Semiconductor Technologies for RF and Microwave Applications
      *(Christopher M. Snowden)*

      *(George W. Everhart)*
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RMO1A: Cellular IC I
Chair: Didier Belot, STMicroelectronics, France — Co-Chair: Andre Hanke, Infineon Technologies, Germany
Venue BC&EC - Room 204AB, Time 08:00, Monday June 8th 2009

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<th>RMO1A-1</th>
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<th>RF Receiver Front-End with +3dBm Out-of-Band IIP3 and 3.4dB NF in 45nm CMOS for 3G and Beyond</th>
<th>(Naveen K. Yanduru, Danielle Griffith, Kah-Mun Low, Poras T. Balsara)</th>
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<td>A SAW-Less CDMA Receiver Front-End with Single-Ended LNA and Single-Balanced Mixer with 25% Duty-Cycle LO in 65nm CMOS</td>
<td>(Himanshu Khatri, Li Liu, Tony Chang, Prasad S. Gudem, Lawrence E. Larson)</td>
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<td>RMO1A-3</td>
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<td>A 0.13μm CMOS Multi-Band WCDMA/HSDPA Receiver Adopting Silicon Area Reducing Techniques</td>
<td>(Hyunwon Moon, Juyoung Han, Seung-Il Choi, Dongjin Keum, Byeong-Ha Park)</td>
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<td>RMO1A-4</td>
<td>09:00</td>
<td>A Tunable 300–800MHz RF-Sampling Receiver Achieving 60dB Harmonic Rejection and 0.8dB Minimum NF in 65nm CMOS</td>
<td>(Z. Ru, E. Klumperink, C. Saavedra, B. Nauta)</td>
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<td>RMO1A-5</td>
<td>09:20</td>
<td>The First Experimental Demonstration of a SASP-Based Full Software Radio Receiver</td>
<td>(Francois Rivet, Yann Deval, Jean-Baptiste Begueret, Dominique Dallet, Philippe Cathelin, Didier Belot)</td>
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RMO1B: Advanced Millimeter-Wave Circuits

Chair: Paul Blount, Custom MMIC Design Services, USA — Co-Chair: Kevin Kobayashi, RFMD, USA
Venue BC&EC - Room 205A, Time 08:00, Monday June 8th 2009

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Current Combining 60GHz CMOS Power Amplifiers
(Mounir Bohsali, Ali M. Niknejad)

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60GHz 45nm PA for Linear OFDM Signal with Predistortion Correction Achieving 6.1% PAE and -28dB EVM
(Emanuel Cohen, Shmuel Ravid, Dan Ritter)

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60GHz and 80GHz Wide Band Power Amplifier MMICs in 90nm CMOS Technology
(Naoyuki Kurita, Hiroshi Kondoh)

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Low-Loss 0.13μm CMOS 50–70GHz SPDT and SP4T Switches
(Yusuf A. Atesal, Berke Cetinoneri, Gabriel M. Rebeiz)

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A Tunable Flipflop-Based Frequency Divider up to 113GHz and a Fully Differential 77GHz Push-Push VCO in SiGe BiCMOS Technology
(S. Trotta, H. Li, V.P. Trivedi, J. John)
RMO1C: Broadband IC I

Chair: Chris Rudell, University of Washington, USA — Co-Chair: Ranjit Gharpurey, University of Texas at Austin, USA

Venue BC&EC - Room 206AB, Time 08:00, Monday June 8th 2009

A DC–102GHz Broadband Amplifier in 0.12μm SiGe BiCMOS
(Joohwa Kim, James F. Buckwalter)

A 1.8mW Wideband 57dBΩ Transimpedance Amplifier in 0.13μm CMOS
(Firooz Aflatouni, Hossein Hashemi)

1–10GHz Inductorless Receiver in 0.13μm CMOS
(Liuchun Cai, Ramesh Harjani)

A 2Gbps RF-Correlation-Based Impulse-Radio UWB Transceiver Front-End in 130nm CMOS
(Lei Zhou, Zhiming Chen, Chun-Cheng Wang, Fred Tzeng, Vipul Jain, Payam Heydari)

A Multi-Modulation Low-Power FCC/EC-Compliant IR-UWB RF Transmitter in 0.18μm CMOS
(David Barras, George von Bueren, Walter Hirt, Heinz Jaeckel)
RMO1D: Transformer Based VCOs

Chair: Timothy Hancock, MIT Lincoln Laboratory, USA — Co-Chair: Tian-Wei Huang, National Taiwan University, Taiwan
Venue BC&EC - Room 203, Time 08:00, Monday June 8th 2009

A 24GHz Low Power VCO with Transformer Feedback
(Chieh-An Lin, Jing-Lin Kuo, Kun-You Lin, Huei Wang)

A 1.7mW, 16.8% Frequency Tuning, 24GHz Transformer-Based LC-VCO Using 0.18μm CMOS Technology
(Yen-Hung Kuo, Jeng-Han Tsai, Tian-Wei Huang)

A 92.6% Tuning Range VCO Utilizing Simultaneously Controlling of Transformers and MOS Varactors in 0.13μm CMOS Technology
(Yusuke Takigawa, Hiroshi Ohta, Qing Liu, Satoshi Kurachi, Nobuyuki Itoh, Toshihiko Yoshimasa)

1.1 to 1.9GHz CMOS VCO for Tuner Application with Resistively Tuned Variable Inductor
(S.J. Cheng, Y. Zheng, C.H. Heng)

An Ultra-Low-Power CMOS Complementary VCO Using Three-Coil Transformer Feedback
(Chi-Kai Hsieh, Kun-Yao Kao, Kun-You Lin)
RMO2A: RFID and Low-Power Wireless Applications

Chair: Natalino Camilleri, Alien Technology, USA — Co-Chair: Glenn Chang, MaxLinear, USA

Venue BC&EC - Room 204AB, Time 10:10, Monday June 8th 2009

- Software Configurable 5.8GHz Radar Sensor Receiver Chip in 0.13 μm CMOS for Non-Contact Vital Sign Detection
  (Changzhi Li, Xiaogang Yu, Dong Li, Lixin Ran, Jenshan Lin)

- An Asymmetric RF Tagging IC for Ingestible Medication Compliance Capsules
  (Hong Yu, Chun-Ming Tang, Rizwan Bashirullah)

- A Novel CMOS Transmitter Front-End for Mobile RFID Reader
  (Tongqiang Gao, Jingchao Wang, Chun Zhang, Baoyong Chi, Zhihua Wang)

- An RF Transceiver with Auto Signal Detection and Combined PGA/RSSI in 0.18 μm CMOS for V2.1 Bluetooth Applications
  (Wei-Yi Hu, Jia-Wei Lin, Kuo-Chi Tien, Yong-Hsiang Hsieh, Chao-Liang Chen, Hung-Ta Tso, Yi-Shun Shih, Shao-Chueh Hu, Sao-Jie Chen)

- An Ultra-Low-Power 868/915MHz RF Transceiver for Wireless Sensor Network Applications
  (R. van Langevelde, M. van Elzakker, D. van Goor, H. Termeer, J. Moss, A.J. Davie)
# RMO2B: High-Frequency CMOS RF Receivers

**Chair:** Walid Y. Ali-Ahmad, MediaTek, Singapore — **Co-Chair:** Sayfe Kiaei, Arizona State University, USA

**Venue** BC&EC - Room 205A, Time 10:10, Monday June 8th 2009

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<td>A 14GHz CMOS Receiver with Local Oscillator and IF Bandpass Filter for Satellite Applications</td>
<td>(Wenjian Chen, Tino Copani, Hugh J. Barnaby, Sayfe Kiaei)</td>
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<td>A Two-Channel Ku-Band BiCMOS Digital Beam-Forming Receiver for Polarization-Agile Phased-Array Applications</td>
<td>(Berke Cetinoneri, Yusuf A. Atesal, Gabriel M. Rebeiz)</td>
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<td>A CMOS Ku-Band Single-Conversion Low-Noise Block Front-End for Satellite Receivers</td>
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RMO2C: PA Modulator Components

Chair: Freek van Straten, NXP, The Netherlands — Co-Chair: Joseph Staudinger, Freescale Semiconductor, USA
Venue BC&EC - Room 206AB, Time 10:10, Monday June 8th 2009

A Hybrid Envelope Modulator Using Feedforward Control for OFDM WLAN Polar Transmitter
(Chih-Chang Lee, Chun-Jen Chen, Szu-Hsien Wu)

A Spurious Emission Reduction Technique for Power Amplifiers Using Frequency Hopping DC-DC Converters
(Jau-Horng Chen, Pang-Jung Liu, Yi-Jan Emery Chen)

A Highly-Linear Radio-Frequency Envelope Detector for Multi-Standard Operation
(Jeongwon Cha, Wangmyung Woo, Changhyuk Cho, Yunseo Park, Chang-Ho Lee, Haksun Kim, Joy Laskar)

A 1.55GHz to 2.45GHz Center Frequency Continuous-Time Bandpass Delta-Sigma Modulator for Frequency Agile Transmitters
(Martin Schmidt, Markus Grözing, Stefan Heck, Ingo Dettmann, Manfred Berroth, Dirk Wieger, Wolfgang Temp, Andreas Pascht)

A 25dBm High-Efficiency Digitally-Modulated SOI CMOS Power Amplifier for Multi-Standard RF Polar Transmitters
(Sapatorm Pornpromlikit, Jinho Jeong, Calogero D. Presti, Antonino Scuder, Peter M. Asbeck)
RMO2D: RF Modeling and Design Automation

Chair: Kevin McCarthy, University College Cork, Ireland — Co-Chair: Francis Rotella, Peregrine Semiconductor, USA
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Effect of Substrate Contact Shape and Placement on RF Characteristics of 45nm Low Power CMOS Devices
(Usha Gogineni, Hongmei Li, Susan Sweeney, Jing Wang, Basanth Jagannathan, Jesus del Alamo)

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Design and Modeling of Planar Transformer-Based Silicon Integrated Passive Devices for Wireless Applications
(Chien-Hsiang Huang, Tzu-Chiang Wei, Tzyy-Sheng Horng, Jian-Yu Li, Cheng-Chung Chen, Chen-Chao Wang, Chi-Tsung Chiu, Chih-Pin Hung)

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Characterisation and Macro-Modeling of Patterned Micronic and Nano-Scale Dummy Metal-Fills in Integrated Circuits
(Sidina Wane, Damienne Bajon)

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Mosaic Placement of Very High Density 3D Capacitors for Efficient Decoupling Functionality in the RF Domain
(O. Tesson, F. Le Cornec, S. Jacqueline)

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On Modeling Parasitic Control Loops in RF SoCs: RF Cross-Coupling and Spurious Analysis
(K. Muhammad, Chih-Ming Hung, Hunsoo Choo, Erkin Cubukcu)
RMO3A: Cellular IC II

Chair: Jyoti P. Mondal, Freescale Semiconductor, USA — Co-Chair: Fazal Ali, Qualcomm, USA
Venue BC&EC - Room 204AB, Time 13:20, Monday June 8th 2009

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Asynchronous Modulator for Linearization and Switch-Mode RF Power Amplifier Applications
(T. Johnson, K. Mekechuk, D. Kelly, J. Lu)

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A Low Power 100MHz – 2.5GHz Digital-to-Time Conversion Based Transmitter for Constant-Envelope Direct Digital Modulation
(Bob Stengel, Sumit Talwalkar, Tom Gradishar, Gio Cafaro)

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A 65nm CMOS Low-Noise Direct-Conversion Transmitter with Carrier Leakage Calibration for Low-Band EDGE Application
(Shin-Fu Chen, Yi-Bin Lee, Chih-Hao Sun, Bing-Jye Kuo, Guang-Kaai Dehng)

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A Low-Cost Quad-Band Single-Chip GSM/GPRS Radio in 90nm Digital CMOS

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A Multi-Band High Performance Single-Chip Transceiver for WCDMA/HSDPA
RMO3B: 60GHz Phased Arrays

Chair: Brian A. Floyd, IBM, USA — Co-Chair: Georg Boeck, Berlin University of Technology, Germany
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A Bidirectional TX/RX Four Element Phased-Array at 60GHz with RF-IF Conversion Block in 90nm CMOS Process
(Emanuel Cohen, Claudio Jakobson, Shmuel Ravid, Dan Ritter)

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A 60GHz Digitally Controlled RF-Beamforming Receiver Front-End in 65nm CMOS
(Yikun Yu, Peter Baltus, Arthur van Roermund, Anton de Graauw, Edwin van der Heijden, Manel Collados, Cicero Vaucher)

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A 60GHz Band CMOS Phased Array Transmitter Utilizing Compact Baseband Phase Shifters
(Shuya Kishimoto, Naoyuki Orihashi, Yasuhiro Hamada, Masaharu Ito, Kenichi Maruhashi)

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Embedded DiCAD Linear Phase Shifter for 57–65GHz Reconfigurable Direct Frequency Modulation in 90nm CMOS
(Tim LaRocca, Jenny Liu, Frank Wang, Frank Chang)

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60GHz Passive and Active RF-Path Phase Shifters in Silicon
(Ming-Da Tsai, Arun Natarajan)
# RMO3C: Handset PA's & Concepts

**Chair:** Nick Cheng, Skyworks Solutions, USA — **Co-Chair:** Eddie Spears, RFMD, USA  
**Venue:** BC&EC - Room 206AB, Time 13:20, Monday June 8th 2009

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(Chang-Ho Lee, Jae Joon Chang, Ki Seok Yang, Kyu Hwan An, Izuka Lee, Kijoong Kim, Joongjin Nam, Yunseok Kim, Haksun Kim) |
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| Page | RMO3C-2 | 13:40 | Scalable CMOS Power Devices with 70% PAE and 1, 2 and 3.4 Watt Output Power at 2GHz  
(Mustafa Acar, Mark P. van der Heijden, Iouri Volokhine, Melina Apostolidou, Jan Sonsky, Jan S. Vromans) |
| Page | RMO3C-3 | 14:00 | Asymmetric Multilevel Outphasing Architecture for Multi-Standard Transmitters  
(SungWon Chung, Philip A. Godoy, Taylor W. Barton, Everest W. Huang, David J. Perreault, Joel L. Dawson) |
| Page | RMO3C-4 | 14:20 | Distributed Power Amplifier with Electronic Harmonic Filtering  
(Bruce Thompson, Bob Stengel, Scott Olson, Nicholas Cafaro, David Scagnelli, Alvin Joseph, Jim Dunn) |
| Page | RMO3C-5 | 14:40 | Dual Mode Efficiency Enhanced Linear Power Amplifiers Using a New Balanced Structure  
(Gary Zhang, Shiaw Chang, Sunny Chen, Jing Sun) |
# RMO3D: Advanced VCO Topologies

**Chair:** Waleed Khalil, Ohio State University, USA  —  **Co-Chair:** Timothy Hancock, MIT Lincoln Laboratory, USA  
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<td><img src="image" alt="A Low-Power Dual-Band Oscillator Based on Band-Limited Negative Resistance" /> (Burak Çatlı, Mona M. Hella)</td>
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<td><img src="image" alt="Low Phase Noise Gm-Boosted Differential Colpitts VCO with Suppressed AM-to-FM Conversion" /> (Jong-Phil Hong, Sang-Gug Lee)</td>
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<td><img src="image" alt="An SoC with Automatic Bias Optimization of an RF Oscillator" /> (Imran Bashir, R. Bogdan Staszewski, Oren E. Eliezer, Khurram Waheed, Poras T. Balsara)</td>
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<td><img src="image" alt="A Low-Power, Small Area Quadrature LC-VCO Using Miniature 3D Solenoid Shaped Inductor" /> (Akira Tanabe, Ken'ichiro Hijioka, Hirokazu Nagase, Yoshihiro Hayashi)</td>
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<td>Adil A. Kidwai, Anna Nazimov, Yishai Eilat, Ofir Degani</td>
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<td>Innovative Architecture for Dual-Band WLAN and MIMO Front-End Module Based on a Single Pole, Three Throw Switch-Plexer</td>
<td>Chun-Wen Paul Huang, William Vaillancourt, Philip Antognetti, Tony Quaglietta, Mike McPartlin, Mark Doherty, Christophe Masse</td>
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<td>A Compact Low Power SDR Receiver with 0.5–20MHz Baseband Sampled Filter</td>
<td>Arnd Geis, Julien Ryckaert, Jonathan Borremans, Gerd Vandersteen, Yves Rolain, Jan Craninckx</td>
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<td>Wi-Fi/WiMAX Dual Mode RF MMIC Front-End Module</td>
<td>Ping-Hsun Wu, Shih-Ming Wang, Ming-Wei Lee</td>
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RMO4B: RF Front End Building Blocks

Chair: Osama Shana’a, MediaTek, USA — Co-Chair: Danilo Manstretta, University of Pavia, Italy

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<td>A DC-to-22GHz 8.4mW Compact Dual-Feedback Wideband LNA in 90nm Digital CMOS</td>
<td>M. Okushima, Jonathan Borremans, D. Linten, G. Groeseneken</td>
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<td>A 24GHz Transformer-Based Single-In Differential-Out CMOS Low-Noise Amplifier</td>
<td>Jin-Fu Yeh, Chu-Yun Yang, Hsin-Chih Kuo, Huey-Ru Chuang</td>
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<td>A 3-to-5GHz UWB LNA with a Low-Power Balanced Active Balun</td>
<td>Sanghoon Joo, Tae-Young Choi, Jae-Young Kim, Byunghoo Jung</td>
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<td>A 50dB Image-Rejection SiGe-HBT Based Low Noise Amplifier in 24GHz Band</td>
<td>Toru Masuda, Nobuhiro Shiramizu, Takahiro Nakamura, Katsuyoshi Washio</td>
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<td>RMO4B-5</td>
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<td>A 1.3V, 65nm CMOS, Coilless Combined Feedback LNA with Integrated Single Coil Notch Filter</td>
<td>Dirk Bormann, Tobias D. Werth, Christoph Schmits, Stefan Heinen</td>
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# RMO4C: Frequency Generation Circuits: PLLs and Synthesizers

**Chair:** Stefano Pellerano, Intel, USA — **Co-Chair:** Bertan Bakkaloglu, Arizona State University, USA  
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|      | ![Image](image1.png) | A 750μW 1.575GHz Temperature-Stable FBAR-Based PLL  
*Julie R. Hu, Wei Pang, Richard C. Ruby, Brian P. Otis* |

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|      | ![Image](image2.png) | A 0.1–5GHz Dual-VCO Software-Defined ΣΔ Frequency Synthesizer in 45nm Digital CMOS  
*Pierluigi Nuzzo, Kameswaran Vengattaramane, Mark Ingels, Vito Giannini, Michiel Steyaert, Jan Craninckx* |

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|      | ![Image](image3.png) | A 3GHz Wideband ΣΔ Fractional-N Synthesizer with Voltage-Mode Exponential CP-PFD  
*Hiva Hedayati, Bertan Bakkaloglu* |

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|      | ![Image](image4.png) | An Integrated 18GHz Fractional-N PLL in SiGe BiCMOS Technology for Satellite Communications  
*Frank Herzel, Sabbir A. Osmany, Klaus Schmalz, Wolfgang Winkler, J. Christoph Scheytt, Thomas Podrebersek, Rüdiger Follmann, Heinz-Volker Heyer* |

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|      | ![Image](image5.png) | A 1.2mW CMOS Frequency Synthesizer with Fully-Integrated LC VCO for 400MHz Medical Implantable Transceivers  
*Alessandro Italia, Giuseppe Palmisano* |

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# RMO4D: Submicron RFIC MOS and Novel Devices

*Chair: Aditya Gupta, ANADIGICS, USA — Co-Chair: Eli Reese, TriQuint Semiconductor, USA*

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<td>RF Reliability of Short Channel NMOS Devices</td>
<td>D. Stephens, T. Vanhoucke, J.J.T.M. Donkers</td>
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<td>Flicker Noise in Nanoscale pMOSFETs with Mobility Enhancement Engineering and Dynamic Body Biases</td>
<td>Kuo-Liang Yeh, Chih-You Ku, Wei-Lun Hong, Jyh-Chyurn Guo</td>
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Chair: Noriharu Suematsu, Mitsubishi Electric, Japan — Co-Chair: Bruce Thompson, Motorola, USA
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A 4-Antenna Transmitter in 0.18μm CMOS Using Space-Time Block Codes
(Nathan M. Neihart, Kuang-Wei Cheng, Jeffrey S. Walling, Sangmin Yoo, David J. Allstot)

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Fully Integrated Dual-Band Power Amplifiers with On-Chip Baluns in 65nm CMOS for an 802.11n MIMO WLAN SoC
(Ali Afsahi, Arya Behzad, Vikram Magoon, Lawrence E. Larson)

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Multi-Decade GaN HEMT Cascode-Distributed Power Amplifier with Baseband Performance
(Kevin W. Kobayashi, YaoChung Chen, Ioulia Smorchkova, Benjamin Heying, Wen-Ben Luo, William Sutton, Mike Wojtowicz, Aaron Oki)

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A 90nm CMOS Power Amplifier for 802.16e (WiMAX) Applications
(Ofir Degani, Fabian Cossoy, Shay Shahaf, Debopriyo Chowdhury, Christopher D. Hull, Cohen Emanuel, Ravid Shmuel)
RTU1B: New Ideas in CMOS RF Front-End Circuits

Chair: Frank Henkel, IMST GmbH, Germany — Co-Chair: Reynold Kagiwada, Northrop Grumman Corporation, USA
Venue BC&EC - Room 205A, Time 08:00, Tuesday June 9th 2009

- **Active Feedback Interference Cancellation in RF Receiver Front-Ends**
  
  *Tobias D. Werth, Christoph Schmits, Stefan Heinen*

- **A 1.3V 26mW 3.2GS/s Undersampled LC Bandpass \( \Sigma \Delta \) ADC for a SDR ISM-Band Receiver in 130nm CMOS**
  
  *Nicolas Beilleau, Hassan Aboushady, Franck Montaudon, Andreïa Cathelin*

- **An Inductorless High Dynamic Range 0.3-to-2.6GHz Receiver CMOS Front-End**
  
  *Nuntachai Poobuapheun, Wei-Hung Chen, Zdravko Boos, Ali M. Niknejad*

- **A 90nm CMOS Highly Linear Clock Bootstrapped RF Sampler Operating at Wide Frequency Range of 0.5GHz to 5GHz**
  
  *M. Sato, H. Abe, M. Hamada, H. Majima, T. Kuroda, H. Ishikuro*
RTU1C: Advanced Device Characterization and Non-Linear Circuit Analysis

Chair: Yuhua Cheng, Peking University, China — Co-Chair: Louis C. Liu, CT Communication Technologies, USA
Venue BC&EC - Room 206AB, Time 08:00, Tuesday June 9th 2009

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MMW Lab In-Situ to Extract Noise Parameters of 65nm CMOS Aiming 70~90GHz Applications
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(A. Saleh, M. Abou Chahine, T. Reveyrand, G. Neveux, D. Barataud, J. Michel Nebus, R. Quéré, Y. Bouvier, J. Godin, M. Riet)

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RTU2A: Wideband and Direct Digital Frequency Synthesizers

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RTU2B: Millimeter-Wave Imaging and Communication Systems
Chair: Luciano Boglione, University of Massachusetts Lowell, USA — Co-Chair: Jenshan Lin, University of Florida, USA
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A CMOS Focal-Plane Array for Heterodyne Terahertz Imaging
(Ullrich R. Pfeiffer, Erik Öjefors, Alvydas Lisaukas, Diana Glaab, Hartmut G. Roskos)

High-Performance W-Band SiGe RFICs for Passive Millimeter-Wave Imaging
(Jason W. May, Gabriel M. Rebeiz)

W-Band 65nm CMOS and SiGe BiCMOS Transmitter and Receiver with Lumped I-Q Phase Shifters
(I. Sarkas, M. Khanpour, A. Tomkins, P. Chevalier, P. Garcia, S.P. Voinigescu)

A 60GHz CMOS Receiver with an On-Chip ADC
(Mikko Varonen, Mikko Kaltiokallio, Ville Saari, Olli Viitala, Mikko Kärkkäinen, Saska Lindfors, Jussi Ryynänen, Kari A.I. Halonen)
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  A 5Gbps Optical Receiver with Monolithically Integrated Photodetector in 0.18μm CMOS
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  *(Tiku Yu, Gabriel M. Rebeiz)*

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  A Single-Chip 24GHz SiGe BiCMOS Transceiver for FMCW Automotive Radars
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  (José Luis González Jiménez, Franck Badets, Baudouin Martineau, Didier Belot)
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Chair: Jean-Baptiste Begueret, IMS, France — Co-Chair: Donald Lie, Texas Tech University, USA

- Non-Decimation FIR Filter for Digital RF Sampling Receiver with Wideband Operation Capability
  (Changjoon Park, Jehyung Yoon, Bumman Kim)
- A 250MHz Cutoff Charge-Domain Baseband Filter with Improved Stopband Attenuations
  (Atsushi Yoshizawa, Sachio Iida)
- A 6th Order 1.6 to 3.2GHz Tunable Low-Pass Linear Phase gm-C Filter for Fiber Optic Adaptive EDC Receivers
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- Compact Circulator Based Phase Shifter at C-Band in BiCMOS
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(John Reinke, Abhishek Jajoo, Leon Wang, Gary Fedder, Tamal Mukherjee)

### A High Magnetic Coupling, Low Loss, Stacked Balun in Digital 65nm CMOS
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### High Current 3D Symmetrical Inductor Integrated in an Advanced HR SOI CMOS Technology Targeting RF Power Applications
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