2012 Power Amplifier Symposium
Preliminary Program

Monday, September 17

7:30  Registration and Continental Breakfast

Welcome Session
8:30  “Introduction to the Power Amplifier Symposium”,
      Slim Boumaiza, Peter Asbeck, Paul Draxler

Session 1:  Systems Requirements and Advanced Technology
8:45  “Power Amplifier Requirements for Next Generation Cellular Base Stations” (Invited),
      Sandro Lanfranco,
      Nokia-Siemens Networks, Mountain View, CA

9:15  "Current Status of Tunable RF Components Based on Ferroelectric Thick Films for Power Amplifiers” (Invited),
      Holger Maune, Alex Wiens, Olof Bengtsson, Wolfgang Heinrich and Rolf Jakoby,
      Technische Universitat Darmstadt and Ferdinand-Braun-Institut, Berlin, Germany

9:45  “NFC Communications: Fundamentals and Applications” (Invited),
      Magnus Wiklund
      Qualcomm, Santa Clara, CA

10:15 Coffee break

Session 2:  Digital Techniques for Transmitters and PAs
10:35  “Zero Voltage Switching Contour Based Control of Class-E PAs” (Invited)
      Sudhakar Pamarti and Nitesh Singhal,
      UCLA

11:05 "Radio Frequency Pulse Width/Position Modulation Dynamic Range Enhancement Using Mode Multiplexing”,
      Daniel Frebowski and Slim Boumaiza,
      University of Waterloo, Ontario, Canada

      T. Nakatani, D. F. Kimball and P.M.Asbeck
      UCSD, La Jolla, CA; Panasonic Corporation, Kanagawa, Japan; and MaXentric Technologies, San Diego, CA

11:45 "Bandwidth Extension of Wireless Doherty Power Amplifiers Using Digital Techniques”,
      Ramzi Darraji, Mohamed Helaoui and Fadhel M. Ghannouchi,
      University of Calgary, Alberta, Canada
Session 3: “MicroApps”
1:00 "Simulating Envelope Tracking with Agilent ADS - Proof of Concept Example",
Andy Howard,
Agilent Technologies, Santa Rosa, CA

Session 4: Envelope Tracking
1:20 "High Speed Buck Converter Using GaN HEMTs for Envelope Tracking Applications",
S. Shinjo, Y.-P. Hong, D.F.Kimball and P.M.Asbeck,
UCSD, La Jolla, CA ; Mitsubishi Electric Corp., Kanagawa, Japan

1:40 "Optimization of the Switching Stage Supply Voltage in Parallel Voltage-Controlled Envelope Amplifier",
Yushi Hu and Slim Boumaiza,
University of Waterloo, Ontario, Canada

2:00 "Extending the Bandwidth of Envelope Amplifiers Through Selective Detroughing",
Jonmei Yan, Paul Draxler and Peter Asbeck,
UCSD, La Jolla, CA and Qualcomm Inc., San Diego, CA

2:20 "Modeling and DPD of Dynamic Supply RFPA Using Polynomial Expansion about Vi-Ve Trajectory",
Paul Draxler, Jonmei Yan and P.M.Asbeck,
Qualcomm Inc. and UCSD, La Jolla, CA

2:40 Coffee Break

Session 5: Digital Predistortion and Linearization
3:00 "Pipelined Adaptation in a Digital Predistortion System",
R. Neil Braithwaite,
Powerwave Technologies, Santa Ana, CA

Amir-Reza Amini, Dylan Bespalko and Slim Boumaiza,
University of Waterloo, Ontario, Canada

Ahmad Khanifar,
Powerwave Technologies, Santa Ana, CA

4:00 "Highly Efficient and Highly Linear Amplification of Dual-Carrier Signals",
Kenle Chen, Yu-Chen Wu, Eric Naglich and Dimitrios Peroulis,
Purdue University, West Lafayette, IN

4:20 "Linearization of Efficient Harmonically-Injected PAs"
Asmita Dani and Zoya Popovic,  
*University of Colorado, Boulder, CO*

4:50  Reception  
6:30  Banquet

**Tuesday, September 18**

7:30-8:30  Registration and continental breakfast

**Session 6: Design Techniques**

8:30  “Broadband GaN MMICs: Multi-octave bandwidth PAs to Multi-Watt Linear LNAs””  
*(Invited)*  
Kevin Kobayashi  
*RFMD, Santa Ana, CA*

9:00  "Matching a 60W GaN HEMT Over 100-1000MHz Bandwidth",  
K. Krishnamurthy, M. LeFevre,  
*RFMD, Charlotte, NC*

9:20  "A Peak-Search Algorithm for Dual-Objective PAE/ACPR Fast Load-Pull",  
Josh Martin, Charles Baylis, Robert J. Marks II, Lawrence Cohen and Jean de Graaf,  
*Baylor University, U.S. Naval Research Laboratory*

9:40  "Ensuring Accuracy of Nonlinear Models for High Power Amplifier Design",  
Claude Setzer,  
*Wireless Technology Center Indiana University-Purdue University, Fort Wayne, IN*

10:00  "New Dual-Branch Quadrature PA Transmitter Architecture for the Reduction of Antenna Load Mismatch Effects",  
Raymond Lei Zhu, Lizhong Zhu, Slim Boumaiza and Safieddin Safavi-Naeini,  
*University of Waterloo, Ontario, Canada*

10:20  Coffee break

**Session 7: High Frequency Amplifiers**

10:40  "An X-Band Stacked Power Amplifier in a Nanoscale CMOS SOI Technology",  
Jing-Hwa Chen, Sultan Helmi and Saeed Mohammadi,  
*Purdue University, West Lafayette, IN*

11:00  "A MMIC/Hybrid High-Efficiency X-Band Power Amplifier",  
Michael Litchfield, Michael Roberg and Zoya Popovic,  
*University of Colorado; TriQuint Semiconductor*

11:20  "A Nested-Reactance Feedback Power Amplifier for Q-Band Applications",  


Nader Kalantari and James F. Buckwalter,  
*UCSD, La Jolla, CA*

11:40  "W-Band Power Amplifier Using 45-nm CMOS SOI Stacked FETs",  
Jefy Jayamon, B. Hanafi, H. Dabag, A. Agah, J. Buckwalter and P. Asbeck,  
*UCSD, La Jolla, CA*

*Conclusion of Symposium*