

70th ARFTG Conference

"High Power RF Measurement Techniques"

Thursday, 29 November

Session A Chair: Steve Cripps

8.00 Welcome from Conference Chair: Mohamed Sayed

8.10 A1 "Characterization Challenges for Wireless Cellular Base-stations & Power Transistors" (*Invited*)
Jaime Plá, *Freescale Semiconductor*

8.40 A2 "400-Watt Doherty Amplifier Linearization using Optimized Memory Polynomials Predistorter"
Marie-Claude Fares, Nizar Messaoudi, Slim Boumaiza, John Wood
University of Waterloo & Freescale Semiconductor

9.00 A3 "Different Measurement Methods for Characterizing and Detecting Memory Effects in Non-linear RF Power Amplifiers"
Yi He, Darren McCarthy, and Marcus Dasilva, *Tektronix*

9.20 A4 "Adaptive Second Harmonic Active Load For Pulsed-IV/RF Class-B Operation"
Seok Joo Doo, Patrick Roblin, Venkatesh Balasubramanian, Richard Taylor, Krishnanshu Dandu, Gregg H. Jessen, and Roberto Rojas,
The Ohio State University, Texas Instruments, & AFRL

9.40 Introduce the Exhibitors

Coffee Break and Poster Session

Session B Chair: Jean-Pierre Teyssier

10.40 B1 "Utilization of Waveform Measurements for Degradation Analysis of AlGaIn/GaN HFETs"
Chris Roff, J. Benedikt, P. J. Tasker, D.J. Wallis, K.P. Hilton, J.O. Maclean, D.G. Hayes, M. J. Uren and T. Martin, *Cardiff University & Qinetiq, Ltd.*

11.00 B2 "Transistor Model Validation through 50 Ohm, Vector Network Analyzer Power Sweeps"
J. Gering, S. Nedeljkovic, F. Kharabi, J. McMacken, and D. Halchin,
RF Micro Devices

11.20 B3 "A Low-Cost Pulsed RF & I-V Measurement Setup for Isothermal Device Characterization"
M. Marchetti, K. Buisman, M. Pelk, L. Smith and L.C.N. de Vreede, *Delft University of Technology*

11.40 B4 "Voltage Transient Measurement and Extraction of Power RF MOSFET Thermal Time Constants"
Charles Baylis, Lawrence Dunleavy,
University of South Florida & Modelithics, Inc.

12.00 *Lunch*

Session C Chair: Gary Simpson

1.20 C1 "Investigation of RF De-embedding Approaches for Device Characterization"
Tom'as O'Sullivan and Peter M. Asbeck, *University of California at San Diego*

1.40 C2 "A Simple Method for Extreme Impedances Measurement"
Martin Randus, Karel Hoffmann, *Czech Technical University, Prague*

2.00 C3 "A Broadband Non-Intrusive Voltage Probe with LSNA Applications"
Steve C. Cripps, *Hywave Associates*

2.20 ARFTG Business Meeting

3.00 *Coffee Break and Poster Session*

Session D Chair: Nick Ridler

3.40 ARFTG Business Meeting Conclusion

4.00 D1 "A new method to characterize substrate conductivity"
D. Xiao, D. Schreurs, W. De Raedt, J. Derluyn, M. Germain, B. Nauwelaers, and
G. Borghs, *IMEC & KU Leuven*

4.20 D2 "A Microwave Study on applications of Dielectric Parameters for Estimating the
Blood Parameters"
V.Malleswara Rao, *GITAM University College of Engineering*

4.40 D3 "Short-Range Detection and Measurement of Small High-Speed Objects in
Microwave Frequency Region"
Martin Randus, Premysl Hudec, and Karel Hoffmann,
Czech Technical University, Prague

5.00 *Close of First Day*

Friday, 30 November

Session E Chair: Dave Blackham

8.00 Opening remarks

8.10 E1 "On quantifying the effects of receiver linearity on VNA calibrations"
J. Martens, *Anritsu*

8.30 E2 "Simulations of Noise-Parameter Verification Using Cascade with Isolator or
Mismatched Transmission Line"
James Randa, Ken Wong, and Roger Pollard,
NIST, Agilent Technologies, and University of Leeds

8.50 E3 "Using time-domain measurements to improve assessments of precision coaxial
air lines as standards of impedance at microwave frequencies"
Masahiro Horibe and Nick Ridler,
National Metrology Institute of Japan and National Physical Laboratory

9.10 E4 "A Commercial Multi-Line TRL Calibration",
Leonard Hayden, *Cascade Microtech*

9.30 E5 "Development and implementation of a new multiport calibration algorithm"
A. Ferrero and V. Teppati, *Politecnico di Torino*

9.50 *Coffee Break and Poster Session*

Session F Chair: Heidi Barnes

10.40 F1 "Software Defined Radio" (*Invited*)
Bruce Fette, *C4 General Dynamics*

11.10 F2 "TDR and S-parameters Performance Requirements for Fault Isolation and Serial
Data Applications"
Dima Smolyansky, *Tektronix*

11.30 F3 "Closed-Loop Nonlinear Modeling of $\Sigma\Delta$ Fractional-N Frequency Synthesizers"
H. Hedayati, and B. Bakkaloglu, *Arizona State University*

11.50 Close of 70th ARFTG Conference: Greg Burns, ARFTG Chair

12.00 *Lunch*

Posters

- P1 "Evaluation of the VNA Verification Process based on the Normalized Errors"
Yeou-Song (Brian) Lee, Anritsu Company
- P2 "On-Wafer Power Measurements of BAW Filters Non-Linearities"
M. Mabrouk, F. Ndagijimana, N. Corrao, Ph. Benech, and A. Ghazel,
ISETCOM de Tunis, Tunisia
- P3 "An Investigation on the Modified Cold-FET Method for Determining the Gate Resistance and Inductance of the Packaged GaN and SiC Transistors"
Andrés Zárate-de Landa, J.E. Zúñiga-Juárez, J.A. Reynoso-Hernández, M.C. Maya-Sánchez, Juan Luis del Valle-Padilla, and José Raúl Loo-Yau, *CICESE, Mexico*
- P4 "Wireless Smart Temperature Sensor Using Pulse Width Modulation Method"
Wang-Hoon Lee, Jong Wan Kim, Hidekuni Takao, Kazuaki Sawada, Makoto Ishida
Toyohashi University of Technology, Japan
- P5 "Vector Measurement of Microwave Interferograms with Antenna Matrix"
Jan Zela, Karel Hoffmann and Premysl Hudec, *Czech Technical University, Prague*
- P6 "An Integrated Nonlinear Behavior Modeling System for RF Power Amplifiers/Transmitters"
Taijun Liu, Slim Boumaiza, Abu B. Sesay and Fadhel M. Ghannouchi,
University of Calgary, Canada