A Sampling of Subjects to be Presented:
- CubeSat-based Radiometer Systems from Millimeter-wave to Terahertz: Enabling Frequent Global Observations of the Earth’s Atmosphere, S. C. Reising, Colorado State University, Fort Collins, United States (Invited)
- Comparison of Noise-Parameter Measurement Strategies: Simulation Results for Amplifiers, J. Randa, NIST, Boulder, United States
- Novel Flexible Dielectric Waveguide for Millimeter and Sub-Millimeter Frequencies - Design and Characterization, H. Nickel, Spinner GmbH, Feldkirchen-Westerham, Germany
- Evaluating the Effect of Using Precision Alignment Dowels on Connection Repeatability of Waveguide Devices at Frequencies from 750 GHz to 1.1 THz, N. Ridler, National Physical Laboratory, Teddington, United Kingdom & University of Leeds, Leeds, United Kingdom
- Free-Field Measurements of Integrated Wireless Devices in Reverberation Chambers, K. Remley, NIST, Boulder, United States (Invited)
- On high frequency/mm-wave IMD measurements with small tone spacing, J. Martens, Anritsu, Morgan Hill, United States
- A test set-up for the analysis of multi-tone intermodulation in microwave devices, J. Teyssier, XLIM-cnrs, Brive la Gaillarde, France
- Adaptive Estimation of Complex Calibration Residual Errors of Wafer-Level S-Parameters Measurement System, A. A. Savin, Tomsk State University of Control Systems and Radioelectronics, Tomsk, Russian Federation
- Noncontact conductivity and dielectric measurement for high throughput roll-to-roll nanofabrication, N. Orloff, NIST, Boulder, United States (Invited)
- Study of reflection effect at fixture interfaces on permittivity measurements using the transmission/reflection method, Y. Kato, National Institute of Advanced Industrial Science and Technology, Tsukuba, Japan
- Free-space reconstruction of the electrical properties of carbon nanotube composites in the Q-band, A. M. Hassan, National Institute of Standards and Technology, Gaithersburg, United States
- A calibration procedure for electronic calibration units, J. Stenarson, SP Technical Research Institute of Sweden, Boras, Sweden
- Offset-Shorts Vector-Network-Analyzer Calibration with Simultaneous Modeling of Calibration Standards, A. Lewandowski, Warsaw University of Technology, Warsaw, Poland
- A Near-Field Scanning Microwave Microscope for measurement of the permittivity and loss of high-loss materials, A. P. Gregory, National Physical Laboratory, Teddington, United Kingdom
- Towards a NIST Microwave Brightness Standard for Remote Sensing, D. Houtz, National Institute of Standards and Technology, Boulder, United States

See www.arftg.org for a complete listing of presentations

84th ARFTG Microwave Measurement Symposium

The New Frontiers for Microwave Measurements

Boulder, Colorado
December 2nd to 5th, 2014

Conference Chair:
Ronald Ginley
NIST
rginley@boulder.nist.gov
+1-303-497-3634

Technical Program Chair:
Mitch Wallis
NIST
mwallis@boulder.nist.gov
+1-303-497-5089

Exhibits Chair:
Rusty Myers
Maury Microwave Corp.
rmyers@maurymw.com
+1-909-987-4715 X-245

Short Course and Workshops
Patrick Roblin
The Ohio State University
roblin@ece.osu.edu
+1-614-292-0998

NVNA Users Forum:
Joe Gering
jgering@rfmd.com
+1-336-678-7028
ARFTG will hold its 84th Microwave Measurement Symposium at the St. Julien Hotel in Boulder, CO. Join us as we explore The New Frontiers for Microwave Measurements. The Symposium includes the 84th Microwave Measurement Conference, a short course, an NVNA users’ forum and two workshops – “New Techniques and New Applications for Microwave Materials Measurements” and “High-Efficiency Microwave Power Amplifiers: Design and Characterization”. Register Early!

Location

The St. Julien Hotel and Spa - a fabulous way to stay in the heart of Boulder, Colorado. Here, world-class accommodations and service balance perfectly with the sensibility that made Boulder famous. Where nature meets nurture and simplicity meets style. The Hotel’s central location and stunning views of the Flatiron Mountains are just the beginning. The St. Julien is located within walking distance of more than 200 shops and 80 restaurants, just steps from the historic Pearl Street Mall, the beautiful University of Colorado campus, miles of hiking and biking paths and numerous entertainment options.

A special rate of $164.00 + taxes/night has been arranged!

Reserve your hotel room at the St. Julien by Nov. 11th to guarantee this never-again rate! Call the St. Julien and mention ARFTG (+1-877-303-0900) or go to www.arftg.org for a link to the hotel’s reservation system.

NIST/ARFTG Microwave Measurement Short Course

Join us in a practical microwave measurement tutorial, intended for engineers, graduate students, experienced technicians, or technical managers. Day 1 will start in the morning session with (1) power measurement, (2) network analyzer measurements, (3) oscilloscope measurements and (4) measurement uncertainty theory and will continue in the afternoon session with (5) connectorized, (6) verification and (7) on-wafer S-parameter measurements at millimeter frequencies and (8) noise measurements.

Day 2 (morning only) will focus on (9) large-signal RF measurements with VNAs, and “High Frontiers Microwave Power Amplifiers: Design and Characterization”. The Symposium brings together a variety of backgrounds to create a snapshot of the current state-of-the-art in microwave materials measurements.

Historically, the development of radio frequency devices and systems has required reliable, quantitative electromagnetic characterization of materials. Today, the demands of new applications are pushing state-of-the-art electromagnetic materials measurements to new frontiers. This workshop brings together speakers from a variety of backgrounds to create a snapshot of the current state-of-the-art in microwave materials measurements.

As wireless communication keeps expanding with the development of spectrum efficient wide bandwidth modulation schemes, new challenges are arising for the development of power-efficiency RF power amplifiers capable of handling high peak to average power ratio. This workshop will review new advanced techniques which have recently emerged for the design, nonlinear characterization and linearization of such power efficient and broadband RF power amplifiers.

Workshops

Join us in a practical microwave measurement tutorial, intended for engineers, graduate students, experienced technicians, or technical managers. Day 1 will start in the morning session with (1) power measurement, (2) network analyzer measurements, (3) oscilloscope measurements and (4) measurement uncertainty theory and will continue in the afternoon session with (5) connectorized, (6) verification and (7) on-wafer S-parameter measurements at millimeter frequencies and (8) noise measurements.

Day 2 (morning only) will focus on (9) large-signal RF measurements with VNAs, and “High Frontiers Microwave Power Amplifiers: Design and Characterization”. The Symposium brings together a variety of backgrounds to create a snapshot of the current state-of-the-art in microwave materials measurements.

Workshops

Historically, the development of radio frequency devices and systems has required reliable, quantitative electromagnetic characterization of materials. Today, the demands of new applications are pushing state-of-the-art electromagnetic materials measurements to new frontiers. This workshop brings together speakers from a variety of backgrounds to create a snapshot of the current state-of-the-art in microwave materials measurements.

As wireless communication keeps expanding with the development of spectrum efficient wide bandwidth modulation schemes, new challenges are arising for the development of power-efficiency RF power amplifiers capable of handling high peak to average power ratio. This workshop will review new advanced techniques which have recently emerged for the design, nonlinear characterization and linearization of such power efficient and broadband RF power amplifiers.

Special Awards Banquet

Entertainment !!!

Schedule of Events

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
<th>Time</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>NIST/ARFTG Microwave Measurement Short Course</td>
<td>Tuesday, Dec. 2nd</td>
<td>8:00 am – 5:00 pm</td>
<td>St. Julien Hotel</td>
</tr>
<tr>
<td>Materials Workshops</td>
<td>Wednesday, Dec. 3rd</td>
<td>8:00 am – noon</td>
<td>St. Julien Hotel</td>
</tr>
<tr>
<td>IEEE Standards WGs</td>
<td>Wednesday, Dec. 3rd</td>
<td>8:00 am – noon</td>
<td>St. Julien Hotel</td>
</tr>
<tr>
<td>NVNA Users’ Forum</td>
<td>Friday, Dec. 5th</td>
<td>8:00 am – noon</td>
<td>St. Julien Hotel</td>
</tr>
<tr>
<td>ARFTG Microwave Measurement Conference</td>
<td>Thursday, Dec. 4th</td>
<td>8:00 am – 5:00 pm</td>
<td>St. Julien Hotel</td>
</tr>
<tr>
<td>Reception and Awards Banquet</td>
<td>Thursday, Dec. 4th</td>
<td>Approx. 6:30 till 10 pm</td>
<td>St. Julien Hotel</td>
</tr>
<tr>
<td>High-Efficiency PA Workshop</td>
<td>Friday, Dec. 5th</td>
<td>1:20 pm – 5:00 pm</td>
<td>St. Julien Hotel</td>
</tr>
</tbody>
</table>

See www.arftg.org for details as changes may happen

Registration

Please see www.arftg.org for on-line registration

Registration: Before Nov. 16th After Nov. 16th

Symposium Package $605 $690
Includes conference, awards banquet, workshops and NVNA user’s forum

Complete Package $850 $940

Short Course only $450 $540

Workshop only $150 $240

Conference only $445 $545

NVNA Users Forum only Free Free

Guest Meal (per meal) $30 $30

Guest Awards Banquet $65 $65

Student/retiree/Life Member rates – please see www.arftg.org