

76th Conference Technical Agenda



76th ARFTG Microwave Measurement Symposium

Millimeter-wave Measurements and Modeling

Clearwater Beach, Florida

November 30th to December 3rd 2010

Traceability to National Standards for S-parameter Measurements in Waveguide at Frequencies from 140 GHz to 220 GHz, N. Ridler National Physical Laboratory

Complete Characterization of Rectangular Waveguide Measurement Standards for Vector Network Analyzer in the range of Millimeter and Sub-millimeter wave frequencies, M. Horibe National Institute of Advanced Industrial Science and Technology

Understanding the residual waveguide interface variations on millimeter wave calibration, Y. Lau OML Inc

Rectangular-Waveguide Vector-Network-Analyzer Calibrations With Imperfect Test Ports, D. F. Williams NIST

Modal Calibration of GSSG Probes, L. Hayden Cascade Microtech

Improving on-wafer measurements with membrane-technology-based calibration standards, U. Arz Physikalisch-Technische Bundesanstalt

Broadband Measurements of Nanofiber Devices: Repeatability and Random Error Analysis, T. M. Wallis National Institute of Standards and Technology

Through-Wafer Via Modeling Based on Direct RF Characterization, M. D. Brunsman Nitronex Corp

Calculation of Maximal Applicable Gain for the Generalized and the Direct Method for Extreme Impedances Measurement, M. Randus Czech Technical University in Prague

Noise Figure and S-Parameter Measurement Setups for On-Wafer Differential 60GHz Circuits, P. Sakian Eindhoven University of Technology

PCB Manufacturing Variation Impact on High Frequency Measurement Fixtures, E. M. Fledell Intel

Calibration Accuracy of a 625 GHz On-wafer Probe, T. J. Reck University of Virginia

A Process to Reduce Reproducibility Error in VNA Measurements, J. M. Peterson Intel

Characterization and Validation of Coaxial Open-circuit Primary Standards for Millimeter-wave Vector Network Analyzer Calibration, M. Horibe National Metrology Institute of Japan

Comparison of 1.85mm Line Reflect Line and Offset Short Calibration, J. P. Hoffmann METAS

An Improved Ring-Centered Waveguide Flange for Millimeter- and Submillimeter-Wave Applications, H. Li University of Virginia

Representing Bias-Network Baseband Characteristics when Simulating Intermodulation Distortion, C. Olsen IBM

A De-embedding Procedure Oriented to the Determination of FET Intrinsic I-V Characteristics from High-Frequency Large-Signal Measurements, G. Avolio K.U.Leuven

Load-Impedance Dependence of Self-Heating Effects in Nonlinear Transistor Measurement and Operation, C. P. Baylis Baylor University

Large-signal waveform acquisition of pulsed signals, K. Andersson Chalmers Technical University

Measurement of Micromachined Submillimeter Waveguide Circuits, X. Shang University of Birmingham Birmingham

Receiver Noise Calibration for a Vector Network Analyzer, N. Otegi University of the Basque Country

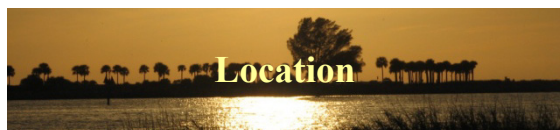
A New Accurate Shielded Coaxial Open as High Frequency Impedance Standard, H. Huang National Institute of Metrology

Multimode Characterization of Parallel Plate Waveguide, J. A. Higgins Portland State

Conference Chair: David Blackham Agilent Technologies dave_blackham@agilent.com +1-707-577-3174	Technical Program Chair: Jon Martens Anritsu Jon.martens@anritsu.com +1-408-201-1551	Exhibits Chair: Brett Grossman Intel brett.grossman@intel.com +1-971-214-5107
Short Course Dominique Schreurs K.U.Leuven Div. ESAT-TELEMIC dominique.schreurs@ieee.org	Workshops: Jean-PierreTeyssier teyssier@brive.unilim.fr	 



ARFTG will hold its 76th Microwave Measurement Symposium at the Clearwater Beach Marriott Suites on Sand Key in Clearwater Beach, FL. Join us as we explore **Millimeter-wave Measurements and Modeling** as well as other microwave measurement techniques. The Symposium includes the 76th Microwave Measurement Conference, a short course, a users' forum, a Millimeter-wave and Submillimeter-wave workshop, and a Nonlinear measurements workshop. Register Early!



The Clearwater Beach Marriott Suites on Sand Key is Florida's only all-suite Marriott hotel. Offering a special resort experience with suite accommodations overlooking Clearwater Bay, this Marriott is a casually-elegant destination.

Marriott Suites Clearwater Beach on Sand Key
1201 Gulf Boulevard
Clearwater Beach, Florida 33767
Phone: +1-727-596-1100, Fax +1 727-595-4292

Reserve your hotel room at the Marriott before Nov. 8th to guarantee your lodging. Call 1-888-303-4428 and mention ARFTG to qualify for the special conference rate of \$139+tax per night.

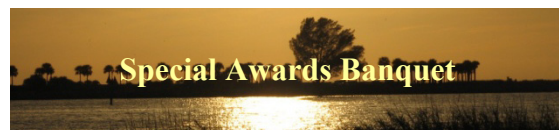


Join us in a practical microwave measurement tutorial with special emphasis on millimeter and sub-millimeter wave measurements. It is intended for engineers, graduate students, experienced technicians, or technical managers. Topics include connectorized and on-wafer S-parameter measurement, measurement verification, measurement uncertainty, noise measurement, VNA measurement misconceptions, power measurements, nonlinear measurements, and oscilloscope measurements. **Space is limited; please register early!**

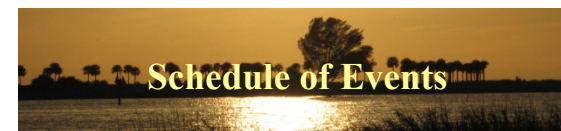
Scheduled Instructors: Jon Martens – Anritsu, Ron Ginley – NIST, Dylan Williams – NIST, Nick Ridler – NPL, Uwe Arz – PTB, Larry Dunleavy – University of South Florida, Dave Blackham – Agilent, Tom Crowley – NIST, Dominique Schreurs – K. U. Leuven, and Paul Hale - NIST



Many instruments used in nonlinear measurement are based on RF samplers, including oscilloscopes, LSNAs/MTAs, some VNAs and spectrum analyzers. We will discuss the advantages and weaknesses of high-frequency sampling compared to traditional RF mixing for measurements, especially in the case of large signals. Millimeter-wave is a growing area with its own set of measurement challenges. The workshop will focus on techniques for making millimeter wave measurements and modeling.



We will have a drop in session where students will be able to have an informal poster session with ARFTG members before the awards dinner.



NIST/ARFTG Measurement Short Course	Tuesday Nov 30th 8:00 am - 5:00 pm
	Wednesday Dec 1st 8:00 am - noon
Millimeter and Submillimeter Workshop	Wednesday Dec 1st 1:00 pm - 5:00 pm
NVNA Users' Forum	Wednesday Dec 1st 5:00 pm - 7:00 pm
ARFTG Microwave Measurement Conference	Thursday Dec 2nd 8:00 am - 5:00 pm
	Friday Dec 3rd 8:00 am - noon
Awards Banquet	Thursday Dec 2nd 6:00 pm
Nonlinear Workshop	Friday Dec 3rd 1:00 pm - 5:00 pm



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

Registration:	Before Nov. 14 th	After Nov. 14 th
Symposium Package	\$610	\$655
	Includes conference, awards banquet, workshops and NVNA user's forum	
Complete Package	\$910	\$970
	Symposium package plus short course (all events)	
Short Course only	\$450	\$485
Single Workshop	\$150	\$165
Conference only	\$445	\$485
NVNA Users Forum only	\$15	\$20
Guest Meal (per meal)	\$25	\$25
Guest Awards Banquet	\$65	\$65
Student/retiree rates – please see www.arftg.org		