ARFTG 71st Conference - Technical Sessions

Session 1
50 years of VNAs
08:00–09:40
Chair: Nick Ridler

Network Analyzers – 50 Years On
(Keynote – invited)
D K Rytting
Rytting Consulting, Santa Rosa, CA, USA

Network Analyzer Calibrations – Yesterday, Today and Tomorrow
K Wong
Agilent Technologies, Santa Rosa, CA, USA

Using Uncertain Complex Numbers with VNA Measurements
B D Hall
Measurement Standards Laboratory of New Zealand, New Zealand

Session 2
VNA calibration
10:20–12:00
Chair: Dave Blackham

Monte-Carlo Analysis of Measurement Uncertainties for On-Wafer Thru-Reflect-Line Calibrations
J Leinhos[1,2] and U Arz[2]
[1]*Leibniz Universität Hannover, Germany*; [2]*Physikalisch-Technischen Bundesanstalt (PTB), Germany*

A Mixed-Mode TRL Algorithm Based on Symmetrical Reflection Standards
W Liang[1] and L Quanli[2]
[1]*Beijing University of Aeronautics and Astronautics, Beijing, China;* [2]*Agilent Technologies, Beijing, China*

Accurate Broadband RLCG-Parameter Extraction with TRL Calibration
M Wojnowski[1], M Engl[1], V Issakov[1], G Sommer[1] and R Weigel[2]
[1]*Infineon Technologies AG, Neubiberg, Germany;* [2]*University of Erlangen-Nuremberg, Germany*

Over-Determined Offset Short Calibration of a VNA
J P Hoffmann, P Leuchtmann and R Vahldieck
ETH Zurich, Zurich, Switzerland

Session 3
Passive components
13:30–14:45
Chair: Andrea Ferrero

A New Method for Determining the Characteristic Impedance Z_c of Transmission Lines Embedded in Symmetrical Transitions
J E Zúñiga-Juárez, J A Reynoso-Hernández and A Zárate-de Landa
CICESE, Ensenada, B C México

Analysis and Design of Coupled Coplanar Stripline Balun Probe for Differential Circuit Measurements
J S Kim[1], W R Eisenstadt[1], M Andrew[2] and P Hanaway[2]
[1]*University of Florida, FL, USA;* [2]*Cascade Microtech Inc, Beaverton, OR, USA*

Comparison of a Single Channel and a Dual Channel Microwave Attenuation Measurement System
T Y Wu and S W Chua
National Metrology Centre, Singapore

Session 4
Active devices
15:15–16:40
Chair: Ed Godshalk

Phase Shift De-Skew of Oscilloscope Current and Voltage Sensing Probes by Means of Energy Balance
P Molina-Gaudó and C Bernal
University of Zaragoza, Zaragoza, Spain

Characterization of Active Harmonic Phase Standard with Improved Characteristics for Nonlinear Vector Network Analyzer Calibration
D Gunyan and Y-P Teoh
Agilent Technologies, Santa Rosa, CA, USA

An Extension of Existing Real-Time On-wafer Load Pull Systems to Perform Time Domain Voltage/Current Waveform Reconstruction
I Volokhine
NXP-TSMC Research Center, Eindhoven, The Netherlands

ARFTG Interactive Forum
09:40–10:20 and 14:45–15:15
Chair: Chris Ward

An advanced Full Path Loop-Back Testing Technique for Embedded RF Indentification (RFID) System-on-a-Chip (SoC) Applications
B Kim, I-C Park, D Yoo, J Koo, I Kim, B-W Choi, Y Bae and B-Y Kim
Samsung Electronics Co Ltd, Gyeonggi-Do, South Korea

Measurement Uncertainty of Direct Power Measurement Using the Pulse Sensor MA2411B
Y-S (B) Lee
Anritsu Corporation, Morgan Hill, CA, USA

Characterization of Carbon Nanotube Field Effect Transistors using an Active Load Pull LSNA setup
C Gaquière[1], A Curutchet[2], D Théron[1], M Werquin[3], D Ducatteau[1], J M Bethoux[1], H Happy[1], G Dambrine[1] and V Derycke[4]
[1]*IEMN, France;* [2]*IMS, France;* [3]*Microwave Characterization Center, France;* [4]*CEA – Saclay, France*

High-Power On-Wafer Capabilities of a Time Domain Load-pull Setup
F De Groote[1], J-P Teyssier[1,2], J Verspecht[1] and J Faraj[2]
[1]*Verspecht-Teyssier-DeGroote SAS, Brive, France;* [2]*Limoges University, Brive, France*

Verification of Wafer-Level Calibration Accuracy at High Temperatures
A Rumiantsev[1] and R Doerner[2]
[1]*SUSS MicroTec Test Systems GmbH, Sacka, Germany;* [2]*Ferdinand-Braun-Institut fuer Hoechstfrequenztechnik (FBH), Berlin, Germany*

A Proposed VNA Calibration Requirement for Chinese Government
L Xinmeng and H Hui
National Institute of Metrology Beijing, China

A Load-Pull Wafer-Mapper
F Vanaverbeke, K Vaesen, D Xiao, L Pauwels, W De Raedt, M Germain, S Degroote, J Das, J Derluyn and D Schreurs
IMEC vzw, Kapeldreef, Belgium

Quantitative Understanding of the Mated Interface Characteristics of Precision Coaxial Connectors at Microwave and Millimeter-Wave Frequencies
M Horibe, M Shida and K Komiyama
National Metrology Institute of Japan, Japan

On-Chip Cancellation of Parasitic Effects for Dielectric Permittivity Measurement
C Song and P Wang
Clemson University, SC, USA

A Method for Automatic Tuner Verification
E M Johnson
Freescale Semiconductor, Tempe, AZ, USA