Workshops

Workshop 5—High-Frequency Interconnections

Date: Friday, June 16, 1989, 8:30 a.m. to 5:00 p.m.

Location: Hyatt Regency—Regency Room D, E, F

Sponsor: MTT-15 Microwave Field Theory

Organizers: Michael Steer, North Carolina State University
Jim Mink, U. S. Army Research Office

Speakers: Nick Alexopolous
Jim Mink
Tatsuo Itoh
Tapan Sarkar
Michael Steer
Rolf Jansen

Abstract:

The evolution of MMIC devices requires highly accurate CAD techniques for their design. Yet, at this time, the understanding and efficient modeling of interconnections remains a major stumbling block. The emphasis of this workshop will be: upon the CAD modeling and understanding of interconnections between arbitrarily orientated MMIC (and other planar) lines; radiation from discontinuities and coupling to radiating elements; three-dimensional structures; and device/field interaction.

The morning session will be devoted to material, broad in scope, presented by selected speakers. The afternoon session will be open to presentations (limited to three viewgraphs) by workshop registrants. Those planning to participate should contact Michael Steer.

Workshops

Workshop 6—Microwave and Millimeter-Wave Synthesizers

Date: Friday, June 16, 1989, 8:30 a.m. to 5:00 p.m.

Location: Hyatt Regency—Regency Room B, C

Sponsor: MTT-6 Microwave and Millimeter-Wave Integrated Circuits Technical Committee

Organizers: Hiroyo Ogawa, NTT Network Systems Development Center
Derry Hornbuckle, Hewlett Packard

Speakers: Rolf Dalichow, Hewlett Packard
Robert Bayruns, Anadigics, Inc.
Eiji Nagata, NEC Microwave and Satellite Communications Division
David Williams, Marconi Electronic Devices
Dr. Takashi Ohira, NTT Communication Satellite Technology Laboratory
Ulrich Rohde, Compact Software Inc.
Shigeki Saito, NTT Radio Systems Technology Laboratory

Abstract:

Recent progress in microwave and millimeter-wave synthesizer design has resulted in lower phase noise, faster switching, and other performance enhancements; for the future, MMIC's promise further improvements in capability and cost. This workshop will review synthesizer design alternatives at the block diagram level, before focusing on component-level contributions, particularly potential applications of MMIC's to synthesizers. Communication system requirements for low power, narrow channel spacing, light weight, and extremely high reliability will be considered. Meeting measurement equipment needs for broad bandwidth and low phase noise will also be discussed, along with emerging techniques for very fast switching. The final two hours of the workshop will be organized as a panel discussion of MMIC applicability to synthesizers. The panel is intended to provide a forum for bringing up issues between component manufacturers, both in the audience and among the speakers, on the one hand, and communication/radar/instrument synthesizer manufacturers, on the other.

Workshops

Workshop 7—MMIC Package Standards and Progress in Packaging

Date: Friday, June 16, 1989, 8:30 a.m. to 5:00 p.m.

Location: Hyatt Regency—Regency Room A

Sponsor: MTT-12 Microwave and Millimeter-Wave Packaging

Organizers: Bert Berson, Berson & Associates
Fred Rosenbaum, Washington University
Doug Maki, M/A-COM, Inc.

Abstract:

The demand is increasing for affordable, high-performance packaging techniques for microwave and millimeter-wave components. To achieve breakthroughs in this area will require advances in modeling, materials, manufacture and test of packages. This workshop is intended to address these issues as they relate to discrete devices, monolithic and hybrid circuits, and systems. The morning will be devoted to reports and discussion on packaging standards by the participants and representatives of the packaging industry, the user community, and the government. Papers and open discussion on advances in packaging will be presented in the afternoon. Short presentations are welcomed from workshop participants. Please contact Bert Berson if you wish to be included in the program.

AM: PACKAGING STANDARDS
Electrical
Mechanical
Test

PM: PROGRESS IN PACKAGING

"System Implications of MMIC Packaging"
Richard Sparks, Consulting Engineer, Raytheon

"Low Cost MMIC Package Concepts"
Erwin Belohoubek, SRI David Sarnoff Research Center

"Advances in High Speed Packages"
Gary Holz, Holz Industries

"Package Cost Modeling"
Bert Berson, Berson and Associates

"Modeling for Package Design"
Fred Rosenbaum, Electronic Packaging Research Center, Washington University

"Lightwave Systems: The Microwave Limitation"
Jan Lipson, AT&T Bell Package Laboratories