1995 International Microwave Symposium

Panel Sessions

(Convention Center/12:00 noon–1:30 pm)

Number	Date/(Room)	Title
PMOA	Monday, May 15, 1995 (Room 12A/B)	Cost Effective MMICs for WLANs: Fact or Fantasy
PTUB	Tuesday, May 16, 1995 (Room 20D)	PHEMTs vs HBTs for Power Amplifiers
PTUC	Tuesday, May 16, 1995 (Room 20E/F/G)	Spectrum Management for Commercial Applications
PWED	Wednesday, May 17, 1995 (Room 20E/F/G)	Microwave Flip Chip Technology

1995 International Microwave Symposium

Rump Session

(Clarion Plaza, Ballroom C/7:00 pm–9:00 pm)

RTUA	Tuesday, May 16, 1995 (Ballroom C)	Microwave Curriculum: What Should We Teach About Microwave Design

Panel Session

PMOA: Cost Effective MMICs for WLANs: Fact or Fantasy???

Date:	Monday, May 15, 1995
Time:	12:00 pm–1:30 pm
Location:	Convention Center, Room 12A,B
Sponsors:	MTT-6 Microwave and Millimeter-Wave Integrated Circuits 1995 MMWMC Symposium TPC
Organizers:	Fazal Ali, Westinghouse Mike Golio, Motorola Doug Maki, Raytheon
Moderators:	Fazal Ali Mike Golio
Panelists:	Fred Bonn, Motorola Finbarr McGarth, M/A-COM David Smith, GEC-Marconi Doug Maki, Raytheon Steve Ludvic, Teledyne Paul Litzenberg, Triquint Juan Grau, Proxim

Abstract:

The Federal Communication Commission (FCC) has approved nonlicensed wireless local area network (WLAN) usage of the 902 to 928 MHz, 2400 to 2483 MHz and 5725 to 5875 MHz frequency bands designated for industrial, scientific and medical (ISM) applications. Several companies have since been involved in the development of MMIC chip-set for WLAN applications. This panel discussion will focus on the cost-effective manufacturing of these ICs and their compliance (if any?) to the ever-evolving IEEE 802.11 standard. Speakers will also share their experiences in using these ICs in real (virtual?) systems.

Panel Session

PTUB: PHEMTs vs HBTs for Power Amplifiers

Date:	Tuesday, May 16, 1995
Time:	12 noon–1:30 pm
Location:	Convention Center, Room 20D
Sponsor:	MTT-6 Microwave and Millimeter-Wave Integrated Circuits
Organizers:	Edward C. Niehenke, Westinghouse Electric Corp. Frank Sullivan, Raytheon Company
Moderator:	Edward C. Niehenke, Westinghouse Electric Corp.
Panelists:	Gailon Brehm, Texas Instruments Inc. Bert Hewitt, Westinghouse Electric Corp. Charles F. Krumm, Hughes Aircraft Steven LeSage, Raytheon Company Aaron Oki, TRW Phil Smith, Martin Marietta

Abstract:

Rapid advances in both RHEMT and HBT device technologies have produced super low noise and efficient power amplifiers for wireless communication, radar and EW systems. Both PHEMT and HBT devices have been used to produce high efficiency power amplifiers. PHEMTs have also found a nitch for low level, low noise applications extending through W-band. A key issue is how far each process can be extended to incorporate multifunction performance on a single chip. In this panel session, industry experts will present recent efficient power amplifier results, and their views on the advantages and disadvantages of each technology. Performance, producibility, circuit design aspects, reliability and cost will be reviewed.

Panel Session

PTUC: Spectrum Management Issues for Commercial Applications

Date:	Tuesday, May 16, 1995
Time:	12:00 noon–1:30 pm
Location:	Convention Center, Room 20 E,F,G
Sponsor:	MTT-16 Microwave Systems
Organizer & Moderator:	Michael Marcus, FCC
Panelists:	Henry Goldberg, Esq., Goldberg Goldes Wiener & Wright Benn Kobb, New Signals Research Paul Fox, Telecommunications Directions Michael Violette, Washington Laboratories Ltd. Ray Hammonds, Washington Laboratories Ltd.

Abstract:

Now that the Cold War is ended, traditional customers may not be buying as much as they did previously. The civil market may suddenly start looking like a much more attractive outlet for microwave technology than it was in the past. However, it is no longer as simple as responding to RFPs or sending out unsolicited proposals. This panel session shows microwave engineers the reality of civil spectrum management and how they affect commercial markets. While FCC rules can be just as real for the designer as Maxwell's equation in the short term, engineers also need to know that they are not as immutable and how changes are made. Personal experiences are shared. Present rules and methods to change rules are discussed. Procedures to verify that an equipment design meets applicable rules are also described.

Rump Session

RTUA: Microwaves Curriculum: What Should the Universities Teach About Microwave Design

Date:	Tuesday, May 16, 1995
Time:	7:00 pm to 9:00 pm
Location:	Clarion Ballroom C
Sponsor:	MTT-7 Microwave and Millimeter-Wave Solid State Devices
Organizer:	Madhu S. Gupta, Hughes Aircraft Co.
Panelists:	Bruce Donecker, Hewlett-Packard K.C. Gupta, University of Colorado, Boulder Robert Trew, Case Western Reserve University Ingo Wolff, University of Duisburg, Germany John Bandler, Macmaster University

Abstract:

As the computer-aided design (CAD) techniques have become almost the only viable design methods in microwave practice, and the university curricula are trying to catch up to this change in paradigm, it has become important to ask what the universities should teach about microwave design. It must be decided whether emphasis should be on the older analytical design techniques that yield general answers, clearly show the influence of each parameter and that do not impose the additional burden of acquiring the hardware and software tools and developing proficiency in their use, or should the emphasis of microwave engineering be on teaching CAD methods that work on realistic problems without excessive idealization, and do not get bogged down in algebraic manipulations and simplifications. An approach to microwave CAD technique education, which includes a solid foundation in basics and principles have a long shelf-life, as well as training in the use of particular design software packages that are continually being outdated as new releases and CAD tools become available, must be developed. This panel session will provide the opportunity to hear the views of the panelists, as well as brief comments or statements of experience from the attendees.