

IEEE TRANSACTIONS ON MICROWAVE THEORY AND TECHNIQUES

A PUBLICATION OF THE IEEE MICROWAVE THEORY AND TECHNIQUES SOCIETY



MARCH 2003

VOLUME 51

NUMBER 3

IETMAB

(ISSN 0018-9480)

PAPERS

Bias Dependence of High-Frequency Noise in Heterojunction Bipolar Transistors	677
..... <i>M. M. Jahan, K.-W. Liu, and A. F. M. Anwar</i>	
Spatial Power Amplifier Using a Passive and Active TEM Waveguide Concept	684
..... <i>M. Belaid and K. Wu</i>	
Extension of the Leeson Formula to Phase Noise Calculation in Transistor Oscillators With Complex Tanks	690
..... <i>J.-C. Nallatamby, M. Prigent, M. Camiade, and J. J. Obregon</i>	
An Unconditionally Stable Scheme for the Finite-Difference Time-Domain Method	697
..... <i>Y.-S. Chung, T. K. Sarkar, B. H. Jung, and M. Salazar-Palma</i>	
Real-Time Spectrum Analysis in Microstrip Technology	705
..... <i>M. A. G. Laso, T. Lopetegi, M. J. Erro, D. Benito, M. J. Garde, M. A. Muriel, M. Sorolla, and M. Guglielmi</i>	
3-D FE Discontinuous Sheet for Microwave Heating	718
..... <i>R. A. Ehlers and A. C. R. Metaxas</i>	
Complex Permittivity Measurements of Common Plastics Over Variable Temperatures	727
..... <i>B. Riddle, J. Baker-Jarvis, and J. Krupka</i>	
Narrow Bandpass Filters Using Dual-Behavior Resonators	734
..... <i>C. Quendo, E. Rius, and C. Person</i>	
Electrodynamics Theory of Multiport Structures Using Magnetostatic Waves in Ferrite Films and Its Applications	744
..... <i>S. V. Zagriadski, J. Choi, and H. Kim</i>	
Ceramic Synthetic Substrates Using Solid Freeform Fabrication	752
..... <i>W. J. Chappell, C. Reilly, J. Halloran, and L. P. B. Katehi</i>	
Propagation of EM Waves in Composite Bianisotropic Cylindrical Structures	761
..... <i>I. O. Vardiambasis, J. L. Tsalamengas, and K. Kostogiannis</i>	
A Mathematical Characterization and Analysis of a Feedforward Circuit for CDMA Applications	767
..... <i>A. H. Coskun and S. Demir</i>	
A Compact and Low-Phase-Noise K_a -Band pHEMT-Based VCO	778
..... <i>B. Piernas, K. Nishikawa, T. Nakagawa, and K. Araki</i>	
Wide- and Narrow-Band Bandpass Coplanar Filters in the W -Frequency Band	784
..... <i>E. Rius, G. Prigent, H. Happy, G. Dambrine, S. Boret, and A. Cappy</i>	
High- T_c Superconducting Planar Filter With Pseudo-Chebyshev Characteristic	792
..... <i>M. S. Gashinova, M. N. Goubina, G. Zhang, I. A. Kolmakov, Y. A. Kolmakov, and I. B. Vendik</i>	
4H-Silicon Carbide Schottky Barrier Diodes for Microwave Applications	796
..... <i>J. Eriksson, N. Rorsman, and H. Zirath</i>	
High-Performance V -Band Cascode HEMT Mixer and Downconverter Module	805
..... <i>J. Kim, M.-S. Jeon, D. Kim, J. Jeong, and Y. Kwon</i>	
A Three-Dimensional Angle-Optimized Finite-Difference Time-Domain Algorithm	811
..... <i>S. Wang and F. L. Teixeira</i>	

(Contents Continued on Back Cover)



Analysis of a Large Number of Vias and Differential Signaling in Multilayered Structures	818
Physical/Electromagnetic pHEMT Modeling	830
A Systematic and Topologically Stable Conformal Finite-Difference Time-Domain Algorithm for Modeling Curved Dielectric Interfaces in Three Dimensions	839
Finite-Element Method Coupled With Method of Lines for the Analysis of Planar or Quasi-Planar Transmission Lines	848
A Generalized Higher Order Finite-Difference Time-Domain Method and Its Application in Guided-Wave Problems	856
Estimation of Q -Factors and Resonant Frequencies	862
Modeling of the Influence of Parasitic Coupling Between a Component and Its Feeding Line on Scattering Parameters	869
Full-Wave Analysis of Multiconductor Multislot Planar Guiding Structures in Layered Media	874
Experimental Feasibility Study of Confocal Microwave Imaging for Breast Tumor Detection	887
A New Hybrid Multibias Analytical/Decomposition-Based FET Parameter Extraction Algorithm With Intelligent Bias Point Selection	893
Full-Wave Analysis of the Excitation of Magnetostatic-Surface Waves by a Semi-Infinite Microstrip Transducer—Theory and Experiment	903
Impedance Matching for the Multilayer Medium—Toward a Design Methodology	908
Microstrip Conductor Loss Models for Electromagnetic Analysis	915
Closed-Form Eigenfrequencies in Prolate Spheroidal Conducting Cavity	922
A Broad-Band Adaptive-Frequency-Sampling Approach for Microwave-Circuit EM Simulation Exploiting Stoer–Bulirsch Algorithm	928
Human Exposure to the Near Field of Radiobase Antennas—A Full-Wave Solution Using Parallel FDTD	935
Characterization and Design of Two-Dimensional Electromagnetic Band-Gap Structures by Use of a Full-Wave Method for Diffraction Gratings	941
Synchronization Design of a Coupled Phase-Locked Loop	952
How to Calibrate Through Balun Transformers to Accurately Measure Balanced Systems	961
Comparison and Evaluation of Electromagnetic Absorption Characteristics in Realistic Human Head Models of Adult and Children for 900-MHz Mobile Telephones	966
Linearity Analysis of CMOS for RF Application	972
Accurate and Direct Characterization of High- Q Microwave Resonators Using One-Port Measurement	978
A Fully Matched N -Way Doherty Amplifier With Optimized Linearity	986
Broad-Band Coaxial Directional Couplers for High-Power Applications	994
Scattering in Junction by Posts Consisting of a Segment of Conducting Cylinder	998
Accurate Solution of Periodic Microstrips for Digital Applications	1003
Analysis and Design of Miniaturized Lumped-Distributed Impedance-Transforming Baluns	1009
An Algorithm for Interpolating the Frequency Variations of Method-of-Moments Matrices Arising in the Analysis of Planar Microstrip Structures	1018
Higher Order Hierarchical Curved Hexahedral Vector Finite Elements for Electromagnetic Modeling	1026
Analysis and Design of Cavity-Coupled Microstrip Couplers and Transitions	1034
Effect of Baseband Impedance on FET Intermodulation	1045
Small-Signal and Power Evaluation of Novel BiCMOS-Compatible Short-Channel LDMOS Technology	1052
Information for Authors	1057
ANNOUNCEMENTS	
IEEE MTT-S Undergraduate/Pre-Graduate Scholarships	1058