

2007 European Microwave Conference

**Munich, Germany
9-12 October 2007**

Pages 1-437

IEEE Catalog Number:	CFP07455-PRT
ISBN 10:	2-87487-001-3
ISBN 13:	978-2-87487-001-9

Table of Contents

Ferromagnetic Material with Negative Permeability for Tunable Left-Handed Devices	1
<i>J. Spiegel, L. Piraux, Isabelle Huynen</i>	
A Nanoparticle-Based Ferromagnetic Dielectric Fe/Co Composite for RF Integrated Inductors	5
<i>Damien Venturin, Celine Desvaux, Philippe Renaud, Bruno Chaudret, Thierry Parra</i>	
Electromagnetic Properties of Nickel-Zinc and Manganese-Zinc Ferrite Doped Opal Matrices in Millimeter Waveband.....	9
<i>A.B. Rinkevich, V.V. Ustinov, M.I. Samoylovich, S.M. Klesheva, E.A. Kuznetsov</i>	
Microwave Switching Functions Using Reversible Metal-Insulator Transition (MIT) in VO₂ Thin Films	12
<i>Aurelian Crunteanu, Frederic Dumas-Bouchiat, Corinne Champeaux, Alain Catherinot, Arnaud Pothier, Pierre Blondy</i>	
Carbon Nanotubes-Based Microwave and Millimeter Wave Sensors	16
<i>M. Dragoman, A. Muller, D. Neculoiu, George Konstantinidis, K. Grenier, D. Dubuc, L. Bary, Robert Plana, H. Hartmagel, E. Fourn, E. Flahaut</i>	
Design of Post-Wall Waveguides with Metal and Dielectric Posts	20
<i>T.J. Coenen, Dave J. Bekers, J.L. Tauritz, F.E. van Vliet</i>	
Eigenoscillations of Plane Junctions and Total Transmission Through Small Holes	24
<i>Nataliya G. Don, Anatoliy A. Kirilenko</i>	
Improvement in the Wave Concept Iterative Procedure Through Spectral Connection.....	28
<i>N. Raveu, O. Pigaglio, G. Prigent, H. Baudrand</i>	
Spherical Modal Expansion for Arrays of Flange-Mounted Rectangular Waveguides	32
<i>Mauro Mongiardo, Peter Russer, Roberto Sorrentino, Cristiano Tomassoni</i>	
A Transmission Line Matrix-Schroedinger Equation Technique for the Full-Wave Analysis of Carbon Nanotubes: Near Field Characterization.....	36
<i>Luca Pierantoni, Davide Mencarelli, Tullio Rozzi</i>	
Co-Channel and Adjacent Channel Distortion in Microwave Amplifiers Presenting Memory	40
<i>Joao Paulo Martins, Nuno Borges Carvalho</i>	
New Wide Band Advanced Predistortion Lineariser for Space Applications	44
<i>Jean-Francois Villemazet, Michel Perrel, David Brousse, Jean Maynard, Jean-Louis Cazaux</i>	
Investigation of Electrical Base-Band Memory Effects in High-Power 20W LDMOS Power Amplifiers.....	48
<i>Abdulrahman Alghanim, Jonathan Lees, Tudor Williams, Johannes Benedikt, Paul J. Tasker</i>	
A RF Predistorter Using a Delay Mismatch for an Additional IM₃ Path	52
<i>Gun-Hyun Ahn, Sung-Chan Jung, Sung-Wook Kwon, Kyung-Hoon Lim, Jong-Hyuk Jeong, Juho Van, Min-Su Kim, Hyun-Chul Park, Cheon-Seok Park, Sung-Kil Park, Jung-Hye Kim, Youngoo Yang</i>	
RF Experimental Implementation of LINC Technique	56
<i>Paolo Colantonio, Franco Giannini, Massimiliano Rossi</i>	
A Comparative Study of Different Microstrip Planar Bandpass Filters Topologies in an Industrial Context.....	60
<i>Pascal Moroni, Cecile Debarge, Chloe Schaffauser, Jean-Louis Cazaux, Cedric Quendo, Eric Rius</i>	
An LTCC-Based Diplexer for Dual Frequency WLAN Applications	63
<i>Luca Pergola, Rudiger Vahldieck</i>	
Spurious Removal in Satellite Output Multiplexer Power Filters.....	67
<i>I. Arnedo, J. Gil, N. Ortiz, T. Lopetegi, M.A.G. Laso, Manfred Thumm, M. Sorolla, D. Schmitt, M. Guglielmi</i>	
Design of Compact Extended-Stopband Microstrip Low-Pass Filters by Employing New Mutual-Coupling Technique for Defected Ground Structures (DGSs).....	71
<i>A. Boutejdar, M. Makkey, A. Elsherbini, O. Luxor, Abbas Omar</i>	

Table of Contents

Narrow Bandpass Filter Based on the Modified DGS.....	75
<i>Marwa Abdelaziz, Amr M.E. Safwat, Florence Podevin, Anne Vilcot</i>	
Reverberation Chamber for Accurate Antenna Measurements Within 2--30 GHz	79
<i>Paul Hallbjorner, Shi Cheng, Anders Rydberg</i>	
Millimeter-Wave Antenna Measurement	83
<i>J.A.G. Akkermans, Raymond van Dijk, M.H.A.J. Herben</i>	
A Novel Planar Cylindrical Waveguide-to-Planar Transition for Transceivers at 2.45 GHz ISM-Band.....	87
<i>E.B. Kaldjob, M. Gamal El Din, Bernd Geck, Hermann Eul</i>	
Development of an Isotropic Sensor 2GHz -- 6GHz	91
<i>F. Gallee, S. Chainon, H. Lattard, E. Goron, Y. Toutain</i>	
Time-Domain Three Antenna Method for Evaluation of Antenna Factors of Log-Periodic Antenna.....	94
<i>Satoru Kurokawa, Masanobu Hirose, Koji Komiyama</i>	
A Comparison of Tunable Ferroelectric (Pi) and T-Matching Networks.....	98
<i>Matthias Schmidt, Errikos Lourandakis, Anton Leidl, Stefan Seitz, Robert Weigel</i>	
Reconfigurable Circuits for Wireless Applications Using KTN Ferroelectrics.....	102
<i>Vincent Laur, Arnaud Moussavou, Gerard Tanne, Paul Laurent, Valerie Bouquet, Stephanie Deputier, Maryline Guilloux-Viry, Fabrice Huret</i>	
Investigations on the Behavior of Ferroelectric Liquid Crystals at Microwave Frequencies.....	106
<i>Felix Goelden, Artiom Lapanik, Stefan Mueller, Alexander Gaebler, Wolfgang Haase, Rolf Jakoby</i>	
Tunable Bandstop Filters Using BST Varactor Chips	110
<i>Young-Hoon Chun, Jia-Sheng Hong, Peng Bao, Timothy J. Jackson, Michael J. Lancaster</i>	
Coating of Planar Barium-Strontium-Titanate Thick-Film Varactors to Increase Tunability	114
<i>A. Giere, Y. Zheng, H. Gieser, K. Marquardt, H. Wolf, P. Scheele, Rolf Jakoby</i>	
Advanced Hybrid Packaged Piezoelectric Actuated MEMS-Based Tunable Voltage Controlled Oscillator.....	118
<i>Mahmoud Al-Ahmad, Christophe Loyez, Nathalie Rolland, Robert Plana, Paul-Alain Rolland</i>	
Novel RF-MEMS Widely-Reconfigurable Directional Coupler	122
<i>A. Ocera, P. Farinelli, P. Mezzanotte, Roberto Sorrentino, B. Margesin, F. Giacomozzi</i>	
New Topologies of Tunable Bandstop MEMS Filters for Millimeter Wave Applications	126
<i>A. Takacs, D. Neculoiu, D. Vasilache, A. Muller, P. Pons, L. Bary, P. Calmon, Robert Plana, H. Aubert</i>	
C-Ku Band Reflection-Type RF-MEMS Tunable BPF	130
<i>Tamotsu Nishino, Sang-Seok Lee, Hiromoto Inoue, Yukihisa Yoshida, Yusuke Kitsukawa, Moriyasu Miyazaki</i>	
Design and Optimization of Coax-to-Microstrip Transition and Through-Hole Signal Via on Multilayer Printed Circuit Boards	134
<i>Jayesh Nath, Shruthi Soora</i>	
Millimeter-Wave Wideband Transition from CPW to Substrate Integrated Waveguide on Electrically Thick High-Permittivity Substrates	138
<i>Andreas Patrovsky, Maxime Daigle, Ke Wu</i>	
On the Equivalence Between Cylindrical and Rectangular Via-Holes in Electromagnetic Modeling	142
<i>Michael Buchta, Wolfgang Heinrich</i>	
Feeding Structures for Packaged Multifinger Power Transistors.....	146
<i>B. Breitzkreutz, F.J. Schmucke, Wolfgang Heinrich</i>	
Assessment of Influence of Interconnect Parasitics on RF Performance of Multi-Finger SiGe Power HBTs	150
<i>Ningyue Jiang, Zhenqiang Ma, Pingxi Ma, Marco Racanelli</i>	
Solving Maxwell-Schrodinger Equations for Analyses of Nano-Scale Devices	154
<i>Jing Yang, Wenquan Sui</i>	

Table of Contents

Frequency-Domain Finite-Volume Simulations.....	158
<i>Klaus Krohne, Dirk Baumann, Christophe Fumeaux, Er-Ping Li, Rudiger Vahldieck</i>	
Convergence Properties of the MoM/BI-RME Method in the Modeling of Frequency Selective Surfaces.....	162
<i>Maria Montagna, Maurizio Bozzi, Luca Perregrini</i>	
Solutions of Large Integral-Equation Problems with Preconditioned MLFMA.....	166
<i>Ozgur Ergul, Tahir Malas, Alper Unal, Levent Gurel</i>	
Fast and Accurate Analysis and Design of Substrate Integrated Waveguide (SIW) Filters	170
<i>F. Mira, A.A. San Blas, V.E. Boria, B. Gimeno</i>	
On the Effects of the Average Power of Training Sequences Used to Synthesize Memory Digital Predistorters in WCDMA Transmitters.....	174
<i>Oualid Hammi, Slim Boumaiza, Bill Vassilakis, Fadhel M. Ghannouchi</i>	
On the Dynamic Range Improvement and Robustness Against Branch Imbalance of Mode-Multiplexing LINC Amplifiers	178
<i>M. Helaoui, Slim Boumaiza, Fadhel M. Ghannouchi</i>	
High Efficiency Hybrid EER Transmitter for WCDMA Application Using Optimized Power Amplifier	182
<i>Ildu Kim, Young Yun Woo, Sungchul Hong, Bumman Kim</i>	
A Novel Digital Predistortion Technique for Adaptive Predistorter Applications	186
<i>Yi Qin, Peter Gardner</i>	
A Systemic Approach to Combined Linearization and Efficiency Improvement for Power Amplifiers	190
<i>B. Chatelain, F. Gagnon, A.B. Kouki</i>	
Coplanar Waveguide Scanning Microwave Profiler	194
<i>Luis A. Valiente, Arthur D. Haigh, Andrew A.P. Gibson, Graham Parkinson, George Jacobs, Philip J. Withers, Richard Cooper-Holmes</i>	
Measurement of the Metal Nanometer Layer Parameters on Dielectric Substrates Using Photonic Crystals Based on the Waveguide Structures with Controlled Irregularity in the Microwave Band	198
<i>Dmitry Usanov, Alexander Skripal, Anton Abramov, Anton Bogolubov, Vladimir Skvortsov, Merdan Merdanov</i>	
A Novel Method for PZT Thin Film Piezoelectric Coefficients Determination Using Conventional Impedance Analyzer.....	202
<i>Mahmoud Al-Ahmad, Robert Plana</i>	
Simple Analytical Approach for Measurement of the Complex Permittivity of Resins and Viscous Liquids.....	206
<i>M. Jaleel Akhtar, Lambert E. Feher, Manfred Thumm</i>	
A Novel Technique for Permittivity and Moisture Measurements Using a Planar Hybrid Junction	210
<i>A. Ocera, M. Dionigi, Roberto Sorrentino</i>	
Modeling and Optimization of Advanced Multilayered Absorbers	214
<i>Ignace Bogaert, Femke Olyslager, Yoeri Arien, Davy Pissort</i>	
Study of Temperature Distribution of a Pyramidal EM-Wave Absorber Under High Power Injection.....	218
<i>Shinya Watanabe, Tetsuhiro Sasagawa, Osamu Hashimoto, Toshifumi Saito</i>	
New Dual-Band Frequency Selective Surfaces for GSM Frequency Shielding.....	222
<i>Wolfgang Kiermeier, Erwin Biebl</i>	
Compact Magnetic Loop Probe for Microwave EM Field-Mapping and Its Applications in Dielectric Constant Measurement	226
<i>Chun-Ping Chen, Kohei Sugawara, Zhewang Ma, Tetsuo Anada, D.W.P. Tomas</i>	
RFID Tag Range Measurement System Using Isolation Antenna.....	230
<i>Min-Sung Kwon, Jae-Hoon Yun</i>	
New Methods for Testing Frequency Converters with Embedded Local Oscillators.....	234
<i>Joel P. Dunsmore</i>	

Table of Contents

Mixed-Mode S-Parameter Conversion for Networks with Coupled Differential Signals	238
<i>Allan Huynh, Par Haakansson, Shaofang Gong</i>	
Fully Automated Measurements of Calibrated Scattering Parameters of Multi-Ports with a Two-Port Network Analyzer	242
<i>B. Will, Ilona Rolfes, B. Schiek</i>	
Contactless Network Analysis System for the Calibrated Measurement of the Scattering Parameters of Planar Two-Port Devices.....	246
<i>Thomas Zelder, Bernd Geck, Michael Wollitzer, Ilona Rolfes, Hermann Eul</i>	
High Efficiency Diode Doubler with Conjugate-Matched Antennas	250
<i>Suzette M. Presas, Thomas M. Weller, Steven Silverman, Michael Rakijas</i>	
Multi-Band Matching Technique for Microstrip Patch Antenna Transceivers.....	254
<i>Alaa I. Abunjaileh, Ian C. Hunter, Andrew H. Kemp</i>	
Active Integrated Antenna with Image Reject Mixer.....	258
<i>M.K.A. Rahim, W.K. Chong, T. Masri</i>	
A Design Method for Single-Feed Wideband Microstrip Patch Antenna for Switchable Circular Polarization	262
<i>Stefano Maddio, A. Cidronali, Iacopo Magrini, Gianfranco Manes</i>	
Tx-Terminal Phased Array for Satellite Communication at Ka-Band	266
<i>Lukasz A. Greda, Achim Dreher</i>	
Toroid Microinductors with Magnetic Nanocomposite Cores.....	270
<i>Falk Hettstedt, Henry Greve, Ulrich Schurmann, Andreas Gerber, Vladimir Zaporozhchenko, Reinhard Knochel, Franz Faupel, Eckhard Quandt</i>	
Towards a Miniaturized Circulator with Magnetic Thin Film.....	274
<i>O. Zahwe, B. Sauviac, J.P. Chatelon, A.-S. Dehlinger, M. Leberre, S. Perrot</i>	
Directly Coupled Lumped Element Isolator with Three Windings.....	278
<i>Shigeru Takeda, Hideto Mikami</i>	
Modelling of Tuneable Acoustic Resonators Based on BSTO Films with Induced Piezoelectric Effect	282
<i>Pavel Turalchuk, Irina B. Vendik, Orest Vendik, John Berge</i>	
Miniature Folded Waveguide Resonators	286
<i>Sultan K. Alotaibi, Jia-Sheng Hong</i>	
Dielectric Phase Shifter Based on the Piezo-Tunable Impedance-Step Filter	290
<i>Yuriy Poplavko, Valeriy Pashkov, Vitaliy Molchanov, Denis Shmigin, Andrey Yermenko</i>	
Material Depolarization, Dielectric Hysteresis and Power Consumption Investigations on Tunable Piezoelectric-Based Shunt Microstrip Resonator	294
<i>Mahmoud Al-Ahmad, Robert Plana</i>	
Ring Resonators for Bandwidth and Center Frequency Tunable Filter	298
<i>Kunihiro Kawai, Hiroshi Okazaki, Shoichi Narahashi</i>	
Miniaturized Varactor-Tuned Hairpin Bandpass Filter with Single Bias.....	302
<i>Young-Pyo Hong, Seong-Sik Myoung, Byung-Jun Jang, Yongshik Lee, Jong-Gwan Yook</i>	
Application of the DORT Technique to FDTD-Based Time Reversal for Microwave Breast Cancer Detection	306
<i>Panagiotis Kosmas</i>	
Thermoregulatory Response to Dipole Electromagnetic Field Exposure at 1800 MHz	309
<i>M.A. Garcia-Fernandez, Juan F. Valenzuela-Valdes, Antonio M. Martinez-Gonzalez, David Sanchez-Hernandez</i>	
A Non-Invasive Monitoring System	313
<i>Christopher Paul Hancock, Sabih Chaudhry</i>	

Table of Contents

Low Reflection Sandwiched Dipole Array Antenna Used in High-Loss Liquids.....	317
<i>Michio Miyakawa, Naoyuki Iwata, Nozomu Ishii, Mario Bertero</i>	
Microwave Comblin-Type Dual-Passband Filter.....	321
<i>Manuel Sanchez-Renedo, Roberto Gomez-Garcia</i>	
A Novel Triple-Band Bandpass Filter Using Multilayer-Based Substrates for WiMAX.....	325
<i>Min-Hang Weng, Hung-Wei Wu, Kevin Shu, Jau-Rung Chen, Ru-Yuan Yang, Yan-Kuin Su</i>	
Manual Filter Tuning by Cloning Frequency Domain Data.....	329
<i>Anton Lindner, Horst Kugler, Erwin Biebl</i>	
A Novel Filtering Function for Linear Phase Dual Mode Filters with Nonequi-Ripple.....	332
<i>Ceyhan Karpuz, Adnan Gorur</i>	
A Novel Approach to Synthesis of Bandpass Filters with Minimized Insertion Loss.....	336
<i>Alexander Simin, Dmitry Kholodnyak, Irina B. Vendik</i>	
High Phase Accuracy On-Wafer Measurement for Quadrature Voltage-Controlled Oscillator	340
<i>Yin-Cheng Chang, Yin-Chung Chiu, Shuw-Guann Lin, Ying-Zong Juang, Hwann-Kaeo Chiou</i>	
Microwave Synthesizer with Multiple Phase Adjustable Output.....	344
<i>Karl Will, Tobias Meyer, Abbas Omar</i>	
Phase Measurement of Microwave Devices with Amplitude Independent Ultra-Fine Resolution	348
<i>Karl Will, Tobias Meyer, Abbas Omar</i>	
Millimetre Wave Primary Noise Standards in Waveguide Bands 18–170 GHz.....	352
<i>D.R. Vizard, P.R. Foster, B. Lunn, S.M. Cherry</i>	
Resistive Sensor for High Power Millimetre Wave Pulse Measurement	356
<i>Zilvinas Kancleris, Mindaugas Dagys, Rimantas Simniskis, Vincas Tamosiinas</i>	
Fast and Accurate Full-Wave Analysis of Large Slotted Waveguide Array Antennas	360
<i>Mikhail Manuilov, Victoria Lerer, Gennady Sinyavsky</i>	
Analysis and Design of a Microstrip Patch Antenna for Harmonic Tuning in a High-Efficiency Integrated Microwave Transmitter	364
<i>Paolo Baccarelli, Paolo Burghignoli, Fabrizio Frezza, Alessandro Galli, Paolo Lampariello, Simone Paulotto, Guido Valerio</i>	
Characteristics of High-Gain Wideband Ring Loop Antenna for Digital Terrestrial Broadcasting	368
<i>Haruo Kawakami, Toshiyuki Haga, Shuuji Kon, Masahiko Arishiro</i>	
Novel Entire Top Surface Planar Leaky Wave Antenna.....	372
<i>Jan Zehentner, Jan Machac, Pavel Zabloudil</i>	
Role of Edge Illumination in the mm-Range Elliptic Reflector Beam Waveguide Performance	376
<i>Andrey A. Nosich, Yuriy V. Gandel</i>	
Theoretical Investigation and Experimental Verification of Compact Folded Substrate Integrated Waveguide	380
<i>Wenquan Che, Liang Geng, Ke Wu, Y.L. Chow</i>	
On the Losses in Substrate Integrated Waveguides.....	384
<i>Maurizio Bozzi, Marco Pasian, Luca Perregrini, Ke Wu</i>	
Pin Gap Investigations for the 1.85mm Coaxial Connector.....	388
<i>Johannes Paul Hoffmann, Pascal Leuchtmann, Rudiger Vahldieck</i>	
RF-Powder: Fabrication of 0.15-mm Si-Powder Resonating at Microwave Frequencies.....	392
<i>Naomi Mura, Yuji Furumura, Katsuhiro Fujino, Shinji Nishihara, Susumu Kamihashi, Katsuhiko Mishima</i>	
Passive Intermodulation on Microstrip Lines	396
<i>Dmitry Zelenchuk, Aleksey P. Shitvov, Alex Schuchinsky, Torbjorn Olsson</i>	

Table of Contents

Practical Applications of Metamaterial-Based Structures in Microwave Systems.....	400
<i>Catherine A. Allen, Anthony Lai, Cheng-Jung Lee, Tatsuo Itoh</i>	
Tuneable Metamaterials Based on Ferroelectric Varactors	404
<i>S. Gevorgian, Andrei Vorobiev</i>	
Physical Implementation of a Generalized NRI-TL Medium for Quad-Band Applications.....	408
<i>Michael Studniberg, George V. Eleftheriades</i>	
Designing High Gain Microwave Antennas by Optimising a FSS Superstrate.....	412
<i>Yuehe Ge, Karu P. Esselle</i>	
Solid Freeforming of Millimetrewave Metamaterials and Its Applications	416
<i>Yoonjae Lee, Yang Hao, Clive G. Parini</i>	
The Microwave Activity and Progress in National Taiwan University.....	420
<i>Huei Wang, Ruey-Beei Wu, Chi-Hsueh Wang, Chun Hsiung Chen</i>	
Aperture-Body Resonance (ABR) and Transmission-Cavity Resonance (TCR) Conditions in Aperture Coupling Problems	424
<i>Young-Ki Cho, Jong-Eon Park</i>	
Design and Implementation of Low Sidelobe Slot Array Antennas with Full and Half Mode Substrate Integrated Waveguide Technology.....	428
<i>Wei Hong, Junfeng Xu, Qinghua Lai, Peng Chen</i>	
Wireless Sensor Network System by Separating Control and Data Path (SCDP) for Bio-Medical Applications.....	430
<i>Shih-Lun Chen, Ho-Yin Lee, Chiung-An Chen, Hong-Yi Huang, Ching-Hsing Luo</i>	
LTCC Balanced Filter Based on a Transformer Type Balun for WLAN 802.11a Application.....	434
<i>Sergiy Sakhnenko, Kostyantyn Markov, Denys Orlenko, Andriy Yatsenko, Borys Vorotnikov, Georgiy Sevskiy, Patric Heide</i>	
High Performance 2.4 GHz Combined LTCC/SAW Filter for WLAN Applications in Mobile Phones	438
<i>Borys Vorotnikov, Alexander Chernyakov, Sergiy Sakhnenko, Andriy Yatsenko, Georgiy Sevskiy, Patric Heide</i>	
Surface-Mount Cavity Filter Technology	442
<i>Jan Hesselbarth</i>	
K and Ka-Band Silicon Micromachined Evanescent Mode Resonators	446
<i>Alexandros Margomenos, Yongshik Lee, Andrew Kuo, Alok Jain, Jiyun Munn, Kazem Sabet, Linda P.B. Katehi</i>	
An HTS Wideband Microstrip Bandpass Filter for L Band Receivers in Radio Astronomy Observatory.....	450
<i>Guoyong Zhang, Michael J. Lancaster, Frederick Huang, Neil Roddis</i>	
Highly Miniaturized Passive Components Employing Novel (π)-Type Multiple Coupled Microstrip Lines	454
<i>Young Yun, Young-Bae Park, Hae-Cheon Kim, Woo-Jin Chang, Hong-Gu Ji, Jae-Kyoung Mun, Han-Nah Joh</i>	
Modeling and Implementation of On-Chip Millimeter-Wave Compact Branch Line Couplers in a BiCMOS Technology.....	458
<i>Hanyi Ding, Guoan Wang, Kwanhim Lam, Donald Jordan, Adam Zeeb, Amit Bavisi, Essam Mina, Brian Gaucher</i>	
Microstrip Coupler Circuits on Micromachined Silicon Substrates for F-Band Applications.....	462
<i>Andreas Muller, Jurgen Hasch, Erich Kasper</i>	
Broadband Balun Using Active Negative Group Delay Circuit	466
<i>Blaise Ravelo, Andre Perennec, Marc Le Roy</i>	
Efficient Reflector Illumination by an EBG Enhanced Aperture	470
<i>A. Neto, N. Llombart, Giampiero Gerini, M. Bonnedal, P. de Maagt</i>	
Design of Miniaturized Fractal Antenna	474
<i>Raj Kumar, P. Malathi, J.P. Shinde</i>	

Table of Contents

Silicon Resonating Antenna Based on CPW Composite Right/Left-Handed Transmission Line	478
<i>S. Simion, G. Sajin, R. Marcelli, F. Craciunoiu</i>	
Elimination of Scan Blindness in Microstrip Scanning Array Antennas Using Defected Ground Structure	482
<i>Mohsen Salehi, Ayaz Ghorbani</i>	
Design of K-Band Inductive Dichroic Mirrors for Upgrading ESA Deep-Space Antenna DSA2	485
<i>Piermario Besso, Maurizio Bozzi, Marco Formaggi, Marco Pasian, Luca Perregrini</i>	
Microwave Devices Based on Tunable Metasurfaces	489
<i>Olli Luukkonen, Constantin R. Simovski, Sergei A. Tretyakov</i>	
Wave Channelling in 2-D Anisotropic Lattice Metamaterials with Tunable L-C Parameters.....	493
<i>Alex Schuchinsky, Eugene Brennan, Vincent F. Fusco</i>	
Ferroelectric Based Tuneable SRR Based Metamaterial for Microwave Applications	497
<i>Ekmel Ozbay, Koray Aydin, Serkan Butun, Katarzyna Kolodziejak, Dorota Pawlak</i>	
Miniaturization and Optimization of Planar Microwave Filters Based on Metamaterials.....	500
<i>J. Garcia-Garcia, Irina B. Vendik, B. Sans, Dmitry Kholodnyak, Polina Kapitanova, J. Bonache, F. Martin</i>	
Development of Micro-Structured Metamaterials for Innovative Antenna Layouts	504
<i>Filiberto Bilotti, Filippo Capolino, Ramon Gonzalo, Ekmel Ozbay, Jordi Romeu, Alex Schuchinsky, Sergei A. Tretyakov, Yiannis Vardaxoglou</i>	
Coplanar Waveguides in Silicon with Low Attenuation and Slow Wave Reduction.....	508
<i>Rony E. Amaya, Ming Li, Robert G. Harrison, N. Garry Tarr</i>	
Analysis and Characterization of Microstrip Structures up to 90 GHz in SiGe BiCMOS	512
<i>Viswanathan Subramanian, Zihui Zhang, Daniel Gruner, Falk Korndorfer, Georg Boeck</i>	
On the Design of Multimode Integrated Circuits in Multilayered Processes	516
<i>Arash Sadeghfam, Holger Heuermann</i>	
Modeling of Three-Port Si CMOS On-Chip Symmetric Inductor for Various Operation Modes	520
<i>Kenichi Okada, Hirotaka Sugawara, Kazuyasu Nishikawa, Kazuya Masu</i>	
Compact Equivalent Circuit Derivation of Bond Wire Arrays for Power and Signal Integrity Analysis	524
<i>Sidina Wane, Olivier Tesson</i>	
Compact Wideband Bandpass Filter with High Performance and Harmonic Suppression	528
<i>Hussein N. Shaman, Jia-Sheng Hong</i>	
A Compact LTCC Ultra-Wideband Bandpass Filter Using Semi-Lumped Parallel-Resonance Circuits for Spurious Suppression	532
<i>Chung-Hwa Wu, Yo-Shen Lin, Chi-Hsueh Wang, Chun Hsiung Chen</i>	
A Miniature LTCC Bandpass Filter Using Novel Resonators for GPS Applications.....	536
<i>Greg Brzezina, Langis Roy, Leonard MacEachern</i>	
Multilayer LTCC Bandpass Filter Design.....	540
<i>Vladyslav Gozhenko, Andreas Pradka, Peter Hagn</i>	
Design and Investigation of Miniaturized High-Performance LTCC Filters for Wireless Communications	544
<i>Vadim Piatnitsa, Dmitry Kholodnyak, Timo Tick, Alexander Simin, Pavel Turalchuk, Evgenia Zameshaeva, Jyri Jantti, Heli Jantunen, Irina B. Vendik</i>	
A Compact Wideband 180° Hybrid Ring Coupler Using a Novel Interdigital CPS Inverter	548
<i>Chun-Hsiang Chi, Chi-Yang Chang</i>	
Multilayer 180° Hybrid Coupler in LTCC Technology for 24GHz Applications	552
<i>Veljko Napijalo</i>	

Table of Contents

A New DGS Unequal Power Divider.....	556
<i>Jae-Jin Koo, Seongmin Oh, Mun-Su Hwang, Chunseon Park, Yongchae Jeong, Jong-Sik Lim, Kwan-Sun Choi, Dal Ahn</i>	
Tri-Band/Broadband Matching Techniques for 3-dB Branch-Line Couplers.....	560
<i>Sadami Tanigawa, Kunihiro Hayashi, Takao Fujii, Tadashi Kawai, Isao Ohta</i>	
New Switchable Directional Couplers for Reconfigurable RF-Networks.....	564
<i>Thomas Lehmann, Falk Hettstedt, Reinhard Knochel</i>	
Near-Field Far-Field Transformation Exploiting the Benefits of Plane Wave Expansion and Diagonal Translation Operators.....	568
<i>Carsten H. Schmidt, Martin M. Leibfritz, Thomas F. Eibert</i>	
Antenna Pattern Measurements in the V-Band --- A Low-Cost Test Range.....	572
<i>Christian Trampuz, Pascal Aubry, Ioan E. Lager, Massimiliano Simeoni, Johan H. Zijderveld</i>	
Near Field Antennas Measurements Using Photonic Antenna.....	576
<i>Yevhen Yashchysyn, Josef Modelski, Sergei Malyshev, Alexander Chizh, Maxim Svirid, Pawel Wegrzyniak</i>	
3D Radiation Pattern Measurements of Miniature Antennas	580
<i>Robert Hossa, Arkadiusz Byndas, Pawel Kabacik</i>	
On Combine Radiation Properties of Patch Antenna Cluster Placed on Small Boxes.....	584
<i>Tomasz Maleszka, Przemyslaw Gorski, Przemyslaw Opalka, Pawel Kabacik</i>	
Wideband Photonic Millimeter-Wave Synthesizer Using a High-Power Pin Waveguide Photodiode.....	588
<i>Andreas Stohr, Mario Weiss, Andrei Malcoci, Andreas Gerhard Steffan, Dirk Trommer, Andreas Umbach, Dieter Jager</i>	
Optical Crosstalk Reduction Using a HR-Si Substrate with Trap-Rich Passivation Layer.....	592
<i>C. Roda Neve, D. Lederer, Jean-Pierre Raskin</i>	
A Novel Analytical Model for the UTC-TW Photo Detector for Generation of Sub-MM Wave Signals	596
<i>A. Madjar, N. Koka, J. Bloch, M. Draa, P.M.L. Yu</i>	
Electromagnetic Modeling of Wafer-Level Silicon Electro-Optical Packages for 10 & 40 Gb/s Communications	599
<i>Kenneth Vanhille, John O'Brien, David Sherrer, William Hogan, Carl Gaebe, Zoya Popovic</i>	
60 GHz Band RF/RoF Link Characteristics of Enhanced Optical Transmitter SoP Module	603
<i>Kwang-Seong Choi, Yong-Duck Chung, Jae-Sik Sim, Dong-Suk Jun, Dong-Soo Shin, Jong-Tae Moon, Hyun-Kyu Yu, Jeha Kim</i>	
A New Microwave Aperture Synthesis Radiometer for Spectral Imaging.....	606
<i>Matthias Jirousek, Markus Peichl, Helmut Suess</i>	
Radiometric Method of Detection of Biological Objects Covered by Vegetation.....	610
<i>I.V. Bragin, V.P. Sgibnev, M.B. Kamenkov, A.S. Chebotarev, I.A. Zheltikov, E.L. Elizavetova, D. Khidasheli</i>	
Radiometric System for Space Monitoring of Atmosphere Pollution.....	613
<i>I.V. Bragin, V.P. Sgibnev, S.I. Bragin, M.B. Kamenkov, A.S. Chebotarev, A.A. Morozov, D. Khidasheli, G.M. Polischuk, O.N. Bragina, V.P. Glebov, L. Lu, J. Dolecki</i>	
On the Ignition Voltage Behavior of Microwave Microplasmas	616
<i>Silvio Kuhn, Cristina Andrei, Roland Gesche</i>	
Open Ended Microwave Oven for Flip-Chip Assembly	620
<i>K.I. Sinclair, A.J. Sangster, G. Goussetis, M.P.Y. Desmulliez, T. Tilford, A.K. Parrott, C. Bailey</i>	
Analysis of a Planarized 3D Isotropic LH Metamaterial Based on the Rotated TLM Scheme	624
<i>M. Zedler, C. Caloz, Peter Russer</i>	
Triple Wire Medium for Use in Isotropic Metamaterials	628
<i>Martin Hudlicka, Jan Machac</i>	

Table of Contents

Proximity Coupled Interconnect Using Zeroth Order Resonant Mushroom Structure	632
<i>Naobumi Michishita, Anthony Lai, Tatsuo Itoh</i>	
Right/Left-Handed Transmission Line LTCC Directional Couplers.....	636
<i>Vadim Piatnitsa, Dmitry Kholodnyak, Polina Kapitanova, Irina Fischuk, Timo Tick, Jyri Jantti, Heli Jantunen, Irina B. Vendik</i>	
Design and Characterisation of an EBG Imaging Array at Sub-Millimetre Wave Frequencies.....	640
<i>I. Ederra, Ramon Gonzalo, A. Murk, B. Alderman, P. Huggard, B. de Hon, L. Marchand, P. de Maagt</i>	
A Highly Linear Mixer Design with a Schottky Diode Linearizer for WiMAX Applications	644
<i>J.M. Wu, R.F. Ye, S.C. Li</i>	
New Balanced Self Oscillating Mixer Using DGS Resonator.....	648
<i>Cheong Won Ryu, Choon Sik Cho, Jae W. Lee, Jaeheung Kim</i>	
A 10--110GHz Fundamental/Harmonic Rat-Race Mixer.....	652
<i>Chun-Hsiang Chi, Chung-Hung Wu, Wei-Ting Wang, Chi-Hau Lai, Dow-Chih Niu, Chi-Yang Chang</i>	
A Hybrid Broadband Millimeter-Wave Diode Ring Mixer with Advanced IF Extraction Technique.....	656
<i>Dirk Schneiderbanger, Alexander Cichy, Robert Rehner, Michael Sterns, Siegfried Martius, Lorenz-Peter Schmidt</i>	
Design and Manufacturing Reliability of Passive Components for LTCC Millimeterwave Hybrid Circuits	660
<i>Torben Baras, Arne F. Jacob</i>	
Matched Bandstop Resonator with Tunable K-Inverter.....	664
<i>Peng Wen Wong, Ian C. Hunter, Roger D. Pollard</i>	
A Systematic Way to YIG-Filter-Design.....	668
<i>M. Aigle, G. Hechtfisher, W. Hohenester, R. Junemann, C. Evers</i>	
Design of 60-GHz Millimeter-Wave CMOS RFIC-on-Chip Bandpass Filter	672
<i>Cheng-Ying Hsu, Huey-Ru Chuang, Chu-Yu Chen</i>	
Bandpass Filter for Millimeter-Wave Applications up to 220 GHz Integrated in Advanced Thin SOI CMOS Technology on High Resistivity Substrate	676
<i>G. Prigent, F. Giancesello, D. Gloria, C. Raynaud</i>	
Design of Integrated Millimetre Wave Microstrip Interdigital Bandpass Filters on CMOS Technology	680
<i>Bo Yang, Efstratios Skafidas, Rob Evans</i>	
SAFIRE: A Close Range Fast Scanning High Resolution Millimetre Wave Radar for Public Education	684
<i>David G. Macfarlane, Duncan A. Robertson</i>	
Feasibility Study on Millimetre Wave Multi-Gigabit Wireless LAN System	688
<i>Masazumi Ueba, Amame Miura, Shoichi Kitazawa, Shigeru Saito, Takashi Ohira</i>	
Broad-Band Millimetre Wave Spectroscopy of Common Materials.....	692
<i>S. Chen, K.A. Korolev, K.N. Nguyen, M.N. Afsar</i>	
Rotman Lens for the Millimeter Wave Frequency Range	696
<i>Dirk Nussler, Hans-Helmuth Fuchs, Ralf Brauns</i>	
Ground Surveillance with mmW Radar for Border Control and Camp Protection Applications.....	700
<i>Christoph Neumann, Georg Weiss, Alfred Wahlen, Thorsten Brehm</i>	
On the Relation Between a Negative Refractive Index Transmission Line and Chebyshev Filters	704
<i>Changjun Liu, Wolfgang Menzel</i>	
Novel Impedance Matching Approach Employing the Band Gap Region of Composite Right/Left-Handed Artificial Lines	708
<i>Christian Damm, Martin Schussler, Jens Freese, Rolf Jakob</i>	

Table of Contents

Implementation of a Dual-Band Mixer Using Composite Right/Left-Handed Transmission Lines	712
<i>P. de Paco, R. Villarino, G. Junkin, O. Menendez, J. Parron, E. Corrales</i>	
Super-Compact Left-Handed Resonator for Filter Applications	716
<i>B. Jokanovic, V. Crnojevic-Bengin</i>	
Tri-Band and Dual-Polarized Antenna Based on Composite Right/Left-Handed Transmission Line	720
<i>A. Rennings, T. Liebig, S. Abielmona, C. Caloz, P. Waldow</i>	
Design and Integration of Inkjet-Printed Paper-Based UHF Components for RFID and Ubiquitous Sensing Applications.....	724
<i>Amin Rida, Li Yang, Rushi Vyas, Swapan Bhattacharya, Manos M. Tentzeris</i>	
Effects of Reader Interference on the RFID Interrogation Range	728
<i>Do-Yun Kim, Byung-Jun Jang, Hyun-Goo Yoon, Jun-Seok Park, Jong-Gwan Yook</i>	
The Optimization of the RFID System for the Identification of Sportsmen in Mass Races.....	732
<i>Milan Polivka, Milan Svanda, Premysl Hudec</i>	
Radio Frequency Pressure Transducer	736
<i>M.M. Jatlaoui, P. Pons, H. Aubert</i>	
Inverse Class E Amplifier and Oscillator Phase Noise Characteristics	740
<i>H.I. Cantu, T. Mury, Vincent F. Fusco</i>	
Experimental Performance of a Meta-Distributed Amplifier.....	743
<i>J. Mata-Contreras, T.M. Martin-Guerrero, C. Camacho-Penalosa</i>	
A Wideband Push-Push VCO Using a Phase Shifter in the Common Feedback Loop	747
<i>Takayuki Tanaka, Masanori Tsutsumi, Masayoshi Aikawa</i>	
A RF Tunable Impedance Matching Network with a Complete Design and Measurement Methodology	751
<i>C. Hoarau, P.-E. Bailly, J.-D. Arnould, Philippe Ferrari, P. Xavier</i>	
A Novel K-Band Push-Push Oscillator Using Slot Ring Resonator Embedding Gunn Diodes.....	755
<i>Kengo Kawasaki, Takayuki Tanaka, Masayoshi Aikawa</i>	
Frequency and Polarization Scaling of Rain Attenuation on 58 and 93 GHz Terrestrial Links	759
<i>Vaclav Kvicera, Martin Grabner, Ondrej Fiser</i>	
Propagation of UWB Pulses on Metal Strips Printed on Semiconductor Dielectrics	763
<i>Shahid Ahmed, David Linton</i>	
Cosine Fourier Series Expansion Method for 2-D Inverse Scattering Problems	767
<i>Abbas Semnani, Manoochehr Kamyab</i>	
Modelling of the Coverage Range for Modern Vehicle Access Systems at Low Frequencies	771
<i>M. Brzeska, G.-A. Chakam</i>	
Monolithic Integrated Fully Differential Antenna Diplexer for UWB Applications	775
<i>M. Gamal El Din, Koen Mertens, Bernd Geck, Hermann Eul</i>	
Dual-Band Stepped-Impedance Filters for Ultra-Wideband Applications	779
<i>Marjan Mokhtaari, Jens Bornemann, Smain Amari</i>	
A Compact Planar Ultra-Wideband Bandpass Filter Composed of Coupled E-Shaped Electrodes.....	783
<i>Yasushi Horii</i>	
Synthesis of Ultra-Wideband Bandpass Filter Employing Parallel Coupled SIRs of One-Wavelength.....	787
<i>Chun-Ping Chen, Zhewang Ma, Naoki Nagaoka, Tetsuo Anada</i>	
A Dual-Mode Wide-Band Bandpass Filter Using the Microstrip Loop Resonator with Tuning Stubs	791
<i>J. Konpang, C. Jumneansri, P. Anunvrapong, J. Wongmethanukroah</i>	
Diode Power Detector DC Operating Point in Six-Port Communications Receivers	795
<i>S.M. Winter, H.J. Ehm, A. Koelpin, Robert Weigel</i>	

Table of Contents

Design of a New Six-Port Circuit Using Slot-Line Technology.....	799
<i>Mourad Nedil, Tayeb A. Denidni</i>	
Unified DC Offset Cancellation and I/Q Regeneration with Carrier Phase Recovery in Five-Port Junction Based Direct Receivers	803
<i>Hyung Chul Park, Hyung-Sun Lim, Chang-Seok Lee, Jong-Won Yu</i>	
Balanced Class E Amplifier Based Multimode Modulator	807
<i>H.I. Cantu, T. Murry, Vincent F. Fusco</i>	
Improved Spectral Efficiency for a Multi-Gigabit mm-Wave Communication System.....	810
<i>Val Dyadyuk, John Bunton, Rodney Kendall, Joseph Pathikulangara, Oya Sevimli, Leigh Stokes</i>	
3D Ceramic Microstereolithography Applied to Sub-Millimeter Devices Manufacturing	814
<i>C. Duterte, N. Delhote, D. Baillargeat, S. Verdeyme, Y. Abouliatim, T. Chartier</i>	
H-Plane Sectoral Filtering Horn Antenna in PCB Substrates Using Via Fences at Millimetre-Wave	818
<i>Woon-Gi Yeo, Tae-Yoon Seo, Jae W. Lee, Choon Sik Cho</i>	
Set of subTHz and THz Synthesizers for Precise Measurements	822
<i>V. Vaks, A. Illiyuk, A. Panin, S. Pripolsin, S. Basov, D. Paveliev</i>	
Clinotron Tubes: High-Power THz Sources.....	826
<i>D.M. Vavriv, V.A. Volkov, V.G. Chumak</i>	
Intercavity Stimulated Scattering in Planar FEM as a Base for Two-Stage Generation of Submillimeter Radiation	830
<i>A.V. Arzhannikov, V.T. Astrelin, N.S. Ginzburg, P.V. Kalinin, A.S. Kuznetsov, N.Yu. Peskov, R.M. Rozental, A.S. Sergeev, S.L. Sinitsky, V.D. Stepanov, V.Yu. Zaslavsky, I.V. Zotova</i>	
Design of a Compact Microstrip Triplexer for Multiband Applications	834
<i>Hung-Wei Wu, Kevin Shu, Ru-Yuan Yang, Min-Hang Weng, Jau-Rung Chen, Yan-Kuin Su</i>	
A New Design Strategy for Multi Frequencies Passive Matching Networks	838
<i>R. Giofre, Paolo Colantonio, Franco Giannini, L. Piazzon</i>	
A New Cross-Head Defected Ground Structure (CDGS) for a Compact Low-Pass Filter with a Wide Stop-Band.....	842
<i>A. Boutejdar, A. Elsherbini, Abbas Omar</i>	
Exact Coupling Between TE₀₁₁ Cylindrical Resonators; Model, Equivalent Circuit and Computation	846
<i>N. Nasr Esfahani, Majid Tayarani</i>	
Micro-Scale Lowpass Filters Based on the Maxwell-Wagner Phenomenon.....	850
<i>Themistoklis Prodromakis, Christos Papavassiliou, George Konstantinidis</i>	
A Dual-Band Bandpass Filter by Interleaving Heterogeneous Stepped-Impedance Resonators	854
<i>Yi-Ming Chen, Sheng-Fuh Chang, Chia-Chan Chang, Cheng-Yu Chou</i>	
Novel Coupled Microstrip Wideband Filters with Spurious Response Suppression.....	858
<i>Robert Rehner, Dirk Schneiderbanger, Michael Sterns, Siegfried Martius, Lorenz-Peter Schmidt</i>	
Quasi-Elliptic Dual-Band Stepped-Impedance Filters with Folded Parallel High-Impedance Segments	862
<i>Majran Mokhtaari, Jens Bornemann, Smain Amari</i>	
Development of Miniature LTCC Filter for TV Broadcasting Band by Using Substrates of Mixed Dielectrics	866
<i>Alexander Hennings, Elena Semouchkina, Amanda Baker, George Semouchkin, Rainer Waser, Michael Lanagan</i>	
Design of Bandstop Filters Using Cylindrical Metallic Posts.....	870
<i>M. Bekheit, Smain Amari, Wolfgang Menzel, U. Rosenberg</i>	
New Dual-Mode Bandpass Filters Based on Dual-Plane Structure.....	874
<i>Tsung-Nan Kuo, Chi-Hsueh Wang, Chun Hsiung Chen</i>	

Table of Contents

A Novel Bandstop Filter Design Using Parallel Coupled Line Resonators.....	878
<i>Won-Gyu Lim, Wan-Kyu Kim, Dong-Hoon Shin, Jong-Won Yu</i>	
Study of a C-Band Cross-Coupled Dual-Behavior Resonator Filter with Spurious Responses Suppression for a Space Application	882
<i>Alexandre Manchec, Yann Clavet, Eric Rius, Cedric Quendo, Jean Francois Favennec, Christian Person, Thierry Adam, Mikael Voidey, Bernard Cogo</i>	
Design of the Compact Band-Pass Filter Utilizing Dielectric Loaded Waveguide Resonators.....	886
<i>A. Deleniv, S. Gevorgian</i>	
Dual-Band Metallic Waveguide with Low Dielectric Constant Material	890
<i>Yoshihiro Kokubo, Daisuke Maki, Tadashi Kawai</i>	
Passive Phase Shifters and Their Applications in RF Front-End Circuits	893
<i>Brian Kearns, Brendan McDonald, Gerard Cunningham</i>	
Compact, Wideband CPW-to-Slotline Multimodal Transition	897
<i>Marco Antonio Llamas, David Girbau, Miquel Ribo, Lluís Pradell</i>	
An Equivalent Circuit Model for Multi-Port Networks	901
<i>Jonguk Kim, Hyun-Tai Kim, Kwi-Soo Kim, Jong-Sik Lim, Dal Ahn</i>	
The Design of mw-Class RF-DC Conversion Circuit Using the Full-Wave Rectification	905
<i>Tsunayuki Yamamoto, Kazuhiro Fujimori, Minoru Sanagi, Shigeji Nogi</i>	
Application of Omega-Type and Related Metamaterials for Beam Steering in X-Ku	909
<i>F. Zhang, S. Potet, J. Carbonell, E. Lheurette, O. Vanbesien, X. Zhao, D. Lippens</i>	
Novel Millimetre Wave Metawaveguide Resonators and Filters.....	913
<i>Suntheralingam Niranchanan, Alexander Shelkovnikov, Djurdj Budimir</i>	
A Left-Handed/Right-Handed Leaky-Wave Antenna Derived from Slotted Rectangular Hollow Waveguide	917
<i>Y. Weitsch, Thomas F. Eibert</i>	
Multifunction Patch Antennas Filled with Metamaterial Structures.....	921
<i>Francisco Javier Herraiz-Martinez, Vicente Gonzalez-Posadas, Daniel Segovia-Vargas</i>	
Characteristics of Coplanar Waveguide on Sapphire for High Temperature Applications (25 to 400^oC).....	925
<i>George E. Ponchak, Jennifer L. Jordan, Maximilian Scardelletti, Amy R. Stalker</i>	
Characterization of the Fat Content of Beef Using Microwave Techniques	929
<i>Sing K. Ng, Paul Ainsworth, Andrew Plunkett, Andrew A.P. Gibson, Graham Parkinson, Arthur D. Haigh, George Jacobs</i>	
Characterization of Microwave Substrates with Split-Cylinder and Split-Coaxial-Cylinder Resonators.....	933
<i>Plamen I. Dankov, Boyan N. Hadjistamov</i>	
Comparison of the SAR in the Human Head Using the EBG Structures Applied to a Mobile Handset	937
<i>Sang il Kwak, Dong-Uk Sim, Jong Hwa Kwon, Hyung Do Choi</i>	
Evaluation of an Equipment for Cancer Treatment Using Microwave Hyperthermia.....	941
<i>Paolo Togni, Radim Zajicek, Tomas Drizd'al, Jan Vrba, Luca Vannucci</i>	
Feasibility Study of Using Two Types of Microstripline Bandpass Filters for the Detection of Bacteria in Water	945
<i>Jihwan Yoon, Indira Chatterjee, Gale L. Craviso</i>	
The Impact of System Impedance on the Characterization of High Power Devices.....	949
<i>Aamir Sheikh, Paul J. Tasker, Jonathan Lees, Johannes Benedikt</i>	

Table of Contents

Source-Pull/Load-Pull Measurement System Based on RF and Baseband Coherent Active Branches Using Broadband Six-Port Reflectometers	953
<i>Souheil Bensmida, Philippe Poire, Fadhel M. Ghannouchi</i>	
Experimental Study on Transmission Characteristics of High Permittivity Tape Transmission Line at Millimeter-Wave Frequencies.....	957
<i>Futoshi Kuroki, Ryo-ji Tamaru, Kazuya Miyamoto</i>	
Whispering Gallery Modes in Dielectric Substrate Under a Metal Disc	961
<i>S.O. Bunyayev, A.A. Barannik, Nikolay T. Cherpak</i>	
Antenna Calibration Using the Reference Antenna Method in a Reverberation Chamber	964
<i>Katsushige Harima</i>	
An Antenna for Medical Implant Communications System	968
<i>Kamya Yekeh Yazdandoost, Ryuji Kohno</i>	
Investigation on Jeans Button Radiation.....	972
<i>J.M. Floc'h, F. Queudet, H. Rmili</i>	
Effects of Coupling, Magnitude and Phase of Radiation Patterns on Antenna Diversity Performances.....	976
<i>Charles Tounou, Cyril Decroze, David Carsenat, Nour Murad, Thierry Monediere, Bernard Jecko</i>	
An Electromagnetic Bandgap Enhanced Active Antenna Design for Microwave-Based Motion Sensing	980
<i>Tobias D. Werth, Joerg Schoebel</i>	
Scale Changing Technique Design and Optimisation Tool for Active Reflect-Arrays Cell	983
<i>N. Raveu, G. Prigent, H. Aubert, P. Pons, H. Legay</i>	
Optimal Antenna Location on Mobile Phones Chassis Based on the Numerical Analysis of Characteristic Modes.....	987
<i>Celestin Tamgue Famdie, Werner L. Schroeder, Klaus Solbach</i>	
Efficient, Compact, Wireless Battery Design	991
<i>Jeroen A.C. Theeuwes, Huib J. Visser, Martijn C. van Beurden, Gert J.N. Doodeman</i>	
Rectenna Design for Passive RFID Transponders.....	995
<i>Yuri Tikhov, Il-Jong Song, Young-Hoon Min</i>	
Wirelessly-Powered Wireless Sensor Platform	999
<i>T. Paing, J. Morroni, A. Dolgov, J. Shin, J. Brannan, R. Zane, Zoya Popovic</i>	
A Novel L-Shaped RFID Tag Antenna	1003
<i>Amit Rawal, Nemai C. Karmakar</i>	
Chipless Radio Frequency Identification by Remote Measurement of Complex Impedance.....	1007
<i>Somnath Mukherjee</i>	
Enhanced Feeds in Focal Plane Imaging Array Systems: Off Focus Configurations.....	1011
<i>M. Bonnedal, N. Llombart, A. Neto, Giampiero Gerini, P. de Maagt</i>	
A Novel Low Reflection-Loss MEMS Reconfigurable Patch Antenna	1015
<i>Paolo Arcioni, Luca Perregrini, Giuseppe Concinauro</i>	
Multi-Dielectric Layer Multi-Patches Microstrip Antenna for UWB Applications	1019
<i>Nasimuddin, Zhi Ning Chen, Terence S.P. See, Xianming Qing</i>	
Small Size, High Gain and High F/B Ratio Patch Antenna Arranging Parasitic Element on the Back	1022
<i>Osamu Shibata, Hiromasa Koyama, Takuma Sawaya</i>	
Radiation Properties of Single-Layer Multiband Rhombic MSA with Slots.....	1026
<i>Yusuke Shinohe, Ridho Chayono, Misao Haneishi, Yuichi Kimura</i>	
Novel Wideband Six-Port Receiver Structure.....	1030
<i>P. Perez-Lara, I Molina-Fernandez, J.G. Wanguemert-Perez, A. Gonzalez-Salguero, J.A. Medina-Rodriguez</i>	

Table of Contents

Hybrid Integrated Micromachined Receiver for 77 GHz Millimeter Wave Identification Systems	1034
<i>A. Muller, D. Neculoiu, P. Pursula, T. Vaha-Heikkila, F. Giacomozzi, J. Tuovinen</i>	
60 GHz UWB-IR Transceiver with Pulsed-Injected Locked Oscillator	1038
<i>Nicolas Deparis, Alexandre Boe, Christophe Loyez, Nathalie Rolland, Paul-Alain Rolland</i>	
An Ultra-Wideband CMOS Receiver Front-End	1042
<i>Bo Shi, Michael Yan Wah Chia</i>	
g_m-Boosted VCO with Low Power Consumption and Large Tuning Range.....	1046
<i>Thomas Ussmuller, Kay Seemann, Robert Weigel</i>	
Concurrent, Reconfigurable, and Adaptable Oscillators for Multi-Band Multi-Mode Communication Systems	1050
<i>Ulrich L. Rohde, Ajay K. Poddar</i>	
Reconfigurable PA Networks Using Switchable Directional Couplers as RF Switch.....	1054
<i>Thomas Lehmann, Falk Hettstedt, Reinhard Knochel</i>	
MEMS-Based Reconfigurable RF Front-End Architecture for Future Band-Free Mobile Terminals	1058
<i>Hiroshi Okazaki, Atsushi Fukuda, Kunihiro Kawai, Takayuki Furuta, Shoichi Narahashi</i>	
Tunable Antenna Design Procedure and Harmonics Suppression Methods of the Tunable DVB-H Antenna for Mobile Applications	1062
<i>Libo Huang, Peter Russer</i>	
Foam Micromachined Aperture-Coupled Antennas for V-Band Low-Cost Applications.....	1066
<i>Nolwenn Caillet, Stephane Pinel, Cedric Quendo, Christian Person, Eric Rius, Jean Francois Favenec, Joy Laskar</i>	
L-Shaped Monopole Array for Terrestrial Broadcasting Reception in the UHF Band	1070
<i>Futoshi Kuroki, Hiroshi Ohta</i>	
Compact Broad-Band SHF Direction Finder for WiMax Applications	1074
<i>Igor Ivanchenko, Maxym Khruslov, Aleksey Korolev, Nina Popenko, Sergey Radionov</i>	
A Compact Dual Frequency Antenna with Sierpinski Gasket Based Slots	1078
<i>Deepti Das Krishna, Anupam R. Chandran, C.K. Aanandan</i>	
Linearity and Efficiency Optimisation in Microwave Power Amplifier Design.....	1081
<i>Paolo Colantonio, Franco Giannini, Ernesto Limiti, Antonio Nanni, V. Camarchia, V. Teppati, M. Pirola</i>	
High Efficiency Distributed Amplifier Using Optimum Transmission Line	1085
<i>Sigyun Jeong, Heungjae Choi, Yongchae Jeong, J. Stevenson Kenney, Chuldong Kim</i>	
Design of Highly Efficient, High Output Power, L-Band Class D-1 RF Power Amplifiers Using GaN MESFET Devices	1089
<i>Ulf Gustavsson, Thomas Lejon, Christian Fager, Herbert Zirath</i>	
High-Efficiency GaN Class-E Power Amplifier with Compact Harmonic-Suppression Network	1093
<i>Han Gil Bae, Renato Negra, Slim Boumaiza, Fadhel M. Ghannouchi</i>	
A 6W Uneven Doherty Power Amplifier in GaN Technology	1097
<i>A.Z. Markos, Paolo Colantonio, Franco Giannini, R. Giofre, M. Imbimbo, Gunter Kompa</i>	
Zero-Temperature-Coefficient Biasing Point of 2.4-GHz LNA in PD SOI CMOS Technology	1101
<i>M. El Kaamouchi, M. Si Moussa, Jean-Pierre Raskin, D. Vanhoenacker-Janvier</i>	
A Low Voltage Current Reuse LNA in a 130nm CMOS Technology for UWB Applications	1105
<i>T. Taris, J.B. Begueret, Y. Deval</i>	
A 3 GHz CMOS Quadrature Oscillator Using Active Superharmonic Coupling	1109
<i>Brad R. Jackson, Carlos E. Saavedra</i>	

Table of Contents

A Regulated Low Phase Noise Differential Colpitts VCO for Mobile RFID System.....	1113
<i>Hyoungh-Hwan Roh, Eun-Jin Lee, Jin-Wook Jung, Kyong-Tae Park, Kwan-Kyu Nae, Hong-Goo Cho, Jun-Seok Park, Jong-Eun Jang</i>	
Single-Chip Dual-Band CDMA2000 Receiver for Cellular Terminals in 0.13 (μ)m CMOS.....	1117
<i>Gernot Hueber, Josef Zipper, Andreas Holm</i>	
Flip-Chip Mounted 1:4 Demultiplexer IC in InP DHBT Technology Operating up to 100 Gb/s.....	1121
<i>Camilla Karnfelt, Joakim Hallin, Torgil Kjellberg, Bertil Hansson, Thomas Swahn</i>	
Embedded IC Technology for Compact Packaging Inside Aluminum Substrate (Pocket Embedded Packaging)	1125
<i>Kyoung-Min Kim, Jong-Min Yook, Sung-Ku Yeo, Young-Se Kwon</i>	
A Differential SiP (LNA-Filter-Mixer) in Silicon Technology for the SKA Project	1129
<i>M.-L. Grima, S. Barth, S. Bosse, B. Jarry, P. Gamand, P. Meunier, B. Barelaud</i>	
Microstrip Thin-Film MCM-D Technology on High-Resistivity Silicon with Integrated Through-Substrate Vias.....	1133
<i>G. Posada, G. Carchon, P. Soussan, N. Pham, B. Majeed, D. Sabuncoglu, W. Ruythooren, B. Nauwelaers, W. De Raedt</i>	
Novel Symmetric High Q Inductors Fabricated Using Wafer-Level CSP Technology	1137
<i>Yutaka Aoki, Shoichi Shimizu, Kazuhiko Honjo</i>	
RF MEMS Roadmap.....	1141
<i>Jeremie Bouchaud, Bernardo Knoblich, Harrie Tilmans, Fabio Coccetti, Ayman El Fatatry</i>	
RF Transmission Lines and Spiral Inductors Using Polymer-Core Conductor	1145
<i>Jong-Min Yook, Kyoung-Min Kim, Sung-Ku Yeo, Je-In Yu, Young-Se Kwon</i>	
High Quality Factor Micromachined Toroid and Solenoid Inductors.....	1149
<i>Imed Zine-El-Abidine, Michal Okoniewski</i>	
Totally Free-Flexible Membrane for Low Voltage MEMS Metal Contact Switch	1153
<i>Karim Segueni, Loic Le Garrec, Anne-Sophie Rollier, Renaud Robin, Salim Touati, Alexandre Kanciurzewski, Lionel Buchailot, Olivier Millet</i>	
Dielectric Charging Mechanisms in RF-MEMS Capacitive Switches	1157
<i>George J. Papaioannou, John Papapolymerou</i>	
A New Time-Domain Simulation Method for Highly Heterogeneous RF Circuits.....	1161
<i>Jorge F. Oliveira, Jose Carlos Pedro</i>	
On the Use of RF Bursts for Identification of Amplifier Kernels.....	1165
<i>Carlos Crespo-Cadenas, Javier Reina-Tosina, Maria J. Madero-Ayora</i>	
Nonlinear-Optimization Techniques for Quadruple-Push Oscillators	1169
<i>Franco Ramirez, Mabel Ponton, Almudena Suarez</i>	
New Numerical Technique for Cyclostationary Noise Analysis of Oscillators.....	1173
<i>M.M. Gourary, S.G. Rusakov, S.L. Ulyanov, M.M. Zharov, B.J. Mulvaney, K.K. Gullapalli</i>	
HB Analysis of Injection Locked Oscillators Using Commercial CAD Tools	1177
<i>Federico Fantini, Rafael Cignani, Alberto Santarelli</i>	
Outphasing Power Amplifier Design Investigations for 2.5G and 3G Standards.....	1181
<i>Ewa Napieralska, Markus Zannoth, Gunther Kraut, Winfried Bakalski, Erwin Biebl, Krzysztof Kitlinski</i>	
A 3.3V Broadband Linear Power Amplifier Module for IEEE 802.16e (Wimax) Applications Using E-Mode pHEMT Technology	1185
<i>Y.H. Chow, C.K. Yong, Joan Lee, H.K. Lee, W.Y. Thor, K.Y. Lee, H.T. Tan, Y.Y. Liew, S.H. Khoo</i>	

Table of Contents

High-Efficiency Balanced Switched-Path Monolithic SiGe HBT Power Amplifiers for Wireless Applications.....	1189
<i>Andrei Grebennikov, Bernhard Sogl, Helmut Herrmann, Christian Roth, Wolfgang Thomann</i>	
GaN HEMT Based Doherty Amplifier for 3.5-GHz WiMAX Applications	1193
<i>Junghwan Moon, Jangheon Kim, Ildu Kim, Young Yun Woo, Sungchul Hong, Han Seok Kim, Jong Sung Lee, Bumman Kim</i>	
2-GHz Band Cryogenically-Cooled GaN HEMT Amplifier for Mobile Base Station Receivers	1197
<i>Shoichi Narahashi, Yasunori Suzuki, Toshio Nojima</i>	
X-Band Phase Shifting Power Amplifier MMIC for Phased Array Transmit Modules	1201
<i>Gijs van der Bent, Marcel W. van der Graaf, F.E. van Vliet</i>	
A Fully Integrated Fully Differential Low-Noise Amplifier for Short Range Automotive Radar Using a SiGe:C BiCMOS Technology	1205
<i>Sebastien Chartier, Bernd Schleicher, Falk Korndorfer, Srdjan Glisic, Gerhard G. Fischer, Hermann Schumacher</i>	
Two High Dynamic Range mmW Amplifiers in SMT Package with ESD Protection.....	1209
<i>Khanhtran Phan, Kohei Fujii, Henrik Morkner</i>	
30 GHz (Ka-Band) VSAT DVB-RCS Mixer-Driver Multifunction MMIC.....	1213
<i>Ian Hardcastle, Steve Melvin, James Mayock, Andrew Collar, Paul Simpson, Mike Brookbanks, Ian Bisby</i>	
Single-Chip RF Front-End MMIC Using InGaAs E/D-pHEMT for 3.5 GHz WiMAX Applications.....	1217
<i>Yu-Cheng Hsu, Ping-Hsun Wu, Cheng-Chung Chen, Jian-Yu Li, Sheng-Feng Lee, Wu-Jing Ho, Cheng-Kuo Lin</i>	
A Ka-Band RF-MEMS Phase Shifter Approach Based on a Novel Dual-State Microstrip Line	1221
<i>C. Siegel, V. Ziegler, U. Prechtel, B. Schonlinner, Hermann Schumacher</i>	
Mechanically Tri-Stable SPDT Metal-Contact MEMS Switch Embedded in 3D Transmission Line	1225
<i>Mikael Sterner, Niclas Roxhed, Goran Stemme, Joachim Oberhammer</i>	
Low Complexity RF-MEMS Switch Optimized for Operation up to 120-(circ)C	1229
<i>A. Stehle, C. Siegel, V. Ziegler, B. Schonlinner, U. Prechtel, S. Thilmont, H. Seidel, U. Schmid</i>	
High Performance K-Band MEMS Switches	1233
<i>John S. McKillop, David A. Goins</i>	
Surface and Bulk Micromachined RF MEMS Capacitive Series Switch for Watt-Range Hot Switching Operation.....	1237
<i>J.D. Martinez, Pierre Blondy, Arnaud Pothier, D. Bouyge, Aurelian Crunteanu, M. Chatras</i>	
Multi-Resonator Generation in Arbitrarily-Shaped Planar-Circuit Filters by Genetic Optimization	1241
<i>Akinori Kido, Hroyuki Deguchi, Mikio Tsuji, Masataka Ohira</i>	
EM Simulation Accuracy Enhancement for Broadband Modeling of On-Wafer Passive Components.....	1245
<i>T.K. Johansen, C. Jiang, D. Hadziabdic, Viktor Krozer</i>	
Partition and Global Methodologies for IC, Package and Board Co-Simulation in SiP Applications.....	1249
<i>Sidina Wane</i>	
Systematic Design Approach of MOSFET Based Low Noise Amplifiers for Wideband RF Receivers	1253
<i>Jurgen Schmitz</i>	
Interpreting InGaP/GaAs DHBT Eye Diagrams Using Small Signal Parameters.....	1257
<i>D.B. Venkatesha, S. Chitrashekaraiiah, A.A. Rezazadeh, A. Thiede</i>	
A Cost-Effective High-Power S-Band 6-Bit Phase Shifter with Integrated LVCMOS Control Logic.....	1261
<i>A.P. de Hek, M. Rodenburg, F.E. van Vliet</i>	
Broadband MMIC Mixer with High Output Power Using InGaP/GaAs HBT Technology	1265
<i>Won-Jun Choi, Young-Ho Lee, Nam-Young Kim</i>	

Table of Contents

Integrated 48 GHz LO Chain for 60 GHz Communication Systems	1269
<i>Lex de Boer, Raymond van Dijk, Alex Megej, Jeroen Hoogland, F.E. van Vliet</i>	
Extremely Small-Height Rectangular Waveguide with Impedance Walls	1272
<i>Nickolay T. Cherpak, Alexey I. Gubin, Alexander A. Lavrinovich</i>	
The Slow Relaxation of Capacitance in Ferroelectric Devices Under Electrical Pulse Influence.....	1275
<i>A.V. Tumarkin, S.V. Razumov, A.G. Gagarin, M.M. Gaidukov, A.B. Kozyrev</i>	
Experimental Studies of Heterodyne Mixing in Y-Branch Ballistic Nano-Junction.....	1279
<i>Lukasz Bednarz, Isabelle Huynen</i>	
Derivation of a Behavioral RF Power Amplifier Model with Low Normalized Mean-Square Error	1283
<i>David Wisell, Magnus Isaksson</i>	
Low Power Consumptive Mixed Mode MMIC Power Amplifier Module for WCDMA Handset Applications.....	1287
<i>Min Park, Yun Ho Choi, Tae Young Kang, Kyung Hwan Park, Seong Su Park, Seok-Bong Hyun</i>	
A 225--400MHz WiMAX 20W SiC Power Amplifier	1291
<i>Luca Rizzo, Alberto Armoni, Luca Petacchi</i>	
Microwave Phase Shifters Based on Sol-Gel Derived Ba_{0.3}Sr_{0.7}TiO₃ Ferroelectric Thin Films.....	1295
<i>Vladimir O. Sherman, Tomoaki Yamada, Andreas Noeth, Nava Setter, Mira Mandeljc, Barbara Malic, Marija Kosec, Miso Vukadinovic</i>	
Low-Voltage and High-Tunability Inter-Digital Capacitors Using Lead Zinc Niobate (PbO-ZnO-Nb₂O₅) Thin Films	1299
<i>Young Chul Lee, Young Pyo Hong, Kyung Hyun Ko</i>	
Design Guidelines for Tunable Coplanar and Microstrip Patch Antennas.....	1302
<i>Aparna Sankarasubramaniam, Prasad N. Shastry, Krishna Katragadda</i>	
Low Cost Configurable RF Signal Source for Wireless Applications	1306
<i>Ulrich L. Rohde, Ajay K. Poddar</i>	
Silicon Substrate Integrated Ferromagnetic Nanowires for Microwave Applications.....	1310
<i>A. Deleniv, V. Drakinsky, P.R. Evans, R.J. Pollard, R.M. Bowman, S. Gevorgian</i>	
Filter Embedded K-Band LTCC Upconverter	1314
<i>Jin-Cheol Jeong, In-Bok Yom, Ho-Jin Lee, Kyung-Whan Yeom</i>	
System-in-Package Synthesizer for PCS/DCS Application	1318
<i>Reza Bagger, Tobias Hahn, Richard Wallace, Lars Edevarn</i>	
Sub-50(mu)W, 2.4 GHz Super-Regenerative Transceiver with Ultra Low Duty Cycle and a 675(mu)W High Impedance Super-Regenerative Receiver.....	1322
<i>I. McGregor, E. Wasige, I. Thayne</i>	
A Novel Approach for Microwave Signal Generation Utilizing DFB-Laser Wavelength Chirp.....	1326
<i>Gabor Kovacs, Tibor Berceli</i>	
Similarities Between Birefringent Gires-Tournois Interferometer and Double Ring Assisted Mach-Zehnder Electrooptic Modulator.....	1330
<i>Jose Edimar Barbosa Oliveira, Bráulio Fernando R. Sakamoto, William dos Santos Fegadolli</i>	
A MEM Varactor Tuned-Voltage Controlled Oscillator Fabricated Using 0.35 (mu)m SiGe BiCMOS Technology	1334
<i>Emre Heves, Mehmet Kaynak, Onur Esame, Ibrahim Tekin, Yasar Gurbuz</i>	
Dielectric Charging Process in AlN RF-MEMS Capacitive Switches.....	1338
<i>George J. Papaioannou, Tomas Lisec</i>	

Table of Contents

Non-Linear Electromechanical RF Model of a MEMS Varactor Based on VerilogA and Lumped-Element Parasitic Network	1342
<i>Jacopo Iannacci, Roberto Gaddi, Antonio Gnudi</i>	
Effects of Atmosphere on the Reliability of RF-MEMS Capacitive Switches	1346
<i>Pierre Blondy, Aurelian Crunteanu, Arnaud Pothier, Pascal Tristant, Alain Catherinot, Corinne Champeaux</i>	
A Parallel-Plate MEMS Variable Capacitor with Vertical Thin-Film Comb Actuators	1349
<i>Maher Bakri-Kassem, Raafat R. Mansour</i>	
Design of Vertical Transition for 40GHz Transceiver Module Using LTCC Technology	1353
<i>Woojin Byun, Bong-Su Kim, Kwang-Seon Kim, Ki-Chan Eun, Myung Sun Song, Reinhard Kulke, Olaf Kersten, Gregor Mollenbeck, Matthias Rittweger</i>	
An X-Band High Power Amplifier Module Package Using Selectively Anodized Aluminum Substrate.....	1357
<i>Sung-Ku Yeo, Jong-Hoon Chun, Kyoung-Min Kim, Jong-Min Yook, Young-Se Kwon</i>	
Novel Vertical Transition Using a Trough Line, a Slab Line and Shielded Multilayer Coplanar Waveguides for 50 GHz LTCC Hermetic SMT MMIC Package	1361
<i>Inkwon Ju, In-Bok Yom, Seung-hyeup Oh</i>	
Calculation of Characteristic Impedance for Stripline Based on Planar Circuit and Lateral Equivalent Network	1365
<i>Kai Ding, Takaharu Hiraoka, Jui-Pang Hsu</i>	
Theoretical Aspects and Numerical Solution of Scattering from Objects Under Grazing Angle Incidence -- - The A380 and the Aircraft Tailfin	1369
<i>Gerhard Greving, Wolf-Dieter Biermann</i>	
Modified WKB Method for Solution of Wave Propagation in Inhomogeneous Structures with Arbitrary Permittivity and Permeability Profiles	1373
<i>Mohammad Hadi Eghlidi, Khashayar Mehrany, Bizhan Rashidian</i>	
Field Modelling of a Multiconductor Digital Bus.....	1377
<i>Hristomir Yordanov, Michel Ivrlac, Josef Nossek, Peter Russer</i>	
Analysis Acceleration in the Design of Frequency Selective Surfaces Using Parametric Techniques	1381
<i>Dave J. Bekers, Stefania Monni, Vincent Ducros, Giampiero Gerini, Michel Rochette</i>	
Analysis of Stability and Numerical Dispersion Relation of Mur's Absorbing Boundary Condition in the ADI-FDTD Method	1385
<i>Jiunn-Nan Hwang, Fu-Chiarng Chen</i>	
Analysis of Transient Radiated Interferences by the Hybrid TLM-IE/MOM Algorithm	1389
<i>Rachid Khelifi, Peter Russer</i>	
Determining Optimum Load Impedance for a Noisy Active 2-Port Network.....	1393
<i>Walter Ciccognani, Franco Giannini, Ernesto Limiti, Patrick Ettore Longhi, Antonio Serino</i>	
A Novel Approach to Determine the Start-Up Conditions in Microwave Negative Impedance Oscillator Design.....	1397
<i>Marco Monni, Giovanni Martines</i>	
Limitations of the Transmission Line Theory in the Simulation of Ultra Thin Wire Conductivities with Coaxial Resonators	1401
<i>T. Bernardino, P. Antoranz, J.M. Miranda, J.L. Sebastian</i>	
CMOS Varactors in NLTL Pulse-Compression Applications	1405
<i>Ming Li, Robert G. Harrison, Rony E. Amaya, Jean-Marc Duchamp, Philippe Ferrari, N. Garry Tarr</i>	
Nonlinear Modelling of Reconfigurable Microwave Components Based on Resistive MEMS Switches.....	1409
<i>Vittorio Rizzoli, Diego Masotti, Franco Mastri, Roberto Gaddi, Francesco Donzelli</i>	

Table of Contents

A Novel Hybrid Analysis Approach for Subharmonic Self-Oscillating Mixers Combining Volterra Series and Conversion Matrix Methods.....	1413
<i>Simone A. Winkler, Ke Wu, Andreas Stelzer</i>	
Quarter-Wave Patch Antenna Based on BCB Polymer for Sensor Network Applications.....	1417
<i>Seonho Seok, Nathalie Rolland, Paul-Alain Rolland</i>	
Highly Directional Planar Ultra Wide Band Antenna for Radar Applications	1421
<i>A. Locatelli, Daniele Modotto, Filippo M. Pigozzo, S. Boscolo, E. Autizi, Costantino De Angelis, A.-D. Capobianco, M. Midrio</i>	
Microwave Laminate Material Considerations for Multilayer Applications	1425
<i>Russell R. Hornung, John C. Frankosky</i>	
5W Highly Linear GaN Power Amplifier with 3.4 GHz Bandwidth.....	1429
<i>Ahmed Sayed, Georg Boeck</i>	
Novel Transmission Line Combiner for Highly Efficient Outphasing RF Power Amplifiers.....	1433
<i>Walter Gerhard, Reinhard Knochel</i>	
Improved Design Methodology for a 2 GHz Class-E Hybrid Power Amplifier Using Packaged GaN-HEMTs	1437
<i>J. Flucke, C. Meliani, F. Schnieder, Wolfgang Heinrich</i>	
A Low-Cost 24GHz Doppler Radar Sensor for Traffic Monitoring Implemented in Standard Discrete-Component Technology.....	1441
<i>F. Alimenti, F. Placentino, A. Battistini, G. Tasselli, W. Bernardini, P. Mezzanotte, D. Rascio, V. Palazzari, S. Leone, A. Scarponi, N. Porzi, M. Comez, L. Roselli</i>	
Range Doppler Detection for Automotive FMCW Radars	1445
<i>Volker Winkler</i>	
Performance Analysis of RADARSAT-2 Multi-Channel MODEX Modes.....	1449
<i>Shen Chiu</i>	
W-Band Substrate Integrated Waveguide Radar Sensor Based on Multi-Port Technology	1453
<i>Emilia Moldovan, Serioja O. Tatu, Sofiene Affes, Renato G. Bosisio, Ke Wu</i>	
A 19GHz VCO Downconverter MMIC for 77GHz Automotive Radar Frontends in a SiGe Bipolar Production Technology.....	1457
<i>H.P. Forstner, H. Knapp, C. Gamsjager, H.M. Rein, J. Bock, T. Meister, K. Aufinger</i>	
Novel Secondary Radar for Precise Distance and Velocity Measurement in Multipath Environments.....	1461
<i>Sven Roehr, Peter Gulden, Martin Vossiek</i>	
A Ka-Band, Magnetron Based, Scanning Radar for Airborne Applications	1465
<i>V.A. Volkov, D.M. Vavriv, R.V. Kozhin, L.V. Shevtsova, Yong-Hoon Kim, Hoon Lee</i>	
Multi-Range and Multi-Pulse Radar Detection in Correlated Non-Gaussian Clutter	1469
<i>Ulku Cilek Doyuran, Yalcin Tanik</i>	
Feasibility Study of a Multi-Carrier Dual-Use Imaging Radar and Communication System	1473
<i>Dmitriy Garmatyuk, Jonathan Schuerger, Y.T. Morton, Kyle Binns, Michael Durbin, John Kimani</i>	
A New Approach for Evaluating the Phase Noise Requirements of STALO in a Doppler Radar	1477
<i>Sung-Chan Song, Yun-Seok Hong</i>	
A Radar Frontend with Time Steered Array Antenna for PAMIR.....	1481
<i>H. Wilden, O. Saalman, B. Poppelreuter, O. Peters, A. Brenner</i>	
Broadband Active Sensor for the SOSTAR Airborne SAR/MTI Radar	1485
<i>Eirik Grorud, Catherine Mehl, Michael Moll, Christian Renard, Eva Semmler, Kosmas Weidmann</i>	
TCAR: The Trans-Atlantic Cooperation for a State-of-the-Art AGS Radar.....	1489
<i>Peter Hoozeboom, Stephane Buvry, Andreas Lohner</i>	

Table of Contents

New Practical Application of Ultra-Wideband Radars.....	1495
<i>Igor Y. Immoreev</i>	
Experimental Evaluation of an Array GPR for Landmine Detection.....	1499
<i>Timofey Savelyev, Alexander G. Yarovoy, L.P. Ligthart</i>	
C-Band Low-Loss Phase Shifter $>360^\circ$ for WLAN Applications	1503
<i>Mohammed A. El-Tanani, Gabriel M. Rebeiz</i>	
High Isolation Substrate Integrated Coaxial Feed for Ka-Band Antenna Arrays.....	1507
<i>Holger Pawlak, Max S. Reuther, Arne F. Jacob</i>	
A Novel Design Method for Blass Matrix Beam-Forming Networks.....	1511
<i>Federico Casini, Roberto Vincenti Gatti, Luca Marcaccioli, Roberto Sorrentino</i>	
A Novel Rotman Lens in SIW Technology	1515
<i>Elisa Sbarra, Luca Marcaccioli, Roberto Vincenti Gatti, Roberto Sorrentino</i>	
Design of a Travelling-Wave Aperture-Coupled Circularly-Polarized Concentric Ring Array	1519
<i>Chunwei Min, Charles E. Free</i>	
The Impact of SARA for Further Advances in Automotive Microwave Sensing	1523
<i>Gerhard Rollmann, Hans-Ludwig Blocher</i>	
KOKON --- Automotive High Frequency Technology at 77/79 GHz.....	1526
<i>Robert Schneider, Hans-Ludwig Blocher, Karl M. Strohm</i>	
Short Range Radar --- Status of UWB Sensors and Their Applications	1530
<i>Hans Dominik</i>	
Short Range Radar --- Being on the Market.....	1534
<i>Josef Wenger</i>	
Functional Requirements of Future Automotive Radar Systems.....	1538
<i>Ralph H. Rasshofer</i>	
Bistatic Radar Cross Section of Two-Dimensional Random Rough Layers in the High-Frequency Limit.....	1542
<i>Nicolas Pinel, Christophe Bourlier, Joseph Saillard</i>	
Spectrum of Rough Sea Surfaces Covered in Oil: Consequences on the Radar Cross Section	1546
<i>Nicolas Pinel, Christophe Bourlier, Nicolas Dechamps</i>	
Polarimetric Approach to Detection of Probable Aircraft Icing Zones: Icing Detection Algorithms.....	1550
<i>A.A. Pitertsev, Felix J. Yanovsky</i>	
A Simple Robust Detection of Weak Target in Noise Radars.....	1554
<i>Krzysztof Kulpa, Jacek Misiurewicz, Zbigniew Gajo, Mateusz Malanowski</i>	
Field Polarization Transformation by Bodies with Negative Refractive Index.....	1558
<i>Sergey Knayzev, Boris Panchenko, Sergey Shabunin</i>	
Investigating the Influence of the Antennas on UWB System Impulse Response in Indoor Environments.....	1562
<i>Jens Timmermann, Malgorzata Porebska, Christian Sturm, Werner Wiesbeck</i>	
GaAs Monocycle Pulse Generator for UWB Applications.....	1566
<i>S. Mazer, C. Rumelhard, C. Algani, M. Terre, F. Deshours</i>	
Noise Characterization of Ultra Low Noise Differential Amplifiers for Next Generation Radiotelescopes	1570
<i>J. Morawietz, R.H. Witvers, J.G. Bij de Vaate, E.E.M. Woestenburger</i>	
Comparison of UWB Technologies for Human Being Detection with Radar	1574
<i>Alexander G. Yarovoy, X. Zhuge, Timofey Savelyev, L.P. Ligthart</i>	
Chaotic UWB Transceiver with Tunable Chaotic Signal Generation in CMOS 0.18(μ)m Technology	1578
<i>Sang-Min Han, Oleg Popov, Yun Seong Eo</i>	

Table of Contents

Coplanar Line Based Low Loss Microwave Phase Shifters with Electromechanical Control.....	1582
<i>Yuriy Prokopenko, Irina Golubeva, Victor Kazmirenko, Yuriy Poplavko</i>	
Compact Front-End Filter Banks for Wideband Multi-Role AESA Systems	1586
<i>Niklas Billstrom, Johan Sandwall</i>	
UTSi CMOS Tunable RF Front-End Filters and LNAs for Wide-Band Phased Array Antennas.....	1590
<i>Robert Malmqvist, Jonas Hedman, Carl Samuelsson, Niklas Billstrom, Andreas Gustafsson</i>	
A Low-Noise Front-End with Beamsteering Capability at 35 GHz	1594
<i>Hannes Grubinger, Helmut Barth, Rudiger Vahldieck</i>	
Ultra Wideband Microstrip Antenna for Phased Array Applications.....	1598
<i>Abdelnasser A. Eldek</i>	
Resonant-Tunneling Diode on the Basis of Silicon Multilayer Cathode	1602
<i>Nina M. Goncharuk</i>	
Influence of Hardware Parameters on the Performance of Future Indoor THz Communication Systems Under Realistic Propagation Conditions	1606
<i>Radoslaw Piesiewicz, Martin Jacob, Joerg Schoebel, Thomas Kurner</i>	
A Dual Radiometer System for Traffic Monitoring.....	1610
<i>Mario Leib, Muhammad Fahad Khan, Winfried Mayer, Wolfgang Menzel</i>	
Towards a Frequency-Selective Microwave Power Limiter for Defense and Aerospace Applications.....	1614
<i>Alain Phommahaxay, Gaelle Lissorgues, Lionel Rousseau, Tarik Bourouina, Pierre Nicole</i>	
Hybrid Distributed Amplifier Using MCM-D Based on Selectively Anodized Aluminium Substrate.....	1618
<i>Bo-In Sohn, Seong-Ho Shin, Young-Se Kwon</i>	
A High Linearity Chireix Outphasing Power Amplifier Using Composite Right/Left-Handed Transmission Lines	1622
<i>Sang-Ki Eun, Seung Hun Ji, Choon Sik Cho, Jae W. Lee, Jaeheung Kim</i>	
Pattern Scanning in Low Sidelobe Phased Array Antennas Using Pattern Search Algorithms.....	1626
<i>Siamak Ebadi, Keyvan Forooraghi</i>	
A 2-D Electronic Beam Steering Phased Array for Point-Multipoint Communication Applications	1629
<i>Matteo Albani, Tindaro Cadili, Francesco Di Maggio, Renato Gardelli, Antonino Incorvaia, Carmelo Mollura, Ignazio Pomona, Massimo Russo, Elisa Sbarra, Roberto Sorrentino, Roberto Vincenti Gatti</i>	
Multislot Transmission Line Phase Shifter Combined with the Planar Irradiator for Scanning Antenna.....	1633
<i>A.A. Semenov, I.G. Mironenko, A.A. Ivanov, Chong-Yun Kang, P.J. Beljavski, S.F. Karmanenko</i>	
Four-Square Phased Array for Multi-Beam Applications Using Novel Matrix Feed	1637
<i>Klaus Solbach, Stefanie Angenendt</i>	
Microwave Propagation Over the South Ocean.....	1641
<i>Vyacheslav N. Shalyapin, Victor K. Ivanov</i>	
Dispersion Analysis of a Planar Negative Group Velocity-Transmission Line	1644
<i>Giuseppina Monti, Luciano Tarricone</i>	
A Fully Integrated CMOS RF Transmitter for UHF Mobile RFID Reader Applications.....	1648
<i>Kyudon Choi, Yun Seong Eo, Sungjae Jung, Ickjin Kwon, Heung-Bae Lee, Young-jin Kim</i>	
Electromagnetic Environment of RFID Systems	1652
<i>Delia Arnaud-Cormos, Thierry Letertre, Antoine Diet, Alain Azoulay</i>	
The Use of Intermodulation Distortion for the Design of Passive RFID.....	1656
<i>Hugo Cravo Gomes, Nuno Borges Carvalho</i>	

Table of Contents

ASK Modulator for RFID System using a Novel Variable DGS Resonator.....	1660
<i>Yoon-Deock Lee, Kwan-Kyu Nae, Eun-Jin Lee, Hyoung-Hwan Roh, Jin-Wook Jung, Young-Kou Han, Jin-Woo Jung, Seok-Cheon Baek, Myeong-Sub Jung, Hong-Goo Cho, Ha-Ryoung Oh, Yeong-Rak Seong, Jun-Seok Park</i>	
Analysis of Phase Noise Requirements on Local Oscillator for RFID System Considering Range Correlation	1664
<i>Jae-Hyun Bae, Jong-Cheol Kim, Bu-Won Jeon, Jin-Woo Jung, Jun-Seok Park, Byung-Jun Jang, Ha-Ryoung Oh, Young-Joo Moon, Yeong-Rak Seong</i>	
Jitter Analysis of Electrical Samplers Based on a Propagation Line	1668
<i>Benoit Gorisse, Hassan El Aabbaoui, Nathalie Rolland, Paul-Alain Rolland</i>	
UWB Communication Using Fractal Signals	1672
<i>V.N. Bolotov, Yu.V. Tkach</i>	
X Band Receiver Noise Temperature Improvement in ESA Deep Space Antennas.....	1676
<i>Stephane Halte</i>	
Attenuation of Multipath Components Using Directional Antennas and Circular Polarization for Indoor Wireless Positioning Systems	1680
<i>R. Szumny, K. Kurek, Josef Modelski</i>	
Planar Limiters and Receiver Protectors	1684
<i>Brian M. Coaker, D. Mark Douthwaite</i>	
A Narrow Beam Low Sidelobe Level Planar Monopulse Antenna Design Using Pattern Search Algorithm	1688
<i>Z. Vahidpoor, Z. Atlasbaf</i>	
Image Formation Algorithm for Space-Surface BSAR.....	1692
<i>Michail Antoniou, Rajesh Saini, Rui Zuo, Mikhail Cherniakov</i>	
Millimetre Wave Radar Visualisation in Mines.....	1696
<i>G. Brooker, E. Widzyk-Capehart, S. Scheduling, R. Hennessy, C. Lobsey</i>	
Forward Scatter RCS Estimation for Ground Targets	1700
<i>V.I. Sizov, Mikhail Cherniakov, Michail Antoniou</i>	
Comparison of Bistatic Signatures of Octahedral and Icosahedral Reflectors in High-Frequency Domain.....	1704
<i>Gildas Kubicke, Christophe Bourlier, Joseph Saillard</i>	
Joint Influence of Rain Rate and Turbulence on Radar Signal Spectrum Width	1708
<i>Yahya S.H. Khraisat, Felix J. Yanovsky</i>	
Statistical Distribution for Scattering Mechanism of Targets Based on Eigenvector Decomposition in Polarimetric Radars	1712
<i>B. Zakeri, Ayaz Ghorbani, Michele Galletti</i>	
Performance Evaluations of Frequency Diversity Radar System	1715
<i>Valentina Ravenni</i>	
Modification of Resonance Poles of a Conducting Target by a Dielectric Coating.....	1719
<i>Janic Chauveau, Nicole de Beaucoudrey, Joseph Saillard</i>	
Joint Estimation of Target Doppler Frequency and Azimuth Angle of Scanning System Radar	1723
<i>Hui Chen, Benxiong Huang, Bin Liu, Bin Deng</i>	
Adaptive AR Model Based Detection in Nonhomogeneous Environment	1727
<i>Hamid Azad, Abbas Sheikhi</i>	
Adaptive Algorithm for Moving Target Detection and Velocity Estimation.....	1731
<i>Igor G. Prokopenko, Felix J. Yanovsky, Kostantin I. Prokopenko</i>	

Table of Contents

Data Fusion of Secondary and Primary Surveillance Radars for Increased Robustness in Air-Traffic Monitoring.....	1735
<i>Maria Andersson, Michael Ilestrand</i>	
Accurate Distance Measurement with a Wideband High Resolution Pseudo Noise Coded Radar	1739
<i>C. Meier, A. Terzis, S. Lindenmeier</i>	
Development of TanDEM-X DEM Calibration Concept	1743
<i>J. Hueso Gonzalez, Markus Bachmann, H. Fiedler, S. Huber, Gerhard Krieger, B. Wessel, M. Zink</i>	
Use of the Ground Penetrating Radar Methods for Paleontology on Example of the Mammoth Fauna Investigation	1747
<i>S.P. Lukjanov, R.A. Stepanov, I.A. Chernyi, O.V. Stukach</i>	