

# **2022 IEEE MTT-S International Microwave Workshop Series on Advanced Materials and Processes for RF and THz Applications (IMWS-AMP 2022)**

**Guangzhou, China  
12-14 December 2022**

**Pages 1-667**



**IEEE Catalog Number: CFP2277Y-POD  
ISBN: 978-1-6654-7835-9**

**Copyright © 2022 by the Institute of Electrical and Electronics Engineers, Inc.  
All Rights Reserved**

*Copyright and Reprint Permissions:* Abstracting is permitted with credit to the source. Libraries are permitted to photocopy beyond the limit of U.S. copyright law for private use of patrons those articles in this volume that carry a code at the bottom of the first page, provided the per-copy fee indicated in the code is paid through Copyright Clearance Center, 222 Rosewood Drive, Danvers, MA 01923.

For other copying, reprint or republication permission, write to IEEE Copyrights Manager, IEEE Service Center, 445 Hoes Lane, Piscataway, NJ 08854. All rights reserved.

***\*\*\* This is a print representation of what appears in the IEEE Digital Library. Some format issues inherent in the e-media version may also appear in this print version.***

IEEE Catalog Number:	CFP2277Y-POD
ISBN (Print-On-Demand):	978-1-6654-7835-9
ISBN (Online):	978-1-6654-7834-2

**Additional Copies of This Publication Are Available From:**

Curran Associates, Inc  
57 Morehouse Lane  
Red Hook, NY 12571 USA  
Phone: (845) 758-0400  
Fax: (845) 758-2633  
E-mail: [curran@proceedings.com](mailto:curran@proceedings.com)  
Web: [www.proceedings.com](http://www.proceedings.com)

CURRAN ASSOCIATES INC.  
**proceedings**  
.com

## TABLE OF CONTENTS

Modelling of Substrate Integrated Shielded Asymmetrical Coplanar Stripline and Its Transition to Coaxial Line .....	1
<i>Qun Li, Guokai Xu, Shaoqiu Xiao</i>	
A Balanced Dual-Band Substrate Integrated Dielectric Strip Resonator Filter .....	4
<i>Kai Xu, Mengdan Wang, Jin Shi</i>	
Progress on Phase-Shift Elements Using Substrate Integrated Delay Lines for MMW and THz Reflectarray and Transmitarray Applications .....	7
<i>Zhuo-Wei Miao, Zhang-Cheng Hao</i>	
Application Research of Coupled Transmission Line Based on Electromagnetic Band Gap Structure .....	10
<i>Ke Yang, Shi-Wei Dong</i>	
A Carrier Aggregation Pentaplexer with Optimized Phase Shifter Network in BAW Technologies .....	13
<i>Tianjun Liu, Bo Du, Hui Zhong, Hualei Wang</i>	
Waveguide-Iris Band-Pass Filter with All Higher-Order Modes Suppression.....	16
<i>Weibing Zhang, Jinwen Shi, Long Zhang, Siqi Wang</i>	
Stability of the Extended WCS-FDTD Method Including the Lumped Resistor .....	19
<i>Xiang-Lin Chen, Yong-Dan Kong</i>	
Coupling-Routing-Diagram Modeling of Predistorted Sharp-Rejection Diplexers with Flattened-Passband Channels .....	22
<i>Roberto Gómez-García, José-María Muñoz-Ferreras, Li Yang</i>	
Advanced Microwave Balanced Structures on Coplanar Stripline (CPS) with Intrinsic Common-Mode Suppression .....	25
<i>Zhao-An Ouyang, Lei Zhu, Lei-Lei Qiu, Linping Feng, Shancheng Zhao</i>	
A Ku-Band Crossover Based on Rectangular Waveguide and Its S-Parameter Analysis .....	28
<i>Yunhao Fu, King Yuk Chan, Rodica Ramer</i>	
Study on Circular Waveguide for CAT6e Cable for Future Communication Systems .....	31
<i>Arslan Ahmed, Fauziahanim Binti Che Seman, Yee See Khee, Izhar Ahmed</i>	
A W-Band SIW Bandpass Filter with Controllable Transmission Zeros Using Perturbed Resonant Cavity .....	34
<i>Shuting Tan, Haohui Yi, Yu Xiao, Zengping Chen</i>	
Filtering Components by Using Dielectric Waveguide Resonators.....	37
<i>Yu-Ke Zhou, Hai-Ling Zhang, Wei Qin, Jian-Xin Chen</i>	
A Compact Ka-Band Bandpass Filter Using Lumped-Distributed Resonator Based on Integrated Passive Device Process.....	40
<i>Na Ji, Guangxu Shen, Quan Xue, Wenquan Che</i>	
A Broadband, Via-Less, and Reusable Characterization Method for Advanced Packaging Materials with Multimode Gap Waveguide Resonator.....	43
<i>Xiao Xuan Song, Ya Fei Wu, Yongxin Guo, Yu Jian Cheng</i>	

Electroplating of 3D Printed Plastic Component for the Application of Microwave Filter.....	46
<i>Nanya Li, Guido Link, John Jelonnek</i>	
Performance Optimization of FBAR Filters with Wafer-Level Chip-Scale Package Using Embedded Matching Inductors on Multilayer PCB .....	49
<i>Huaiqiang Yu, Xi Wang, Xiao Peng, Lei Zhang, Pingying Jiang, Xuemei Zhao, Like Deng, Jinyi Ma</i>	
Large Coupling Surface Acoustic Wave Resonator Based on SiO <sub>2</sub> /5°Y-X LiNbO <sub>3</sub> Structure .....	52
<i>Tiannian Li, Bo Du, Hui Zhong, Hualei Wang</i>	
Study on Microwave Drying Characteristic for PET Materials.....	55
<i>Chongwei Liao, Yi He, Qian Chen, Changjun Liu</i>	
A Passive Temperature Compensation Phase Shifter Based on Titanate Substrate .....	58
<i>Xi Wang, Lei Zhang, Xuemei Zhao, Jiahong Peng, Yuting Tan, Like Deng, Huaiqiang Yu</i>	
Integrated Circuits in SiGe BiCMOS for Millimeter-Wave and Terahertz Bioanalyzers .....	61
<i>Dietmar Kissinger</i>	
A 110-163GHz T/R Switch Using Coupled Lines and Negative Biasing in 40nm CMOS .....	64
<i>Qiuhan Zhang, Yifan Ding, Yizhu Shen, Sanming Hu</i>	
A 2.5-GHz Low Phase Noise BAW-Based Oscillator in 65nm CMOS Process.....	67
<i>Jiajian Liang, Haoshen Zhu, Liang Chen, Pei Qin, Wenquan Che, Quan Xue</i>	
A 0.3-THz SiGe-Based Sub-Harmonic Injection Locked Oscillator .....	70
<i>Zheng Yan, Zhe Chen, Zekun Li, Jixin Chen, Wei Hong</i>	
A 26-40GHz Transformer-Coupled LNA with 3.1-3.7 dB Noise Figure in 22nm FD-SOI.....	73
<i>Qi Zhang, Bowen Xia, Wenhua Chen, Haigang Feng, Lei Wang</i>	
A 0.22 THz Input/Output Power Coupling System for Sheet Beam Traveling Wave Tubes .....	76
<i>Qi Li, Guoxiang Shu, Guangxin Lin, Jingcong He, Jiakai Liao, Jujian Lin, Junchen Ren, Qingyi Guo, Wenlong He</i>	
Three-Dimensional Anatomically Realistic Numerical Head Model Construction Based on T1- Weighted MRIs for Microwave Hemorrhagic Stroke Imaging .....	78
<i>Qinwei Li, Lunxiao Wang, Xiaoguang Lu, Ming Yu</i>	
A Compact Broadband Metasurface Antenna Using Parallel-Plate Capacitive Loading.....	81
<i>Dongxu Chen, Haotian Liu, Wanchen Yang, Jiaqi Chen, Ning Cao, Wenquan Che, Quan Xue</i>	
In-Band RCS Reduction Technique of Waveguide Slot Array Antenna Based on AMC and PEC Chessboard Structure.....	84
<i>Yulan Wang, Zeqin Huang, Zongxin Wang</i>	
Comb-Shaped Miniaturized Microstrip Antenna Loaded with N-Shaped Metasurfaces.....	87
<i>Hu Wei, Xiaofei Xu, Hao Lu</i>	
Dual-Band Dual-Circularly Polarized Metasurface Antenna Based on Traveling-Wave Sequential Feeding Mechanism.....	90
<i>Chujun Liang, Wanchen Yang, Wenquan Che, Quan Xue, Dongxu Chen</i>	
A 2-Bit Reconfigurable Reflectarray Unit Design Using Only 2 PIN Diodes.....	93
<i>Luohao Liu, Fan Yang, Shenheng Xu, Maokun Li</i>	

A Novel Broadband, 1-Bit Reconfigurable Unit Cell Design.....	95
<i>Xiaofeng Li, Guangming Wang</i>	
A Dual-Band Circularly Polarized Stacked Array Antenna with High Isolation for Satellite Communication .....	97
<i>Songlin Zhou, Jilong Zhang, Fan Yang, Shenheng Xu, Maokun Li</i>	
A Dual Circularly Polarized Co-Aperture Yagi Antenna Based on Counter-Wound Helix .....	100
<i>Yani Yuan, Zhenxin Hu, Jianzhong Li, Zhen-Ge Zhang, Gary Zhang</i>	
LTCC-Based Wideband Dual-Polarized Magneto-Electric Dipole Antenna Array with High Isolation.....	103
<i>Kang Yu Yang, Wen Jian Zhu, Liang Hua Ye, Jian-Feng Li, Duo-Long Wu</i>	
A Cuboid Dielectric Resonator Antenna with Shared Radiator for Full Duplex Application.....	106
<i>Yu-Zhong Liang, Fu-Chang Chen, Xiu Yin Zhang, Yun Wang</i>	
Dual-Band Leaky-Wave Antenna Array with Large Frequency Ratio Based on Single-Layer HMSIW and SIW Structures .....	109
<i>Yunjie Geng, Junhong Wang</i>	
A Dual-Polarized Crisscross-Shaped Antenna with Enhanced Front-To-Back Ratio for Base Stations.....	112
<i>Shuang Qiu, Chao Wu, Jinghui Qiu, Oleksandr Denisov, Vasyl Molebny</i>	
A Ka-Band Eight-Channel Transmit Beamformer Based on 0.13- $\mu\text{m}$ Bi-CMOS .....	115
<i>Ye Yuan, Bo Zhou, Shichao Jin, Zhuoheng Xie, Dunge Liu, Yuqian Yang, Bo Huang, Yue Feng, Chenyu Mei, Jun Huang, Lipeng Liu, Chao Wang</i>	
Noise Figure Measurement of Single Branch in Integrated Multi-Channel Receive System.....	118
<i>Lin Chenchen, Li Xiaoxiao, Sun Peng, Li Gang, Nie Shikang, Li Guangting</i>	
Shared-Aperture K/Ka-Band Phased Array for Satellite Communication.....	121
<i>Shichao Jin, Chenyu Mei, Dunge Liu, Jun Huang, Bo Zhou, Chunjiao Fei, Yuqian Yang, Lipeng Liu</i>	
Near-Field Dual-Polarized Feedback Technique for Linearity Enhancement of 5G Millimeter-Wave Phased Array.....	124
<i>Huang-Ping Shao, Yucheng Yu, Ren Rong Zhao, Peng Chen, Chao Yu</i>	
Design of Low Loss Ka-Band SPDT Switch Based on AlGaIn/GaN HEMT Technology .....	127
<i>Lei Wang, Yong Fan, Yu Jian Cheng</i>	
Highly Integrated Q/V-Band Multi-Beam Phased Array Antenna for LEO Communication Satellite.....	130
<i>Yu-Qian Yang, Shichao Jin, Dunge Liu, Bo Yang, Jun Huang, Yujian Cheng, Chunjiao Fei, Bo Zhou, Chenyu Mei, Lipeng Liu, Lei Zhang</i>	
Millimeter-Wave Polarization-Reconfigurable Metasurface Antenna Based on VO <sub>2</sub> Films .....	133
<i>Suwu Ma, Wanchen Yang, Wenquan Che, Quan Xue, Jinghao Li</i>	
3D Lightweight Broadband Terahertz Absorber Based on Reduction Graphene Oxide.....	136
<i>Xiao Sun, Zhaoyun Duan, Qiye Wen</i>	
Material Origin of the Nonlinear Response in Magnetolectric Mechanical Antennas.....	139
<i>Zhaoqiang Chu, Kaixin Song, Shugang Min, Ying Shen</i>	

A Portable VLF Magnetolectric Antenna with High Communication Rate Based on Direct Antenna Amplitude Modulation .....	141
<i>Jiacheng Qiao, Jingen Wu, Yongjun Du, Yiwei Xu, Zhongqiang Hu, Ming Liu</i>	
A Wideband High Gain Dumbbells-Shaped Magnetolectric Dipole Antenna .....	144
<i>Mei Ling, Yu Du, Jianying Li</i>	
77GHz Ultrawide-Beam Magneto-Electric Dipole Antenna Array with High Isolation .....	147
<i>Yinbo Zhao, Zengdi Bao, Yang Li</i>	
Codesign of 77GHz Automotive Radar Double-Resonance Millimeter Wave Slot Taper-Patch Antenna and Compact Waveguide-Microstrip Transition .....	150
<i>Kuan Zhang, Guangyin Feng, Yanjie Wang</i>	
Wideband Circularly Polarized Dielectric Resonator Antenna Array with Integrated Artificial Electromagnetic Boundaries.....	153
<i>Chao-Jun Ma, Shao-Yong Zheng</i>	
A Miniaturized Coaxially Nested Co-Aperture Dipole for Base Station Antenna.....	156
<i>Hongxi Liu, Hua Yang, Wen Ding, Hanwei Li</i>	
A Dual-Mode Dual-Channel Dielectric Waveguide Filter.....	159
<i>Wei Yu, Jian-Xin Chen</i>	
3-D Printed Monolithic Dielectric Waveguide Filter Using LCM Technique .....	162
<i>Lu Qian, Emelia Hayward, Milan Salek, Zhifu Liu, Jorma Vihinen, Yi Wang</i>	
Low-Profile Dielectric Resonator Antenna with Wide Beamwidths .....	165
<i>Hai Ting Fang, Wen Wen Yang, Lei Guo</i>	
A Wideband Mm-Wave Endfire Antenna Utilizing Multi-Mode Dielectric Patch Resonator .....	167
<i>Yanyun Chen, Jin Shi, Lei Wang</i>	
A Shielding-Free Dielectric Resonator Filter Using Asymmetry Coupled Feeding Lines .....	170
<i>Zerong Wu, Shaoyong Zheng</i>	
Energy Transport Theorem (ETT)-Based Decoupling Mode Theory (DMT) for Wave-Port-Fed Transmitting-Receiving Systems.....	173
<i>Ren-Zun Lian, Long Li</i>	
A 1-Bit Wideband Circularly Polarized Reflective Reconfigurable Metasurface with Sequentially Rotated Elements in Ku-Band .....	176
<i>Xiangjin Ma, Jiaqi Han, Guanxuan Li, Lihao Zhu, Houcun Wu, Long Li</i>	
Digital Coding Graphene FSS and Its Application in Full Angle Beam Scanning THz Antenna.....	179
<i>Nan Hu, Wenqing Xie, Jianrui Liu, Shuang Liu, Lixin Zhao</i>	
Intelligent Reconfigurable Omni-Metasurface for Dynamic Microwave Control.....	182
<i>Qi Hu, Kui Tang, Ke Chen, Yijun Feng</i>	
Optically-Controlled Coupling-Enhanced EIT Metasurface Structure Based on VO <sub>2</sub> .....	185
<i>Ruijie Li, Qiang Feng, Zhenguo Ban, Yan Shi, Long Li, Haixia Liu</i>	
Design of Slot-Coupled Broadband 5G mmWave Base Station Antenna Based on Double-Layer Patch.....	188
<i>Chao You, Yejun He, Wenting Li, Long Zhang, Sai-Wai Wong, Zongyi Zhou</i>	

Aperture-Shared Dual-Band Antenna Array Using Periodic Unit Cells Covering the Millimeter-Wave and Sub-6 GHz Bands .....	191
<i>Zhi Jing Xiao, Jia Sheng Lin, Yun Fei Cao, Xiu Yin Zhang</i>	
Design of 5G mm-Wave Base Station Antenna Based on Multilayer PCB Technology .....	194
<i>Haibo Zhang, Liangyu Tao, Dawei Ding, Lixia Yang</i>	
Multi-Layer Substrates for Decoupling of Antenna Array with Pattern Conformal .....	197
<i>Jia-Qi Li, Qing-Xin Chu</i>	
Research on Radiation Characteristics of Acoustic Excited Miniaturized Antenna Based on Lithium Niobate Piezoelectric Crystal .....	200
<i>Yifan Fu, Wanqing Li, Xiangwei Zhu, Jiuping Zhong, Du Li</i>	
Enhancing Isolation of Two-Port Single Patch Antenna by Shifting Electric Wall .....	203
<i>Hui Deng, Lei Zhu</i>	
A Flexible Material-Based Circularly Polarized Broadband Metasurface Antenna for WBAN .....	206
<i>Rigeng Wu, Xinguang Zhang, Wen Pan, Li Liu, Jian Dong</i>	
Measurement-Based RLGC Extraction for Improving YIG-Based Frequency Selective Limiter Modelling .....	209
<i>Zequn Zeng, Si-Ping Gao, Yong-Xin Guo</i>	
A Novel Microwave Ferrite Circulator with Flexible Hybrid Structure and Wide Bandwidth .....	212
<i>Chengliang Wang, Zongliang Zheng, Sheng Sun, Quanyuan Feng</i>	
A Conformal Transparent Broadband Absorber Based on ITO-PET and PMMA .....	215
<i>Jia-Xing Cang, Zhi-Yuan Zong, Ya-Mei Yan, Wen Wu</i>	
3D High-Efficiency Optically Transparent Absorber Using Standing-Up Split Combined Rings .....	218
<i>Hao Jiang, Fanyu Meng, Shaowei Liao, Quan Xue</i>	
A Frequency Selective Surface with Wide Passband and Lower-Rejection Band Based on Magneto-Electric Dipole Antennas .....	221
<i>Huawei Lin, Yin Li, Sai-Wai Wong, Baiyang Liu, Shahid Iqbal, Cheng Teng, Kam Weng Tam</i>	
A Low-Profile Folded Programmable Metasurface Using 1-Bit Polarization-Converted Coding Element .....	224
<i>Zhuo Ran Huang, Lei Zhang, Xiao Qing Chen, Yi Ning Zheng, Tie Jun Cui</i>	
A Laterally Excited Bulk Acoustic Wave Resonator Towards High Figure-Of-Merit in Radio-Frequency Applications .....	227
<i>Xin Tong, Jie Zhou, Zhiwei Wen, Yuchen Fan, Jieyu Liu, Yan Liu, Wenjuan Liu, Bo Woon Soon, Yao Cai, Chengliang Sun</i>	
Enhancement-Mode AlN/GaN Fin-Type High Electron Mobility Transistor with Low Knee Voltage .....	230
<i>Can Gong, Minhan Mi, Yuwei Zhou, Pengfei Wang, Hanzhen Li, Sirui An, Qing Zhu, Meng Zhang, Xiaohua Ma</i>	
A K-Band Low Noise Amplifier in 65-Nm CMOS with 3.3-DB NF and 18.1-DB Power Gain .....	233
<i>Xin Chen, Xiangzheng Ren, Depeng Cheng, Jing Feng, Xu Wu, Qingsheng Hu, Xiangning Fan, Lianming Li</i>	

A 94-GHz 4TX/4RX Phased-Array Transceiver for FMCW Radar with 16dBm Output and 8.8 dB NF in 65nm CMOS .....	236
<i>Zelin Song, Chenxi Zhao, Yiming Yu, Xuanshuo Liu, Ruoning Wang, Shuangmin Zhang, Siyu Yang, Huihua Liu, Yunqiu Wu, Kai Kang</i>	
Spur Cancellation Digital Predistortion for HF Transmitters with Carrier Aggregation .....	239
<i>Long Chen, Wenhua Chen, Xiaofan Chen, Youjiang Liu, Zhenghe Feng</i>	
A Graded-Gate Structure of AlN/GaN HEMT for High-Linearity Applications .....	242
<i>Bowen Zhang, Jiejie Zhu, Siyu Liu, Jingshu Guo, Lingjie Qin, Yuxi Zhou, Xiaohua Ma</i>	
A 220 GHz 5-Bit Phase Shifter with Low Phase-Error in 0.13 $\mu$ m BiCMOS Technology .....	245
<i>Huiying Wu, Jinxin Li, Fanyi Meng</i>	
Design of a Ku-Band Single Stage MMIC PA Based on Cluster Guided Bayesian Optimization .....	248
<i>Zefang Hao, Jia Guo, Jialin Cai</i>	
Superconducting Quantum Interference Device Magnetometer System for Geomagnetic Field and VLF Field Measurements .....	251
<i>Peng Yang, Longqing Qiu, Liangliang Rong, Guofeng Zhang, Jun Wu, Yifeng Pei, Chen Huang</i>	
A 0.5 THz Passive Quadrupler in 65 nm CMOS .....	254
<i>Xin-Yu Wang, Jun-Yi Zhang, Jin-Hui Qie, Fei Yang</i>	
A 600GHz Dual-Polarized SIW Antenna Array with Jerusalem Cross Structure Based on 0.18 $\mu$ m CMOS.....	257
<i>Zhengyu Lin, Jun-Yi Zhang, Jin-Hui Qie, Fei Yang</i>	
A Millimeter-Wave Photonic Crystal Circulator .....	260
<i>Biaogang Xu, Dengguo Zhang, Yong Wang, Wenlong He</i>	
A Dual-Band Reconfigurable Frequency Selective Surface Design Using Characteristic Mode Analysis.....	262
<i>Zihao Ning, Mengmeng Li, Dazhi Ding</i>	
A Flexible and Transparent Broadband Absorber with High Absorptance Throughout K-Band and Ka-Band .....	264
<i>Yang Liu, Yanpei Guo, Guiyang Liu, Senfeng Lai</i>	
High Performance Filtering Crossover Using Ring Resonator.....	267
<i>Kuan Deng</i>	
Terahertz Beam Splitter Based on Self-Complementary Coding Metasurfaces .....	270
<i>Zheng Liu, Shi-Shan Qi, Wen Wu, Zhi Hou</i>	
Resonator-Based Analog Phase Shifter with Small Loss Variation and Phase Error.....	273
<i>Chuan Shao, Hui Chu, Xiao-Hua Zhu</i>	
Wideband 12-Port Interferometer for 2-Dimension Direction of Arrival Estimation and Frequency Measurement .....	276
<i>Xiao Yang, Junwei Xie, Xuchun Zhang, Chen Qi, Zhenheng Liao, Minghui Yang</i>	
Compact 4.0–5.1 GHz Filtering Power Divider with Low Insertion Loss and Wide Stopband Using RC-Loaded Coupled SIDGS Resonators.....	279
<i>Jiayi Jane Zhao, Deshan Tang, Huizhen Jenney Qian, Yuandan Dong, Xun Luo</i>	



A Reconfigurable Folded Transmitarray Antenna with Circular Polarization .....	282
<i>Tang-Jing Li, Guang-Ming Wang</i>	
Optimization of Radar Resource Scheduling Based on Improved Ant Colony Algorithm.....	285
<i>Z. X. Huang, S. C. Hu, B. K. Zhang, Y. X. Liu, S. He, W. B. Li</i>	
A Compact Horizontally-Polarized End-Fire Leaky Wave Antenna Based on Coplanar Stripline.....	288
<i>Junbing Duan, Lei Zhu</i>	
A Miniaturized Circular-Polarization Reconfigurable UHF Antenna for Satcom .....	291
<i>Kun Tang, Yunfan Deng, Shaowei Liao, Quan Xue</i>	
A Novel E-Plane MIMO Patch Antenna Using Compact Decoupling Method .....	294
<i>Tianqi Pei, Jianpeng Wang, Lei Zhu, Wen Wu</i>	
A Low Cross-Polarization Multilayer Microstrip Linear-Array .....	297
<i>Chengyun Cao, Zhenbo Cheng, Youjie Yan, Shoulong Zhang, Jinhong Wei, Dianxi Wang</i>	
Single-Beam OAM Generator Based on Transmission-Coding Metasurface.....	300
<i>Xiaobin Liu, Sijia Li, Zhuoyue Li, Guoshuai Huang, Jie Liu</i>	
A K-Band Eight-Channel Receive Beamformer Based on 0.13- $\mu\text{m}$ Bi-CMOS for SATCOM .....	303
<i>Shichao Jin, Bo Huang, Ye Yuan, Dunge Liu, Chenyu Mei, Yuqian Yang, Bo Zhou, Zhuoheng Xie, Lipeng Liu, Jun Huang, Chunjiao Fei</i>	
The Computation of Quantum Radar Cross Section for the 2D Cardioid Target .....	306
<i>Chonghua Fang, Shi Xinyang, Yuanpeng Yang</i>	
3-D Printing Dual-Band Cavity Filter with Capacitive Stubs Producing Transmission Zeros .....	309
<i>Xuzhou Yu, Sai-Wai Wong, Weihang Huang, Yingqian He, Wenting Li, Long Zhang, Yejun He</i>	
Experimental Demonstration of Ground Plane Immunity for Magnetoelectric Antennas .....	312
<i>Xianfeng Liang, Huaihao Chen, Zhongqiang Hu, Hwaider Lin, Hui Huang, Jinghong Guo, Dengfeng Ju, Ming Liu, Nian X. Sun</i>	
An AI Predicted Capacitance-Based Electromagnetic Analysis Method About Metal Fill Effect for 5G/B5G Applications .....	315
<i>Yijie Tang, Xiangliang Li, Peng Zhao</i>	
A 60-GHz Two-Way Transformer-Coupled Power Amplifier in 65-Nm CMOS.....	318
<i>Yihui Wang, Tinghuan Chen, Liang Wu</i>	
An Injection Locked Frequency Divider-By-Two with Harmonic Enhancement .....	321
<i>Xuening Zhang, Tinghuan Chen, Liang Wu</i>	
High Performance Parallel Computing Methods for Electromagnetic Problems in Interconnection Circuits .....	324
<i>Jia Xin Gao, Yu Mao Wu</i>	
A GaN HEMT 6-Bit Digital Phase Shifter for Millimeter Wave Phased Array System.....	327
<i>En-Tao He, Zhi-Hao Zhang, Sha Xu</i>	
A V-Band Variable Gain Low-Noise Amplifier in 28-Nm Bulk CMOS.....	330
<i>Siwei Zhang, Hui-Yang Li, Jin-Xu Xu, Xiu Yin Zhang</i>	
A LC Resonator Based High-Pass Filter Embedded in LTCC Substrate.....	333
<i>Jingtao Zeng, Kun Huang, Shiwo Ta</i>	

Approximate Solution Calculated for Reflectionless Absorbing Surface.....	335
<i>Tian Peng, Lixia Yang</i>	
A Broadband and Compact SICL to Waveguide Transition .....	338
<i>Qianqian Liao, Chunhong Chen, Yuhao Ji, Zhi Hou, Suqin Wang, Wen Wu</i>	
A Dual Polarized Rectifier with High Efficiency and Wide Load.....	341
<i>Yan-Jun Wu, Jian Wang, Jian-Jian Huo</i>	
Group-Delay-Based Angular-Displacement Microwave Sensor Using Transversal Signal- Interference Principle .....	344
<i>Chi-Hou Chio, Roberto Gómez-García, Kam-Weng Tam, Huawei Lin, Cheng Teng, Wenhai Zhang</i>	
A C-Band Efficiency-Enhanced Power Amplifier in GaN-On-Si Technology .....	347
<i>Jianqiang Chen, Lin Peng, Zhihao Zhang, Gary Zhang</i>	
An Improved Millimeter Wave MOSFET Model Based on BSIM4 .....	350
<i>Gongsheng Wang, Yunqiu Wu, Huihua Liu, Chenxi Zhao, Yiming Yu, Kai Kang</i>	
Phase Noise Suppression in a Sagnac Loop Optoelectronic Oscillator .....	353
<i>Weijie Xu, Ziyue Wang, Aiqiang Cheng, Liming Gu, Chun Yang</i>	
A Design of Wideband Circularly Polarized Square Antenna with Stepped C-Shaped Ground.....	356
<i>Chao Ni</i>	
A Low Cross-Polarization Patch Antenna Array Based on Ridge Gap Waveguide Differential Feed.....	360
<i>Suqin Wang, Chunhong Chen, Zhi Hou, Qianqian Liao, Yuhao Ji, Jiawei Hei, Wen Wu</i>	
A Compact Symmetrical BeiDou Antenna with Circular Polarization for Satellite Navigation and Positioning System .....	363
<i>Xianchao Xu, Zichong Chen, Zhuolin Deng, Hongbo Chu, Songmin Chen, Gaosheng Li</i>	
Wideband High-Efficiency Circularly Polarized Transmit-Array Antenna .....	366
<i>Bin Zheng, Hai Ning Yang, Yong Fan</i>	
An Ultra-Wideband Time-Domain Antenna.....	369
<i>Zhihe Peng, Yi Liu, Qilei Wu, Li Liu, Junfeng Chen</i>	
An Improved Variational Born Iterative Method for Targets Buried in the Three-Dimensional Half- Space .....	372
<i>Jia Xin Gao, Yu Mao Wu</i>	
Low-Profile Wideband Filtering Dipole Antenna with Controllable Frequency Nulls .....	375
<i>Xiao-Cong Li, Lei Ge, Zhi Hou, Guo Yang, Wen Wu</i>	
A Novel Compact UWB Antenna with Triple Band-Notched Characteristics .....	378
<i>Chengqi Lai, Zhongliang Deng, Ze Yan</i>	
A Compact Dual-Band Two-Element Implantable MIMO Antenna for Biotelemetric Applications .....	381
<i>Daibin Jing, Hua Li</i>	
A Compact Absorptive Filtering Antenna for 5G-N78 Band.....	384
<i>Haiqing Xi, Hua Li</i>	
Design of Rectifying Metasurfaces for Wireless Energy Transmission Systems .....	387
<i>Long Liu, Yueyang Wu, Lianwen Deng, Lei-Lei Qiu</i>	

Design of Six-Cavity Dielectric Waveguide Filter with Flat Group Delay .....	390
<i>Siqi Yang, Shuai Ding, Zhaojun Zhu, Mingrui Xu, Weihao Zhang</i>	
Partial-Structure-Oriented Work-Energy Theorem (PS-WET) Governing Multi-Coil Wireless Power Transfer (WPT) Phenomenon.....	393
<i>Ren-Zun Lian, Long Li</i>	
Study on Soil Dielectric Constant Based on Parallel Plate Capacitance Method .....	396
<i>Shuai Zhu, Wei He, Yue-Bo Li, Zheng-Yu Huang</i>	
SAR Image Simulation Algorithm for Tree Model Based on SBR .....	398
<i>Wei Gao, Yu Mao Wu</i>	
A Shielded QMSIW Wideband Filter with Low Insertion Loss Based on Through Silicon Vias.....	401
<i>Nuo Liu, Xiaoxian Liu, Zhangming Zhu, Yang Liu, Yintang Yang</i>	
A Compact Quarter-Mode (QM) and Eighth-Mode (EM) Substrate Integrated Waveguide (SIW) Filter .....	404
<i>Chenhui Fan, Xiaoxian Liu, Zhangming Zhu, Yang Liu, Yintang Yang</i>	
A Ka-Band BCB Based Back-To-Back BGA Transition for 3D Heterogeneous Integration .....	407
<i>Anxin Yao, Xiao Yang, Liang Zhou</i>	
A Near Zero Index Metamaterial Designed by Genetic Algorithms for Gain Enhancement of Microstrip Patch Antenna .....	410
<i>Shuo Sun, Yannan Jiang</i>	
Design of Irregular Structure DPA with Large Back-Off Power Range Based on Impedance and Phase Hybrid Optimization .....	413
<i>Zhongpeng Ni, Shaohua Ni, Hongyan Fu, Wa Kong, Jing Xia</i>	
Research on Ultra-Wideband High Power Amplifier Technology.....	416
<i>Li Donglin, Yang Fei</i>	
A Novel Cross-Band Frequency Reconfigurable Quasi-Planar Yagi Antenna .....	419
<i>Yuchen Liu, Shaobin Liu, Yuning Yang, Xiangyu Jin, Lihuan</i>	
Design of Circularly Polarized Filtering Transmitarray Antenna with Linearly Polarized Feed.....	422
<i>Pan-Pan Zhang, Mei Jiang, Yun Hu, Peng Chu, Xi-Cheng Zhu, Guo-Qing Luo</i>	
Design of a Dual-Polarized Antenna with PPW and Dipole for 5G Application.....	425
<i>Peirong Gao, Yunxue Xu, Hao Ma, Chengrui Wang, Chenshu Sun, Jiahao Tong</i>	
A Low-Profile 1-Bit Reconfigurable Transmitarray Antenna.....	427
<i>Feng Zhai, Ge Fan, Lijie Wu, Qiang Cheng</i>	
A Compact Antenna Array Working at Adjacent Band for Base Station.....	430
<i>Jia Bao Li, Shuai Sun, Fu Chang Chen, Xiu Yin Zhang</i>	
A Wideband Hybrid-Mode Antenna for Sub-6 GHz Communication .....	433
<i>Bei Huang, Zebin Chen, Liping Zhong, Hui Liu, Chun Shi</i>	
MIMO Dielectric Resonator Antenna Based on Multilayer Dielectric Integrated Groove Waveguide .....	436
<i>Jia-Xing Guo, Jian-Kang Xiao</i>	
A Filtering Patch Antenna with Three Layers Structure.....	439
<i>Xi-Qing Li, Jian-Feng Li, Duo-Long Wu, Liang-Hua Ye, Gary Zhang</i>	

Dual-Polarized Electronically Beam-Scanning Antenna Based on Leakage Wave Structure.....	442
<i>Yanping Duan, Zheng Li, Junhong Wang</i>	
High-Gain Microstrip Patch Antenna Based on Metamaterial .....	445
<i>Junli Zhu, Siyuan Li, Jingping Liu</i>	
Low-Profile Millimeter-Wave Antenna with High Roll-Off Filtering Response.....	448
<i>Zi Xi Yang, Shu Feng Yao, Fu-Chang Chen, Xiu Yin Zhang</i>	
A Fixed-Frequency Scanning Leaky-Wave Antenna with Dual Polarizations Based on Gap Waveguide.....	451
<i>Qian Zhang, Zheng Li, Junhong Wang</i>	
Broadband MIMO Rectangular Dielectric Resonator Antenna with a Decoupling Device.....	453
<i>Ming-Hong Li, Li-Ying Feng, Fen Liu, Ya-Jing Li, Wu-Sheng Ji, Meng Wang</i>	
Motor-Driven Mechanical Metasurfaces for Dynamic Wireless Channel Management .....	456
<i>Zhixiang Fan, Yuetian Jia, Chao Qian, Hongsheng Chen</i>	
Frequency-Multiplexed Geometric Phase Metasurface for Retroreflector Applications.....	458
<i>Xunfan Wang, Weixu Yang, Ke Chen, Yijun Feng</i>	
Design of Reconfigurable Metasurface Based on Support Vector Machine.....	461
<i>Ying Juan Lu, Shang Gao, Zheng Xing Wang, Jing Cheng Liang, Qiang Cheng</i>	
The Interference Damage Effect Test of S-Band HPM on Rotor UAV .....	464
<i>Wei He, Fei Liu, Ai-Min Wu, Xin-Bao Ma, Jie Yang, Jiu-Liang Xiong</i>	
A Pole-Residues Tracking Technique for Parametric Modeling of Metasurfaces Design .....	467
<i>Yuhong Ma, Ximeng Zhang, Jingjian Huang, Wentao Yuan, Naichang Yuan</i>	
A Wideband Noise-Canceling Low Noise Amplifier Employing Current-Reuse and Positive-Negative Feedback Techniques .....	470
<i>Man Bai, Xianghui Chen, Zenglong Zhao, Qingsong Zhao, Guiyue Mao, Wengan Li, Baijin Song, Fanyi Meng</i>	
A Ku-Band Compact Butler Matrix in GaAs for MIMO Application .....	473
<i>Meng Li, Yiming Yu, Chenxi Zhao, Huihua Liu, Yunqiu Wu, Kai Kang</i>	
A 24-41 GHz GaN Low-Noise Amplifier with Cascode Structure and Multi-Stage Load.....	476
<i>Shuixi Chen, Zhijian Chen, Bin Li, Huaxing Jiang</i>	
A Transformer-Based Up-Conversion Mixer with Wide if Bandwidth for Multi-Beam 5G New Radio .....	479
<i>Runyu Liu, Zijian Ouyang, Yiming Yu, Wenbo Tian, Zhilin Chen, Chenxi Zhao, Huihua Liu, Yunqiu Wu, Kai Kang</i>	
An E-Band High-Gain LNA in 65-Nm RF CMOS.....	482
<i>Dehui Shi, Dongqin Deng, Shuhao Zhang, Hao Wang, Sheng Chang, Qijun Huang, Jin He</i>	
A Concurrent Dual-Band Differential CMOS Low-Noise Amplifier for Ku- And K-Band Applications.....	485
<i>Zongxiang Wang, Guoxiao Cheng, Wei Kang, Peigen Zhou, Jixin Chen</i>	
A Design Method of a Ku-Band Multi-Port Amplifier.....	488
<i>Shang Ma, Jie He, Sen Tian, Nan Qi, Ying Zhou</i>	

Broadband Terahertz Multifunctional Polarization Converter Based on a Hybrid Metasurface with Graphene and Vanadium Dioxide.....	491
<i>Jin-Long Feng, Lin-Sheng Wu, Jun-Fa Mao</i>	
High-Performance Thin-Barrier InGaN Channel DH-HEMT for Millimeter Wave Applications.....	494
<i>Hao Lu, Longge Deng, Likun Zhou, Ling Yang, Bin Hou, Xiaohua Ma, Yue Hao</i>	
Analyses of the On-State Resistance of a Coplanar GaAs PCSS in the Nonlinear Mode .....	497
<i>Jinhong Wei, Fanzheng Zeng, Hong Chen, Langning Wang, Song Li, Baoliang Qian</i>	
Near Strike Lightning Electromagnetic Field Environment Damage Test to Civilian Computer.....	500
<i>Chen Chao, Zheng-Yu Huang, Ren Dan, Shang-Chen Fu, Yan-Tao Duan, Li Chao, Yan-Qiu Liang, Xiu-Zhen Gong</i>	
Prediction and Optimization of Electric Resistance of Printed Graphene Nanosheet Based on Artificial Intelligence.....	503
<i>Hao Chen, Tian-Yu Huang, Yi-Yang Zhang, En-Cheng Liu, Wu Yang, Wei-Bing Lu</i>	
Overview of the Unconditionally Stable Weighted Laguerre Polynomials FDTD Method .....	506
<i>Viviana Lorena Robalino Espinoza, Zheng-Yu Huang, Jiang Feng, Chao Li, Yan-Tao Duan, Li-Hua Shi</i>	
A Broadband 1-Bit Frequency-Scanning Reflectarray for Near-Field Sensing Application .....	509
<i>Jinyu Wu, Qingfeng Zhang, Baiyang Liu</i>	
Design of Wide-Band Microwave Honeycomb Absorbers Based on Aramid Paper .....	512
<i>Qi Li, Ye Han, Wenquan Che, Quan Xue</i>	
The Enhancement and Weakening in Multipolar Interference Between Toroidal and Electric Dipole by Plasmonic Metasurface for Cell Sensing .....	515
<i>Chiben Zhang, Borui Wu, Weiren Zhu, Guangming Wang</i>	
Anisotropic Absorbing Honeycomb and FSS Composite Structure for Curved Broadband RCS Reduction .....	518
<i>Fan He, Kaixuan Si, Lijie Chen, Long Xiao, Jianjun Jiang</i>	
Generation of Dual-Circularly Polarized Vortex Beams Based on Broadband Spin-Decoupled Metasurface .....	521
<i>Xinbo Chen, Weiwen Li, Jianyang Zhou</i>	
Short-Distance Attenuation of Electromagnetic Waves in Rainfall Environment .....	524
<i>H. T. An, J. F. Ren, J. C. Huo, Y. He, L. Xu</i>	
Design of Metamaterial Absorber at X Band Using BP Neural Network.....	527
<i>Xianliang Zeng, Yin Yu, Yiting Shuai, Weijun Wu, Li Tao</i>	
Three-Dimensional Wideband Microwave Absorber on Slotline Structures.....	530
<i>Yun-Jie Zhu, Hanxuan Li, Bo Li, Lei Zhu</i>	
Metasurface-Loaded Wideband Transmission Structure with Inherent Common-Mode Suppression and Reflectionless Differential-Mode Band-Notch .....	533
<i>Peng Zhou, Hongxin Zhao, Shunli Li, Xiaoxing Yin</i>	
Band-Notched Polarization-Insensitive Frequency Selective Surface for RF Shielding Applications.....	536
<i>Muhammad Idrees, Yejun He, Sai-Wai Wong, Chao You, Saifullah Khalid</i>	

Extreme-Angle Transmission Enhancement for TM- Polarized Waves Empowered by Brewster Effect of Metasurface .....	539
<i>Zuntian Chu, Tiefu Li, Ruichao Zhu, Jiafu Wang</i>	
Design of a Three-Dimensional Bandpass Frequency Selective Surface Based on Coupled-Slotlines .....	542
<i>Songyu Feng, Ye Han, Xin Xiu, Wenquan Che, Quan Xue</i>	
One Low-Profile Reflector-Backed Microstrip Magnetic Dipole Antenna .....	545
<i>Wenhai Zhang, Xueguan Liu, Kam-Weng Tam, Chi-Hou Chio, Quan Xue, Shaowei Liao, Wanchen Yang, Wenquan Che</i>	
A Simple Dielectric Cube for Gain Enhancement of Straight Corrugated Antenna .....	548
<i>Yihua Zhou, James R. Kelly</i>	
A 3D-Printed Horn Antenna with Integrated Septum and Circular-Polarized Radiation.....	551
<i>Yunhao Fu, King Yuk Chan, Rodica Ramer</i>	
High Front to Back Ratio H-Plane Horn Antenna Based on Groove Gap Waveguide .....	554
<i>Jiawei Hei, Zhi Hou, Yuhao Ji, Wen Wu, Chunhong Chen, Qianqian Liao, Suqin Wang</i>	
A Novel Circularly Polarized Implantable Patch Antenna for Biomedical Applications.....	557
<i>Boxiong Kang, Hua Li, Daibin Jing, Xiao Ding</i>	
Silicon Microfabricated Metasurface Antennas Working at Terahertz Region.....	560
<i>S. Y. Zhu</i>	
A Capacitive Loaded Conformal Antenna with Bandwidth Enhancement.....	562
<i>Nan Wang, Hui Chu</i>	
A CPW-Fed Optically Transparent Broadband Circularly Polarized WLAN Radio Frequency Identification Reader Antenna .....	565
<i>Jian Guo, Jia Liu, Honghao Zhang, Kuan Tong, Jian Ren, Yingzeng Yin</i>	
Frequency Tunability Inspired Flexible Antenna to Mitigate Deformation Effect .....	568
<i>V. Thambiraja, T. Sabapathy, M. N. Osman, M. I. Jais, M. Jusoh, K. Kavitha</i>	
A Super Wideband Monopole Antenna for High-Fidelity Time-Domain Pulse Radiation.....	571
<i>Jinlin Yang, Qiuyi Zhang, Shunli Li, Hongxin Zhao, Xiaoxing Yin</i>	
A Compact Single-Layer Broadband Coplanar Waveguide to Coplanar Strip Line Transition.....	574
<i>Zhen-Ge Zhang, Maomi Feng, Zefeng Zhou, Zhenxin Hu, Gary Zhang, Lianglun Cheng</i>	
Design and Time-Domain Performance of a UWB Rotman Lens.....	577
<i>Xiang Zhao, Hongxin Zhao, Shunli Li, Xiaoxing Yin</i>	
A Compact HF-UHF Dual-Band Wearable RFID Tag for Body Temperature Monitoring .....	580
<i>Bofu Liu, Ya Li, Bei Huang, Junlong Li, Hui Liu</i>	
VHF/UHF Cryogenic LNA for Deep Space Exploration and Radio Astronomy .....	583
<i>Liping Feng, Haiwen Liu, Li Geng</i>	
Design of an All-Metal High-Gain Folded Reflectarray for Mm-Wave Application.....	586
<i>Min Wang, Xuan Li, Zhengchuan Chen, Zhong Tian</i>	
A Metasurface-Based Folded Transmitarray Antenna for 77 GHz Automotive Radar Applications.....	589
<i>Weixu Yang, Ke Chen, Yijun Feng</i>	

An Improved Adaptive Frequency Sweeping Method for Wide-Band Antenna Array Simulation .....	592
<i>Anqi Zhou, Peng Zhao, Gaofeng Wang</i>	
A W-Band Circular Polarized Phased Array Antenna with $\pm 40^\circ$ Beam Scanning for Cubesat Application .....	595
<i>N. Yang, X. L. Qi, L. Hong, X. Li, Y. Dai, Z. Q. Wang</i>	
Reconfigurable Circularly Polarized Folded Reflectarray Antenna .....	598
<i>Guan-Tao Chen, Tao Ni, Miao Lv, Yue-Qi Jing, Lei Wang</i>	
Pattern Reconfigurable Hemispherical Conformal Antenna Array.....	601
<i>Yuanyuan Zhu, Xinguang Zhang, Meng Wang</i>	
A Perspective on the Recent Progress of Fabry-Perot Resonator Antenna .....	604
<i>Zhen-Guo Liu</i>	
A Single Feed Wideband Circularly Polarized Dipole Antenna with Wide Beamwidth.....	607
<i>Min Wang, Wenxiang Tang, Xuan Li, Zhengchuan Chen</i>	
A Miniature Dual-Polarized Array Antenna for Satellite Terminal Communications .....	610
<i>Hao-Yu Yin, Zhuo-Wei Miao, Zi-Jun Guo, Zhang-Cheng Hao</i>	
Nonlinearity in RF Acoustic Wave Devices, Review .....	613
<i>Ken-Ya Hashimoto, Jingfu Bao</i>	
High Q FBAR with 21% $Kt_{\text{eff}}^2$ for Ultra-High Band RF Filter Applications .....	616
<i>Wei Pang, Menglun Zhang, Qingrui Yang</i>	
Performance Improvement of RF Acoustic Wave Resonators Using Phononic Crystals .....	617
<i>Jingfu Bao, Temesgen Bailie Workie, Ken-Ya Hashimoto</i>	
Hybrid Filter for 5G and 6G Applications.....	619
<i>Chengjie Zuo, Kai Yang</i>	
Advancing Lithium Niobate-Based Thin-Film Devices for Next-Generation Wireless Communication (Invited) .....	622
<i>Jiashuai Xu, Junyan Zheng, Fangsheng Qian, Yansong Yang</i>	
2.4GHz AlN Thin Film Acoustic Delay Lines.....	625
<i>Jiawei Li, Mingye Du, Haorui Ni, Shuai Shao, Fenghan Lin, Tao Wu</i>	
High Q SAW Resonators Based on Optimized Multilayer Substrate .....	628
<i>Ming Li, Xin Xia, Kunpeng Li, Shuxian Wu, Kunfeng Chen, Jie Zou, Gongbin Tang</i>	
3-D-Printed Wideband Circularly Polarized Dielectric Lens Antenna with Integrated Dielectric Resonator Antenna Feed.....	630
<i>Zhen-Xing Xia, Tiebiao Sheng</i>	
Design of Dual-Band Dual-Polarized Stacked Patch Antenna for Millimeter-Wave Communications .....	632
<i>Songzhao Lv</i>	
A C-Band Drive Amplifier in a 0.5 $\mu\text{m}$ GaAs Process .....	635
<i>Hao Liu, Jin-Jie Lv, Wei-Yu Xie, Guo-Dong Su, Xiang Wang, Jun Liu</i>	
A DC to 4GHz Limiter Based in a 0.5 $\mu\text{m}$ GaAs pHEMT Process .....	638
<i>Lei Han, Jinjie Lv, Shengqi Li, Guo-Dong Su, Bin You, Jun Liu</i>	

Design of X-Band SPDT in a GaAs pHEMT Process .....	641
<i>Wei Zheng, Hao Liu, Jin-Jie Lv, Guo-Dong Su, Jiang-Tao Su, Jun Liu</i>	
GaAs Based MMIC LNA for X-Band Applications .....	644
<i>Yutao Jiang, Guo-Dong Su, Dengbao Sun, Yongkang Huang, Zhongjie Lin, Jun Liu</i>	
A 23.9-30.5 GHz Harmonic Extraction VCO with High Subharmonic Suppression .....	647
<i>Qingfan Zeng, Yang Shen, Huihua Liu, Yiming Yu, Yunqiu Wu, Chenxi Zhao, Kai Kang</i>	
A 60 GHz IQ Transmitter with Psat of 16.6 dBm and Conversion Gain of 36.7 dB in 40 nm CMOS.....	650
<i>Jiaqin Fang, Haoyang Jia, Si Li, Guangyin Feng, Yanjie Wang</i>	
Recent Advances in On-Chip Silicon-Based Passive Components for RF and Millimeter-Wave Applications.....	653
<i>Jim Darrell Ang, Xi Zhu</i>	
High Precision mm-Wave Radar Chipsets.....	656
<i>Aguan Hong, Jiasheng Liang, Tong Wang, Xiong Su, Xiang Yi, Wenquan Che, Quan Xue</i>	
Research on Key Technologies of Low-Jitter Frequency Synthesizers .....	659
<i>Kaiming Zhong, Xiong Su, Tong Wang, Xiang Yi, Wenquan Che, Quan Xue</i>	
A Wideband LNA Based on Transformer Matching and Pole-Converging Technique in 65-Nm CMOS.....	662
<i>Yishan Zheng, Xiongyao Luo, Wenjie Feng, Haoshen Zhu, Wenquan Che, Quan Xue</i>	
Design of a 1.4THz fourth-Harmonic Mixer Based on Monolithic Integrated Circuit.....	665
<i>Jin Meng, Haotian Zhu, Dehai Zhang</i>	
A Center-Fed SIW-Based Leaky-Wave Antenna with Wide-Scanning Angle for mmWave Applications.....	668
<i>Yaling Chen, Long Zhang, Yejun He, Chunxu Mao, Wenting Li</i>	
Gain-Enhanced Circularly Polarized Antenna with Low RCS Using Polarization Conversion Metasurface .....	671
<i>Kexin Liao, Xinguang Zhang, Wen Pan, Lei Guo, Jian Dong</i>	
Electromagnetically Manipulated Dual-Band Metasurface Based on Loaded Multimode Resonant Structure .....	674
<i>Yueyang Wu, Long Liu, Lianwen Deng, Lei-Lei Qiu</i>	
An Event-Driven-Based Behavioral Modeling for Fractional-N CP-PLL .....	677
<i>Hao Li, Mawuli Ernest Smith, Zhao Xing, Huihua Liu, Yiming Yu, Yunqiu Wu, Chenxi Zhao, Kai Kang</i>	
Design of Wideband Wilkinson Power Divider Based on Rectangular Micro-Coaxial Process .....	680
<i>Lang Xu, Li-Jie Xu, Cong-Tian Zhang, Wen-Jie Wu, Hong-Lin Zhang, Yun-Peng Lu, Bo Li</i>	
A Linear-To-Circular Polarizer Optimized by Simulated Annealing Algorithm .....	683
<i>Hui Chen, Long Zhang, Chunxu Mao, Jian Dong, Yejun He</i>	
A MPI Parallel DGTD Method with Local Time Stepping Technique .....	686
<i>Yu Cheng Liu, Zhen Guo, Ban Yan Shi</i>	
A 3D-Printed Millimeter-Wave High-Gain Horn Array with a Bandwidth of 48% .....	688
<i>Xiaojuan Wang, Yujian Li, Junhong Wang</i>	



Design of Dual-Band Bandpass Filter Based on 3D Printable Dual-Mode Groove Gap Waveguide.....	691
<i>Nengcai Huang, Wenfei Zhang, Lingwei Zhang, Wanchun Tang, Gang Zhang, Jiquan Yang</i>	
A Shared-Aperture Dual-Wideband Antenna with Large Frequency Ratio for 5G Applications .....	694
<i>Junyao Tan, Yujian Li, Junhong Wang</i>	
A Three-Port Filter Power Divider Based on CT Topology with Arbitrary Phase Shift of Up to 90.....	697
<i>Minghan Shu, Zehua Liu, Gang Zhang, Wanchun Tang, Jiquan Yang</i>	
Wideband Vertically Polarized End-Fire Antenna Using Double-Layer Parasitic Patches for 5G Millimeter-Wave Application .....	700
<i>Zhengbiao Wang, Zhi-Hong Tu, Qing-Rong He</i>	
An 84K-295K Small Signal Circuit Model for Fin Field Effect Transistor.....	703
<i>Xu Chi, Yunqiu Wu, Jun Liu, Yiming Yu, Chenxi Zhao, Huihua Liu, Kai Kang</i>	
A 4-Path Filtering, 0.5-2.0 GHz Current-Mode Blocker-Tolerant Receiver with Bandwidth Extension Technique and Cross-Resistive IQ Feedback.....	706
<i>Shengjie Wu, Junhong Liu, Lifu Zheng, Jiaxin Li, Guangyin Feng, Haixu Li</i>	
A Filtering Ku-Band MMIC Low-Noise Amplifier for Satellite Communication .....	709
<i>Yiqun Liu, Kai-Da Xu</i>	
A GaN-On-Si Based Diplexer for 5G Millimeter-Wave Applications.....	712
<i>Peiyan Xie, Zhi-Xia Du, Zhuozhu Chen, Zhihao Zhang, Sha Xu, Chunbing Guo</i>	
A 28GHz 41.7%-PAE 17.9dBm-Psat Power Amplifier Using Negative Body-Bias Technique in 40nm CMOS.....	715
<i>Jiaxin Li, Yi Wu, Junhong Liu, Guangyin Feng, Haixu Li</i>	
Bandpass NGD Design of Double Radial Coupled Loop Microstrip Circuit.....	718
<i>Taochen Gu, Fayu Wan, Frank Elliot Sahoo, Nour Mohammad Murad, Glauco Fontgalland, Blaise Ravelo</i>	
Efficient Design Method for THz Metasurface Patterns .....	721
<i>Teng Yan, Li Chun, Li Shaochen, Xiao Yuhua, Jiang Ling</i>	
An Absorptive Single-Ended-To-Balanced Power Divider Based on Integrated Substrate Gap Waveguide for 5G Millimeter-Wave Applications .....	724
<i>Junbo Ma, Dongya Shen, Wenhui Zeng, Qifeng Chen, Bingbing Xu, Hong Hu</i>	
Ka-Band 20W Power Amplifier MMIC for Satellite Communication .....	727
<i>Pengbo Du, Zhaotan Cui, Long Zhao, Xue Lu, Xin Song, Xiaoyu Zhao, Pengjun Qu</i>	
Power Division Rectifier Network Applied to High Power Microwave Energy Transmission System .....	730
<i>Fengjin Guo, Ke Chen, Tian Jiang, Junming Zhao, Yijun Feng</i>	
High Gain Beam Scanning Lens Antenna Based on Paraboloid-Phase-Distribution Metasurface with Multi Feed .....	733
<i>Ruyuan Feng, Weixing Sheng, Liangyu Sun, Binyun Yan</i>	
Simple Tri-Polarized Millimeter-Wave Antenna with PIN Diodes.....	736
<i>Mingye Du, Yue Zhao, Lei Ge</i>	
Wideband Dual-Polarized Filtering Magneto-Electric Dipole Antenna .....	739
<i>Tian Liu, Kang Yu Yang, Liang Hua Ye, Duo-Long Wu</i>	

Wideband Dual-Polarized Magneto-Electric Dipole with High Isolation .....	742
<i>Kaijie Tang, Liang Hua Ye, Duo-Long Wu</i>	
A Ka-Band Reflectarray Antenna Consisting of Face-Shaped Elements Based on ISGW Antenna Feed .....	745
<i>Xiaofeng Zhao, Dongya Shen, Yanghao Zhou, Hong Yuan</i>	
A Circularly Polarized Patch Antenna with Parasitic Strips .....	748
<i>Yu-Qiang Lin, Jian-Feng Li, Liang-Hua Ye, Duo-Long Wu</i>	
A Metasurface-Based Circularly Polarized Frequency-Operated Beam Scanning Antenna.....	751
<i>Cheng Jin, Jiao Wang, Yannan Jiang, Shuo Sun</i>	
An ISGW-Based 5G Millimeter Wave Ultra-Bandwidth, High-Gain Fractal Magnetic Dipole Antenna .....	754
<i>Yajun Feng, Zhongshuang Wang, Dongya Shen, Hong Yuan, Da Hou, Sihong Lin, Qifeng Chen</i>	
An Ultra-Wideband High Gain Vivaldi Antenna Array for L/S Band .....	757
<i>Xiao-Ying Zhong, Zhi-Ya Zhang, Li Li, Wei-Jun Wu, Xian-Liang Zeng</i>	
A Millimeter Wave Tire-Shaped Filter Dielectric Resonator Antenna .....	760
<i>Hang-Lin Du, Wu-Sheng Ji, Xu-Pu Zhang, Ya-Jing Li, Li-Ying Feng, Yan-Ze Kuai</i>	
On the Computing Methods of Radiation of Sources of Divergence and Curl of Antennas .....	763
<i>Wang Chun, Li Mengxue, Ji Hang, Li Renjie, Wang Dongdong</i>	
Continuously Beam Scanning Leaky-Wave Antenna Based on Spoof Surface Plasmon Polaritons .....	766
<i>Xin-Yue Cao, Jia-Yuan Yin, Jing-Ya Deng, Li-Xin Guo</i>	
High Precision Glucose Concentration Detection Based on Near-Field Focused Metasurface.....	769
<i>Bing Yu, Feng Xiao, Haibo Cheng, Xin Liu</i>	
Low-Profile Beam-Control Antenna Based on Reconfigurable Transmissive Metasurface.....	772
<i>Hong-Mei Qin, Li-Li Sheng, Wei-Ping Cao</i>	
Analysis of the Effect of Phase Switched Surface on Frequency Shift Pull-Off Jamming.....	775
<i>Ran Zhang, Xinyu Zhang, Lei Guo, Qiang Feng, Xinguang Zhang</i>	
A Frequency Reconfigurable Patch Antenna Based on Liquid Crystal .....	778
<i>Qifei Du, Wenting Li, Yejun He, Long Zhang</i>	
Miniaturized Phase Shifter Based on D-CRLH Resonator Using Phase Alignment Element .....	781
<i>Zhi-Qing Lu, Wei-Ping Cao, Jing-Bo Wang, Jin-Hai Tang, Xin-Hua Yu, Lin-Ping Feng</i>	
IWOA-RBF Neural Network Ultra-Wideband Antenna Modeling Method.....	784
<i>Jingchang Nan, Wenwen Sun</i>	
A Method of Frequency-Agile in S-Band Magnetron .....	787
<i>Kongyi Hu, Linping Feng, Yan Jiang, Bq Zeng, Jianlong Liu, Wanchun Tang</i>	
Design of a LDO with Fast Transient Response for RF Chips .....	790
<i>Weixin Li, Bin Liu, Zhihao Zhang, Gary Zhang</i>	
A W-Band Frequency Tripler with 8-DBm Output Power Using 0.25- $\mu\text{m}$ GaAs pHEMT Process .....	793
<i>Yangjiajun Hu, Jinyu Xie, Xiaojun Bi</i>	

A V-Band Digital-Control Vector-Sum Phase Shifter in 28-Nm Bulk CMOS .....	796
<i>Yifan Peng, Hui-Yang Li, Jin-Xu Xu, Xiu Yin Zhang</i>	
Design of a New Balanced Filter with Wideband DM Harmonic Elimination Based on Multilayer LCP Lamination Technology .....	799
<i>Feng Huang, Khaled Aliqab, Mutao Hu, Yun-Jie Zhu</i>	
An EM Scattering Prediction Method Based on Reflection Coefficient Loading for Structures with Medium .....	802
<i>Nan Wu, Li Liu</i>	
Designing Light-Weight Broadband All-Dielectric Metamaterial Absorber Based on HCG-Based SSPPs .....	805
<i>Mengchao Guo, Yi Yang</i>	
Microwave Hyperbolic Metamaterials by Hollow-Core Wire Array.....	808
<i>Yuan Cheng Shi, Jian Chen, Wei Ding, Hua Bing Wu, Rui-Xin Wu</i>	
A Low Phase-Noise W-Band VCO in 0.13 $\mu\text{m}$ SiGe BiCMOS .....	811
<i>Liqun Lu, Peigen Zhou, Jiayang Yu, Chun Yang, Jixin Chen</i>	
A Permittivity Measurement Equipment Based on Oblique Aperture Ridge Waveguide.....	814
<i>Mingyi Gou, Kama Huang, Yi He, Changjun Liu, Qian Chen</i>	
Cramer-Rao Lower Bound for Direction of Arrival Estimates Using Multi-Input Interferometric Receivers in Line-Of-Sight Environment.....	817
<i>Bilel Mnasri, Halim Boutayeb, Larbi Talbi</i>	
A TICN Based Microwave Rectifying Circuit for 5.8GHz Applications .....	820
<i>Long Xiao, Meng Yang, Liang Chen, Feng Jun Chen, Xian Jing Yang, Ying Long Guo</i>	
Multi-Channel Transceiver Front-End for 5G Millimeter Wave Array .....	823
<i>Yi Gong, Xiao-Wei Zhu</i>	
A Compact 3D Helmholtz Coil Designed for EMC Testing.....	826
<i>Xiaodong Liu, Lei Xing, Qian Xu, Xueqi Shen, Kai Chen</i>	
Design of Flexible Dual-Band Filtering Power Divider with Significant Out-Of-Band Suppression Performance.....	829
<i>Feifei Li, Cuiping Yu, Yuanan Liu</i>	
A Wideband High-Gain LTCC Cavity Antenna Fed by TE <sub>20</sub> Mode Substrate Integrated Waveguide for W-Band Applications .....	832
<i>Bin Yuan, Zhongjun Yu</i>	
Design of the Leaky-Wave Antenna Suppressing the OSB Phenomenon .....	835
<i>Li Liu, Nan Wu, Junfeng Chen, Zhihe Peng</i>	
A Miniaturized LTCC Back Cavity Antenna .....	838
<i>Yijie Wang, Xiaolin Zhang, Quan Wang, Mouping Jin</i>	
Pattern-Reconfigurable Annular-Ring Patch Antenna Loaded with Multifunctional Slots for Balanced Performance.....	841
<i>Kai-Dong Hong, Xiao Zhang, Tao Yuan</i>	

Isolation Enhancement in Millimeter-Wave MIMO Array Base on Array-Antenna Decoupling Surface.....	844
<i>Ling-Xuan Lin, Zhi-Hong Tu, He Zhu</i>	
Simulation Research on the Effect of Strong Electromagnetic Pulse with a Planar Helical Antenna .....	847
<i>Rui Chen, Yanqiu Liang, Jianxuan Li, Yong Zhang, Wenli Wu</i>	
Performance of Surrogate-Assisted Optimization for Antennas.....	850
<i>Zhen Zhang, Qingsha S. Cheng</i>	
A Polarization Reconfigurable Antenna with Continuously Tunable Linear Polarization Angle .....	853
<i>Honghai Shi, Bo Chen, Menglong Chen, Kai Sun</i>	
A Broadband Microstrip-Slot Coupled Radiating Structure with Radiation Efficiency Enhancement .....	856
<i>Tianye Ma, Jinping Zhang, Ying Liu, Hongbing Sun</i>	
Switchable Resorber/Absorber with Frequency Tuning Capability .....	859
<i>Xiao-Lu Yang, Zhen-Guo Liu, Hao Chen, Ming-Yang Geng, Xin-Zhi Bo, Wei-Bing Lu</i>	
Design and Simulation of a Highly Efficient Continuous Class-F Power Amplifier.....	862
<i>Shuang Liu, Ruibin Gao, Zhijiang Dai, Weimin Shi, Mingyu Li, Jingzhou Pang</i>	
An ILFT with Input Selector for 5G Transceiver .....	865
<i>Cao Wan, Pei Qin, Liang Wu, Taotao Xu, Quan Xue</i>	
A Compact 210-To-250 GHz Quad-Stacked Power Amplifier in 0.13- $\mu\text{m}$ SiGe BiCMOS .....	868
<i>Xiaoxu Tian, Nengxu Zhu, Zhiheng Liu, Fanyi Meng</i>	
A Wide-Band Power Amplifier Based on Genetic Algorithm and Direct Layout Optimization .....	871
<i>Bingjie Sun, Shichang Chen, Jialin Cai, Peng Zhao, Yifeng Cheng, Jun Liu, Gaofeng Wang</i>	
An Outphasing Power Amplifier Based on Voltage-Current Combiner and Dynamic Power Control.....	874
<i>Jiashu Yan, Zhi-Xia Du, Xin Lin, Yicheng Xiao, Siyu Chen, Chunbing Guo</i>	
A Ku-Band 40W GaN Power Amplifier MMIC for Satellite Communication.....	877
<i>Shiquan Zhu, Yujie Liu, Zhilong Xiao, Lei Huang, Qingzhi Wu, Shuman Mao, Huanpeng Wang, Yuehang Xu</i>	
GaN Switchable Lamb Wave Delay Lines: Simulation, Fabrication and Characterization.....	880
<i>Xiangchen Lin, Haoshen Zhu, Jiancheng Ma, Wenquan Che, Quan Xue</i>	
A Single-Path Reconfigurable $\times 2/\times 3$ Frequency Multiplier for 5G NR Application .....	883
<i>Zijian Ouyang, Yiming Yu, Chenxi Zhao, Huihua Liu, Yunqiu Wu, Kai Kang</i>	
Machine Learning and Digital Twinning Enabled Liquid Crystals mm-Wave Reconfigurable Devices Design and Systems Operation .....	886
<i>Jinfeng Li</i>	
A Dual-Band Metagrating for Diffraction Control: Design and Experimental Demonstration .....	889
<i>Shan Xuan, Kai Feng, Jianjia Yi</i>	
Reconfigurable Metagrating Enabled by Shape Memory Polymers.....	892
<i>Sidi Wang, Kai Feng, Jianjia Yi</i>	
Coupled-Line Directional Coupler with Arbitrary Coupling Level and Adjustable Operating Band.....	895
<i>Kelin Zhang, Fangfei Zhao, Qiuyi Zhang, Shunli Li, Hongxin Zhao, Xiaoxing Yin</i>	

Reconfigurable Metasurface for Beamforming in Terahertz Band.....	898
<i>Zhixia Wang, Shilie Zheng, Shengyang Xu, Zhicheng Xiao, Xiaonan Hui, Xianmin Zhang</i>	
W-Band Light Weight and Low Profile Transition from Microstrip to Waveguide Based on Gap Waveguide Technology .....	901
<i>Shujun He, Tingting Zhang, Zhiyu Qian, Yongrong Shi</i>	
Millimeter-Wave On-Chip Composite Right/Left-Handed Transmission Line Using Integrated Passive Device Process.....	904
<i>Chenyang Zhang, Guangxu Shen, Ying Xiong, Wenjie Feng</i>	
A Backscatter Communication Enabled Passive IoT Node for Sensor Interface .....	907
<i>Qien Liang, Meng Chen, Jiahui Cai, Liu Tao, Chenjie Chu, Jun Zhang, Kun Wang</i>	
Optimization of Asymmetric Orthomode Transducer at Terahertz Frequency .....	909
<i>Han Wu, Shilie Zheng, Zhixia Wang, Xianmin Zhang</i>	
Simulation of Sequential Load Modulated Balanced Power Amplifier with Octave Bandwidth .....	912
<i>Ruibin Gao, Shuang Liu, Zhijiang Dai, Weimin Shi, Mingyu Li, Jingzhou Pang</i>	
A 39 GHz Bi-Directional Driver Amplifier in 65-Nm CMOS for Phased Array Applications.....	915
<i>Jing Feng, Xuexue Zhang, Lin Lu, Xin Chen, Xu Wu, Qingsheng Hu, Xiangning Fan, Lianming Li</i>	
A 60 GHz Linear Power Amplifier with Embedded Switch in 65nm CMOS for Phased Array System .....	918
<i>Qin Chen, Jun Lu, Xuexue Zhang, Xu Wu, Qingsheng Hu, Lianming Li</i>	
Design of SDR Platforms Based on FPGA .....	921
<i>Nuo Qi, Jun Yang, Si-Yuan Yang, Xiu-Yin Zhang, Chen Yang</i>	
Waveform Co-Designed to Boost the Wireless Energy Transfer Efficiency .....	924
<i>Peiming Wang, Jun-Hui Ou, Jie Tang, Shaofei Bo, Xiuyin Zhang</i>	
Near-Field Frequency Diverse Sensing with Probe-Free Measurement Matrix Retrieval Algorithm .....	927
<i>Jiachen Du, Baiyang Liu, Chi-Hou Chan, Qingfeng Zhang</i>	
Research on DPI Immunity of Communication Circuit Board.....	930
<i>Liuxing He, Wenxiao Fang</i>	
A Coupled-Line Coupler with Column Grid Array Pins for RF Microsystems.....	933
<i>Xi Wang, Xuemei Zhao, Lei Zhang, Yuting Tan, Peng Wen, Zhiping Fang, Like Deng, Huaiqiang Yu</i>	
A 210 – 270 GHz Compact Power Combiner Using Three-Conductor Sub-Quarter-Wavelength Balun in 130-Nm SiGe BiCMOS .....	936
<i>Liang Zhao, Yao Li</i>	
A Low-Loss Wideband Dual-Frequency Transformer for 0.3-THz Harmonic Extraction in 0.13- $\mu$ m SiGe BiCMOS.....	938
<i>Dongqin Deng, Dehui Shi, Jiang Luo, Jin He</i>	
An Ultra-Wideband Dual-Polarized Array Antenna with Wide-Angle Scanning Performance.....	941
<i>Xiang Gao, Neng-Wu Liu, Sheng Sun</i>	
A Pattern Reconfigurable Antenna with Metasurface Based on UAV Platform .....	944
<i>Hao Wang, Yong Jin Zhou, Millimeter Waves</i>	

A 3D Printed Dielectric-Filled Horn Antenna from One to Dual-Beam Application .....	947
<i>S. Huang, K. Y. Chan, R. Rodica</i>	
Leaky-Wave Antenna Based on Substrate Integrated Coaxial Line for Dual-Beam Scanning.....	950
<i>Yulu Zhang, Junhong Wang</i>	
High Gain and Large Beam-Pointing Angle Conical Beam Antenna with Dielectric Lens.....	953
<i>Lin-Shi Guo, Neng-Wu Liu, Sheng Sun</i>	
A Circularly Polarized Phased Array with Wide Axial Ratio Scanning Using Sequential Rotation Technique .....	955
<i>Hongwei Dong, Shuting Tan, Yu Xiao, Zengping Chen</i>	
Wide-Angle Scanning Magneto-Electric Dipole Antenna Array Based on Metasurface.....	958
<i>Zhi Bo Fan, Yong Jin Zhou</i>	
X-Band Dual-Polarized Waveguide Filtering Antenna.....	961
<i>Hang Yuan, Fu-Chang Chen, Xiu Yin Zhang, Yun Wang</i>	
A Single-Layer Circularly Polarized Filtering Patch Antenna with Frequency Reconfiguration .....	964
<i>Ya Feng Xu, De Hao Zhao, Feng Lin, Hou Jun Sun</i>	
Broadband Dual Polarized Filtering Magnetolectric Dipole with Low Profile .....	967
<i>Yong Cao, Kuan Tong, Tian Yang, Jiahui Li, Jian Ren, Yingzeng Yin</i>	
Millimeter-Wave Wideband Filtering Metasurface Antenna Array with Low Cross Polarization.....	970
<i>Lu Zhang, Huayan Jin, Wenlei Wang, Guo Qing Luo</i>	
Dual-Beam Filtering Patch Antennas for Millimeter-Wave Applications .....	973
<i>Wenna Wang, Weihao Zhang, Shuai Ding, Zhaojun Zhu</i>	
A Novel Wideband Filtering Antenna for Sub-6GHz 5G Base Station Application.....	976
<i>Jinfeng Zhang, Lintao Li, Yejun He, Long Zhang</i>	
Millimeter-Wave Filtering Magneto-Electric Dipole Antenna with Two Controllable Radiation Nulls .....	979
<i>Yu Lan, Yun Fei Cao, Jia Sheng Lin, Zhi Jing Xiao</i>	
Theoretical Analysis on Linear Array of Microstrip Magnetic Dipoles with Unequal Lengths .....	981
<i>Yubei He, Zhixi Liang, Yuanxin Li, Yunliang Long</i>	
Design of Folded Monopole MIMO Antenna Unit in Sub-6GHz Band Using Machine Learning .....	984
<i>Li Zhang, Lijia Chen, Yayun Cheng, Jinghui Qiu</i>	
Adaptive Multi-Group Differential Evolution Optimization for MIMO Antenna Design.....	987
<i>Zhen Zhang, Xin Dai, Wanjun Yang, Qingsha S. Cheng</i>	
Analysis of Circular-Polarized Full-Duplex Antenna with Sequentially Rotated Array.....	990
<i>Jiongpei Xu, Tianwei Deng</i>	
Tightly Arranged Four-Port MIMO Antenna Module for 5G Mobile Phone.....	993
<i>Wen-Feng Zeng, Fu-Chang Chen</i>	
Wideband Calibration Network for Multi-Channel Antenna Array Feeding Network .....	996
<i>Chengzhi Wang, Wenjie Feng, Wenquan Che, Quan Xue</i>	

Extension of the WCS-FDTD Method to three-Dimensional Linear Lumped Networks.....	999
<i>Hong-Tao Fang, Yong-Dan Kong</i>	
A Microwave Millimeter-Wave Shared-Aperture Antenna with Full Azimuth Coverage .....	1002
<i>Yan Hong Lin, Chao Jun Ma, Shao Yong Zheng</i>	
18-40 GHz Circularly Polarized Antenna Using Ultra-Wideband Dielectric Polarizer.....	1005
<i>Chen Ding, Yipan Zhou, Kwai-Man Luk</i>	
Ultra-High Angular Resolution 4D Millimeter Wave Radar Antenna Array Design.....	1008
<i>Wang Peng, Sun Jinghu, Zeng Di, Huang Li</i>	
A Broadband Low-Profile Antenna Array Using Shorting Pins for 5G Millimeter Wave Applications.....	1011
<i>Li Zhang, Yihao Xu, Yejun He, Qingfeng Zhou, Long Zhang, Zongyi Zhou</i>	
Millimeter-Wave Multi-Beam SIW Antenna Array with Wide Beam Coverage.....	1014
<i>Yuleng Wu, Chang Yu, Shaoyong Zheng</i>	
A Dual-Polarized Millimeter Wave Microstrip Antenna with High Isolation and Low Cross-Polarization.....	1017
<i>Tao Huang, Xue-Xia Yang, Ting Yao</i>	
Design of Dual-Band Single Circular Polarized Dielectric Resonator Antenna Array for 5G Millimeter Wave Communications.....	1020
<i>Ming Xu, Runze Huang, Jingwei Zhang</i>	
Designs and Applications of Amplitude-Phase Controllable Metasurfaces.....	1024
<i>Rui Yuan Wu, Tie Jun Cui</i>	
Metasurface Lens Antenna with Deflected 1-D Flat-Top Pattern.....	1027
<i>Si-Yu Yin, Hong-Xin Xu, Pei Li, Yun Zhang, Ren-Jie Zhou, Jia-Lin Li</i>	
A Cutting-Transfer Method for Fabricating Flexible Microwave Devices.....	1030
<i>Hao Chen, Ming-Yang Geng, Xin-Zhi Bo, Xiao-Lu Yang, Zhen-Guo Liu, Wei-Bing Lu</i>	
Global Reconstruction of Form-Free Metasurfaces for Customized Demand Via a Learning Paradigm.....	1033
<i>Yuetian Jia, Zhixiang Fan, Chao Qian, Hongsheng Chen</i>	
A THz-OAM Multi-Beam Antenna Based on Multilayer Transmissive Metasurface .....	1036
<i>Hang Yang, Shilie Zheng, Tong He, Nan Li, Donghui Shen, Xianbin Yu</i>	
A Low-Profile Programmable Metasurface Excited by Fabry-Perot Cavity for Beam Steering .....	1039
<i>Yi Ning Zheng, Lei Zhang, Xiao Qing Chen, Zhuo Ran Huang, Tie Jun Cui</i>	
Different Gate Current Degradation Mechanisms in AlGaIn/GaN High Electron Mobility Transistors .....	1042
<i>Wei-Wei Chen, Kuan Hu, Xiao-Xiao Li, Zhang Yang, Fei Yang, Lei Wang, Xiao-Hua Ma</i>	
Partition Analysis of DVR Model for Broadband GaN Doherty PA Under Different Nonlinear States .....	1045
<i>Shijie Wang, Xiaoqiang Tang, Chao Yu, Jialin Cai</i>	
Gate Leakage Mechanisms of AlN/GaN High Electron Mobility Transistors.....	1048
<i>Lingjie Qin, Jiejie Zhu, Siyu Liu, Jingshu Guo, Bowen Zhang, Yuxi Zhou, Tianze Qiu, Xiaohua Ma</i>	

Numerical Simulation of Bulk GaN PIN Diode with Spectral-Element Method .....	1051
<i>Fan Yang, Chunyu Li, Zhou Dai, Tiancheng Zhang, Huaguang Bao, Dazhi Ding</i>	
An Interconnected Magneto-Electric (ME) Dipole Array for 5G Communication Application.....	1054
<i>Wenxu Zhang, Yihong Xu, Zihao Chen</i>	
A Novel Distributed Antenna on Package, Substrate, and Shell for Millimeter-Wave Applications.....	1057
<i>Liangying Li, Shaowei Liao, Wenquan Che, Quan Xue</i>	
Low-Cost and Stretchable FSS Radome Based on Elastomeric Fabric and Serpentine Mesh Layouts.....	1060
<i>Ming-Yang Geng, Hao Chen, Ya Li, Hong-Jun He, Xin-Zhi Bo, Xiao-Lu Yang, Zhen-Guo Liu, Wei-Bing Lu</i>	
High Gain Hybrid Integrated On-Chip Antenna Based on 40-Nm Bulk CMOS Process.....	1063
<i>Yanjun Wang, Tong Wang, Xiang Yi, Wenquan Che, Quan Xue</i>	
A Dual-Polarized Electromagnetic Transparent Antenna for Dual-Band Antenna Array .....	1066
<i>Cheng Guo, Guosheng Su, Fengzhang Xue, Bin Zhou</i>	
A Dual-Polarized Planar Ultrawideband Phased Array Antenna with Ultra-Low Profile .....	1069
<i>Linkai Yang, Shiwei Qu</i>	
Recent Advances in Cognition-Driven EM Optimization Techniques for Microwave Filters .....	1072
<i>Jing Jin, Jingyi Feng, Feng Feng</i>	
Space Mapping Optimization Using Coarse-Fine Mesh for the H-Plane Waveguide Filter.....	1075
<i>Mutian Li, Feng Feng, Wei Zhang, Jing Jin, Kaixue Ma, Qi-Jun Zhang</i>	
Accurate 3D Deformation Detection Approach for Microstrip Array Antenna Using Optical Frequency Domain Reflectometer.....	1078
<i>Haomao Wang, Yifan Wang, Zhiguo Zhang, Wei Zhang, Rong Cong, Shiming Wu, Xu Liu</i>	
A Review of Wiener-Type Dynamic Neural Network for Nonlinear Device Modeling.....	1081
<i>Wenyuan Liu, Yi Su, Haozhe Tan, Feng Feng, Bo Zhang</i>	
Identification and Evaluation of Power Cable Aging State Based on Broadband Impedance Spectrum.....	1084
<i>Guanghua He, Jun Xu, Yahui Xu, Dong Bian</i>	
Sidelobe Removal Network for Coated ISAR Targets Based on CNN and Transformer .....	1087
<i>Wen Tao Ouyang, Yu Mao Wu</i>	
Micro Mechanism of Seismoelectric Effect in the Pore .....	1090
<i>Yongpeng Zhao, Xiangyang Sun, Zaiping Nie</i>	
Forming and Machining Technology for Metamaterials .....	1093
<i>Jiang Kaiyu, Wang Jian, Wang Minjie, Duan Chunzheng, Chi Binzhou</i>	
A Tunable Dual-Band Circular-Polarized FSS Based on Kirigami Structure.....	1096
<i>Kaiyue Zhu, Ke Chen, Tian Jiang, Junming Zhao, Yijun Feng</i>	
Origami-Based Reconfigurable Metamaterials Assisted with Ohmic Dissipation for Tunable and Switchable Circular Dichroism .....	1099
<i>Zhibiao Zhu, Lixin Jiang, Qi Yuan, He Wang, Zhe Qin, Yongfeng Li, Jiafu Wang</i>	
Air-Filled SSPP Transmission Line with Low Loss .....	1102
<i>Yi Fan, Pei Hang He, Hao Chi Zhang, Tie Jun Cui</i>	



Integrated Design of Multispectral Metasurface for Microwave Scattering Control and Low Infrared Emissivity .....	1105
<i>Ruichao Zhu, Jiafu Wang, Zuntian Chu, Xiaofeng Wang, Tonghao Liu, Yuxiang Jia, Bo Feng, Chang Ding, Shaobo Qu</i>	
A Wideband Compact 6-Bit Digital Step Attenuator .....	1108
<i>Jialong Zeng, Zhongjun Yu, Jiaxuan Li, Yang Yuan</i>	
A Novel Integrated Module Cover Using Miniaturized Slot Antenna with Electromagnetic Shielding Characteristics for Packaging Application .....	1111
<i>Ren Yuxin, Wu Peng, Yu Zhongjun</i>	
A Novel Magnetic Paper with Highly Oriented Flaky Metal Particles.....	1114
<i>Sicheng Liu, Na Liu, Jinwen Hu, Xin Xiu, Zhongchen Lu, Yi Wang, Zhongwu Liu, Min Zhu, Jin Long, Jian Hu</i>	
The Experimental Comparison of Two Types of Thermoelectric Microwave Power Sensors .....	1117
<i>Ting Zhang, Fushun Nian, Yanfeng Xu, Shunli Han, Yiran Yu</i>	
High Common-Mode Rejection Differential Filter Based on Coupled Lines .....	1119
<i>Zhen Liu, Haoran Zhu</i>	
Automatic Design Method for RF Front-End Based on Simulated Annealing Arithmetic.....	1122
<i>Shaohuan Weng, Cuiping Yu, Yuanan Liu</i>	
Design of a Three-Mode Dielectric Waveguide Filter with Flexible Transmission Zeros.....	1125
<i>Chuang Liu, Fei Liang, Shunliang Meng, Wenzhong Lu</i>	
Monopulse Substrate Integrated Waveguide Collinear Slot Antenna Array .....	1128
<i>Guiping Jin, Li Huang, Shaowei Liao</i>	
Novel Millimeter-Wave Microstrip Comb-Line Antenna with Cosecant-Squared Pattern.....	1131
<i>Kexin Chen, Zhenhao Yang, Zengdi Bao, Yang Li</i>	
A Metasurface-Based Wideband High Isolation Circularly Polarized Antenna for 5G MIMO Millimeter-Wave Systems .....	1134
<i>Hui Zhu, Haoran Zhu</i>	
A Wearable Low-Profile Flexible Dual-Polarized Antenna Array Loaded with AMC for 5 GHz WLAN On-/Off-Body Applications .....	1137
<i>Rui Huang, Xiaodong Liu</i>	
A Novel Azimuth-Wide-Angle Scanning Phased Array Based on Pattern-Reconfigurable Element.....	1140
<i>Weihao Pan, Guiping Jin, Shaowei Liao</i>	
Reconfigurable Antenna with Omni-/Bi-Directional Patterns for Wireless Applications.....	1143
<i>Ning Qiu, Ronglin Li, Yuehui Cui</i>	
Bandwidth Enhanced Array Antenna with Low Sidelobe for mm-Wave Automotive Radar Applications.....	1146
<i>Wei Zhang, Ronglin Li, Yuehui Cui</i>	
Planar Dual Circularly Polarized Complementary Antenna for Endfire Radiation .....	1149
<i>Lei Wang, Tao Ni, Miao Lv, Yue-Qi Jing, Guan-Tao Chen</i>	

Investigation on the Low-Speed Target Detection with Frame Accumulation Based on an X Band Phased Array.....	1152
<i>Xingyue Li, Hao Wang, Xiang Li, Dalong Xu, Wenwen Xu, Liang Qi</i>	
High-Isolation Single-Ridged Waveguide Slot Antenna for Continuous Wave Radar Application.....	1155
<i>Rui Xu, Hao Wang, Xiang Li, Jianyin Cao, Yongbo Zhai, Liang Qi</i>	
A Series-Fed Horizontally-Polarized Patch Antenna Array.....	1158
<i>Shaojun Chen, Ping Yan, Ting Li, Hui Tang, Yi Zhang, Shaowei Liao</i>	
High Isolation Transceiver Antenna Array Based on SIW Technology.....	1161
<i>Chengliang Li, Hao Wang, Xiang Li, Jianyin Cao, Yongbo Zhai, Liang Qi</i>	
A Series-Fed Broadband Low Sidelobe Microstrip Array at 24GHz.....	1164
<i>Shuo Zhu, Hao Wang, Xiang Li, Jianyin Cao, Yongbo Zhai, Liang Qi</i>	
D-Band $\pm 45^\circ$ Slant Polarized All-Metal Antenna.....	1167
<i>Chao Gu, Zhiwei Zhang, Fei Cheng</i>	
Energy-Decoupled Modes of Free Space .....	1170
<i>Ren-Zun Lian, Kunyi Zhang, Jiaying Zhang, Long Li</i>	
Modal Analysis for the Horn-Fed Lens Antennas Using Energy Viewpoint .....	1173
<i>Ren-Zun Lian, Yucen Tian, Chengkai He, Long Li</i>	
An ASGC-Surrogate Model Based Yield Optimization for Passive Microwave Devices with Differential Evolution Algorithm .....	1176
<i>Yujie Han, Ping Li</i>	
Investigation of InAlN/GaN Double Channel HEMTs for Improved Linearity .....	1179
<i>Sirui An, Minhan Mi, Pengfei Wang, Xiaohua Ma, Yue Hao</i>	
Improved Linearity Performance at High Operation Voltage on Dual-Threshold Coupling AlGaIn/GaN HEMTs by Modulating the Duty Ratio .....	1182
<i>Pengfei Wang, Minhan Mi, Zhihong Chen, Sirui An, Yuwei Zhou, Xiang Du, Xiaohua Ma, Yue Hao</i>	
Simulation Investigation of Slant Field Plate T-Gate AlGaIn/GaN HEMT for High-Frequency Power Applications.....	1185
<i>Xiang Du, Minhan Mi, Pengfei Wang, Xiaohua Ma</i>	
A 90-100GHz Passive Phase Shifter with Transistor-Based Capacitor-Loaded Technique.....	1188
<i>Yanpeng Wu, Yiming Yu, Ruoning Wang, Qingfeng Zhang, Chenxi Zhao, Huihua Liu, Yunqiu Wu, Kai Kang</i>	
A Compact 37-DBm 3.3-5 GHz Broadband Power Amplifier in 2- $\mu$ m GaAs Technology .....	1191
<i>Kai Liao, Jin-Xu Xu, Hui-Yang Li, Xiu-Yin Zhang, Bin Hu, Jia-Hui Zhou, Kai Xuan</i>	
A 24.25-28 GHz Wideband Power Amplifier in 150-Nm GaN-On-SiC pHEMT Technology.....	1194
<i>Hai Zhang, Jin-Xu Xu, Hui-Yang Li, Xiu Yin Zhang</i>	
A 1.5-2.1 GHz High-Efficiency Class-J Power Amplifier in 2-Um InGaP/GaAs HBT Process .....	1197
<i>Xiao-Sheng Liufu, Jin-Xu Xu, Hui-Yang Li, Xiu Yin Zhang</i>	
A 24-30 GHz MMIC Low Noise Amplifier in GaN-On-SiC 150-Nm Technology.....	1200
<i>Runfeng Chen, Jin-Xu Xu, Hui-Yang Li, Xiu Yin Zhang</i>	

A 1.7-12.6 GHz Stage-Scaling Distributed Power Amplifier with High PAE in 0.18- $\mu\text{m}$ CMOS .....	1203
<i>Xin Xie, Zhanqiu Huang, Chenxi Zhao, Yiming Yu, Huihua Liu, Yunqiu Wu, Kai Kang</i>	
Ring-Resonator Loaded Transmission Line for Crack Detection .....	1206
<i>Wenlong Hu, Jiahui Cai, Yixuan Deng, Zexin Liang, Jun Zhang, Kun Wang</i>	
Validation of an X-Band Linear Tunable Active Reflection Electromagnetic Metasurface .....	1209
<i>Lijie Chen, Jiawei Chen, Long Xiao, Qiong Huang, Xiaojia Du, Li Deng</i>	
A High-Performance Energy Selective Surface Design Method Based on Series Resonant .....	1212
<i>Song Zha, Zhaofeng Wu, Shiqi Xing, Jingyi Xie</i>	
A Novel Miniaturized SIW Diplexer Based on Orthogonal Dual-Mode Resonator .....	1215
<i>Dongdong Ma, Kang Zhou, Tongde Huang, Yi Wang, Wen Wu</i>	
A W-Band Low Noise Amplifier with High Gain and Low Noise Figure in 65-Nm CMOS .....	1218
<i>Qingfeng Zhang, Siyu Yang, Zelin Song, Yunqiu Wu, Huihua Liu, Yiming Yu, Kai Kang, Zhongpei Zhang, Chenxi Zhao</i>	
Four-Way Waveguide Power Divider/Combiner for THz Application .....	1221
<i>Wenxuan Liu, Yingran He, Biao Du, Xuexia Yang, Qi Zheng</i>	
Ultra-Wideband Wilkinson Power Dividers Based on Substrate Integrated Coaxial Line .....	1224
<i>Jie Sheng, Yun Hu, Zixi Wang, Xin Zhao, Wei Hong</i>	
A Broadband Monopulse Sum-Difference Beam Feed Network with Compact Size of Ka-Band .....	1227
<i>Zixi Wang, Yun Hu, Jie Sheng, Xin Zhao, Wei Hong</i>	
An Integrated Substrate Gap Waveguide Wideband Filter for 5G Millimeter Wave Application .....	1230
<i>Biao Wang, Dongya Shen, Da Hou, Sihong Lin, Qingyuan Tang</i>	
Research on the Influence of Ship Device IP Code on RE102 .....	1233
<i>Du Yuxin, Xu Wentao, Xiong Yong, Wang Yumei, Tian Haitao</i>	
Wide Angle Scanning Circularly Polarized Leaky-Wave Slotted Ellipse-Patch Array with Flat Gain .....	1236
<i>Hong-Wei Yu, Aidi Ren, Ya-Qing Yu</i>	
High Aperture Efficiency Low Profile Luneburg Lens Antenna .....	1239
<i>Xiyv Zhu, Guangli Yang</i>	
Design of Metasurface Broadband Circularly Polarized Antenna Based on Characteristic Mode Analysis .....	1242
<i>Li Shuang, Wu Weijun, Yun Yu, Zhong Xiaoying, Wu Zhe</i>	
Low Profile Conformal Phased Array with Wide Scanning Range .....	1245
<i>Sheng Cao, Shu-Cheng He, Shi-Wei Qu</i>	
Coupling Effect of High Intensity Electromagnetic Pulse on the Shipboard Integrated RF System .....	1248
<i>Yan-Qiu Liang, Zheng-Yu Huang, Rui Chen, Li Chao, Chen Chao, Zhu Shuai</i>	
Decoupling Network for Coupling Suppression in Series-Fed Millimeter-Wave Antenna Arrays .....	1251
<i>Xiang Hu, Yuehui Cui, Ronglin Li</i>	
VO <sub>2</sub> -Based Dual-Bit Programmable Deep Sub-Wavelength Meta-Atom for THz .....	1254
<i>Shuncheng Tian, Houcun Wu, Long Li, Yan Shi, Jiaqi Han, Haixia Liu</i>	

Influence of Drill Collar Wave on Multipolar Source Seismoelectric Logging While Drilling .....	1257
<i>Yongpeng Zhao, Xiangyang Sun, Zaiping Nie</i>	
Photonic Exclusive Logical OR Operator Achieved by Photonic Topological Insulator .....	1260
<i>Longzhen Fan, Li Liang, Xiao Zhang, Digang Fan, Feifei Li, Yin Poo</i>	
A Reconfigurable 3-4 GHz Low-Noise Amplifier with Transformer-Based Integrated Filter .....	1263
<i>Jiashuai Wang, Tao Yang</i>	
Research on Common-Mode Stability of Ka-Band Differential Common-Source Amplifiers .....	1266
<i>Linqizi Xiao, Chenxi Zhao, Yiming Yu, Huihua Liu, Yunqiu Wu, Kai Kang</i>	
38 GHz T/R Heterogeneous Integrated Module .....	1269
<i>Zhu Jian, Huang Min, Philippe Soussan</i>	
Photovoltaic Tunable AMR Sensor .....	1272
<i>Liwen Liang, Yifan Zhao, Wanjun Peng, Rui Wang, Chenying Wang, Libo Zhao, Zhuangde Jiang, Ming Liu, Ziyao Zhou</i>	
Generation of Broadband High-Modal and High-Purity OAM Using P-B Phase Metasurface .....	1275
<i>Tiegang Zhong, Haoran Zhang, Jingchang Nan</i>	
Analysis of High Power Microwave Air Breakdown in Microstrip Structures .....	1278
<i>Wenbo Hu, Haoran Qin, Tiancheng Zhang, Huaguang Bao, Dazhi Ding</i>	
Low Reflectivity Ultrawideband and High-Efficiency Linear Polarization Converter .....	1281
<i>Jianpu Qiao, Hang Ji, Weijun Wu, Chonghua Fang, Xianlian Zeng</i>	
A High Efficiency X-Band Internally-Matched GaN Power Amplifier Using On-Chip Harmonic Tuning Technology .....	1284
<i>Liming Gu, Wenjie Feng, Baojing Yang, Wenquan Che</i>	
Codesign of S Band Integrated GaAs PIN- Diodes Limiter and Low Noise Amplifier .....	1287
<i>Yong Chun Zhou, Jun Yan Dai, Qiang Cheng</i>	
Analysis of Transmission Characteristics on 4CPFSK-Based Rotating-Magnet Based Mechanical Antenna .....	1290
<i>Xie He, Qiang Zhou, Jianya Zhang</i>	
Research on the Development of Reconfigurable Antenna in Wireless Communication System .....	1293
<i>Weidong Ma, Yunhong Xie, Gang Min, Qiang Wang</i>	
A Compact Full-Metal Circularly Polarized Filtering Antenna with an Embedded Metasurface.....	1296
<i>Y. Y. Zheng, Z. Zheng, W. Wang, M. Chen</i>	
Low-Profile SIW Filtenna with Wide Azimuth Beam for V2X Communications.....	1298
<i>Zi Xuan Xia, Di Pang, Xiu Yin Zhang</i>	
A High-Efficiency Metal-Only Transmitarray Using Polarization Rotation Elements.....	1301
<i>Yuqing Wang, Lu Guo</i>	
A Mode Switching Q-Noise Constrained LMS-Based Generalized Sidelobe Canceller.....	1304
<i>Wenjing Hao, Weixing Sheng</i>	
Antenna Design and Near-Field Regulation of RFID Reader System for Luggage Tracking .....	1307
<i>Hongqing Song, Silin Li, Yuqing Shi, Chengjian Zhang, Haidong Chen</i>	

A Separation Algorithm for Interrupted Sampling Repeater Jamming Based on Blind Source Separation.....	1310
<i>Siqi Zhang, Lili Fang</i>	
A Broadband Transmitarray Antenna Element with Linear Phase Response .....	1313
<i>Yue Cao, Wei Yu, Chong Fan, Jian-Xin Chen</i>	
A Low-Cost Wide-Angle Scanning Phased Antenna Array for Millimeter-Wave Application .....	1316
<i>Zichao Li, Jinlin Liu, Liangyong Yang, Jia Fang, Xiaoling Zhang</i>	
Detection of Interference in Main Lobe for Two-Dimensional Monopulse Antenna .....	1319
<i>Yujiao Wang, Weixing Sheng</i>	
A New Element Design for Large Spacing Regular Array Antenna Based on Grating Lobe Suppression .....	1322
<i>Ya-Qing Yu, Hong-Wei Yu</i>	
An Ultrathin Hybrid 64-Element Ka-Band Dual-Polarized Active Integrated Transmit Phased-Array Antenna .....	1325
<i>Zhe Cui, Bo Zhou, Dunge Liu, Shichao Jin, Feng Gao, Yuqian Yang, Chenyu Mei, Chunjiao Fei, Jun Huang, Lipeng Liu</i>	
A Flexible Active Frequency Selective Surface Absorber Design for Radar Stealth Applications.....	1328
<i>Jinliang Bai, Xinguang Zhang, Li Liu, Xiyue Zhang, Yan Ma, Jian Dong</i>	
An Accurate and Efficient Modelling Approach for Active Reconfigurable Intelligent Surfaces.....	1331
<i>Jun Wei Zhang, Yanming Zhang, Zhen Zhang, Qun Yan Zhou, Ya Li, Hongjun He, Jun Wei Wu, Qiang Cheng</i>	
A Metasurface with Phase and Magnitude Modulation Function.....	1334
<i>Zhiqing Guo, Li-An Bian, Mingtuan Lin, Ranhao Chen, Yan Wang, Shu Xie</i>	
Design of Microwave Medium Power Meter with Thermal Equilibrium Judgement Algorithm .....	1337
<i>Yang Zhao, Jinwen Liu, Xiaomeng Liu, Wenze Yuan, Xiaohai Cui, Xiangjun Li</i>	
Full Connected Neural Networks Substitute Traditional Electromagnetic Simulations to Calculate Target Objects' RCS .....	1340
<i>Yuanpeng Yang, Shi Xinyang, Chonghua Fang</i>	
A Novel Regrown Ohmic Contact Technique to Improve the Performance of GaN HEMT .....	1343
<i>Yuwei Zhou, Minhan Mi, Jiejie Zhu, Yutong Han, Can Gong, Pengfei Wang, Yilin Chen, Jielong Liu, Xiaohua Ma, Yue Hao</i>	
Numerical Studies on Thermal Characteristics of Gallium Arsenide Photoconductive Switch with Coplanar Contacts .....	1346
<i>Jinhong Wei, Fanzheng Zeng, Hong Chen, Zebin Fu, Song Li, Baoliang Qian</i>	
A 19–31GHz K/Ka-Band Broadband Low Noise Amplifier with High Gain and High Flatness.....	1349
<i>Chaoyu Huang, Zhihao Zhang, Lin Peng, Zaiman Xiang, Gary Zhang</i>	
A Miniaturized and Packaged LTCC Filtering Balun Using Lumped Elements .....	1352
<i>Bingfang Xu, Chonggang Yang, Peiyao Chen, Henghui Wang, Xianzheng Zong, Sheng Sun</i>	
Symmetrical Quasi-Absorptive Filter Based on SAW Resonators and Lumped Elements .....	1354
<i>Wenzheng Lin, Shaoqiu Xiao, Sheng Sun</i>	

Design of High Selectivity Wide Stopband Waveguide Filter Based on Frequency-Dependent Coupling and Stepped-Impedance Resonator.....	1356
<i>Xiaoqing Yang, Saiwai Wong, Sheng Sun</i>	
Wide-Stopband Miniaturized Bandpass Filter Based on Slow-Wave Structure and Slot Resonator with Quarter Mode Substrate Integrated Waveguide Cavity .....	1358
<i>Ji Wei Zhang, Yong Mao Huang</i>	
Half-Mode SIW Negative Group Delay Compensating Circuit with Improved Left-Handed Material .....	1361
<i>Weilai Wang, Yong Mao Huang, Ji Wei Zhang, Guoan Wang, Maurizio Bozzi</i>	
A Novel Ferrite-Loaded Broadband Metasurface for VHF/UHF Application.....	1364
<i>Jingkai Zhang, Zongliang Zheng</i>	
1GHz GaN MEMS Oscillator Based on GaN-On-Si MMIC Technology .....	1366
<i>Zhongwei Xie, Haoshen Zhu, Tangfei Kang, Wenquan Che, Quan Xue</i>	
A Wideband Bias Circuit with Low Parasitic Inductance for High-Power GaN Pulsed Power Amplifiers.....	1369
<i>Chao Fu, Wenrao Fang, Ruyu Fan, Changkun Liu</i>	
Design of an Extended Continuous Class-F Mode Power Amplifier Using Simplified Matching Network.....	1372
<i>Xin Lin, Zhi-Xia Du, Jiashu Yan, Yicheng Xiao, Siyu Chen, Chunbing Guo</i>	
Analysis of S-Parameters of Passive Microwave Devices Based on High-Order Transfinite Element Method .....	1375
<i>Siyi Yang, Li Xu, Hao Wang, Bingqi Liu, Hangxin Liu, Bin Li</i>	
A Pulsed Voltage Modulator for High-Power GaN Pulsed Power Amplifiers.....	1378
<i>Chao Fu, Wenrao Fang, Wenhua Huang, Juan Zhao</i>	
An Integrated Substrate Gap Waveguide Filter Metalens Antenna for 6G THz Band.....	1381
<i>Da Hou, Sihong Lin, Dongya Shen, Hong Yuan, Biao Wang, Xiupu Zhang</i>	
Design of Filtering Folded Reflectarray Antenna Through Exploiting Its Main Reflectarray.....	1384
<i>Pan-Pan Zhang, Mei Jiang, Yun Hu, Peng Chu, Zheng-Zhuang Tao, Xi-Cheng Zhu, Guo-Qing Luo</i>	
Design of a 1-Bit Holographic Impedance Modulation Surface Antenna Structure in Ku Band .....	1387
<i>Yiming Hao, Zhenghui Xue, Wu Ren, Weiming Li</i>	
A Graphene Based Metasurface for Generation of THz Orbital Angular Momentum Vortex Waves.....	1390
<i>Bowen He, Ronglin Li, Yuehui Cui</i>	
Frequency Tunable Decoupling Network for Full-Duplex Antenna Pair .....	1393
<i>Xiyao Wang, Wenquan Che</i>	
A Load Capacitive Substrate-Integrated Impedance Surface (CSIIS) Patch Antenna with Wide Axial-Ratio (AR) Beamwidth.....	1396
<i>Yang-Dong Yan, Yuqiu Shang, Song Chong, Hongtao Cheng</i>	
A Study on the Influence of the Installation Accuracy of a Sub-6G CATR Reflector Edge Teeth on the QZ.....	1399
<i>Binhui Liu, Limin Zhang, Kai Zhao, Zonghe Ning, Xiu Yin Zhang, Shengyu Wei, Jia Cai</i>	

Research on Wireless Communication Distance Test for Mobile IoT Devices .....	1402
<i>Kai Zhao, Huawei Xu, Linyi Huang, Xubing Lu, Binhui Liu</i>	
A Design of Three-Dimensional Frequency Selective Metamaterial with Staggered Wire Frames .....	1405
<i>Zhang Xiaohong</i>	
E-Band and Low-Sidelobe Monopulse Slot Array Antenna Based on Groove and Ridge Gap Waveguide .....	1408
<i>Liang Li, Cheng Jin, Binchao Zhang, Pengyu Zhang</i>	
Design of Microstrip-To-Microstrip Transition for High-Density Flip-Chip Interconnects .....	1411
<i>Qiaolin Yan, Xuan Wu, Tianwei Deng</i>	
Engineering Design and Implementation of Near-Field Measurement System Based on High Precision Direct Drive Technology .....	1414
<i>Zhaoling He, Jieyao Yang, Haidong Chen, Wenquan Che, Quan Xue</i>	
Design and Error Analysis of a Compact T/R Module for PWG Measurement System .....	1417
<i>Weijun Zhong, Mu Tang, Haidong Chen, Weijie Lin, Wenquan Che, Quan Xue</i>	
Optimization of Antenna Isolation Using an Enhanced Multi-Objective Artificial Hummingbird Algorithm Based on Chaotic Sampling .....	1420
<i>Peng-Fei Qin, Xiao-Dong Li, Hao-Lei Liu, Dong Wang, Guan-Long Huang, Rui-Sen Chen</i>	

**Author Index**