
**ELECTROMAGNETIC
WAVES PIERL 16**

Progress

In

Electromagnetics

Research Letters

© 2010 EMW Publishing. All rights reserved.

No part of this publication may be reproduced. Request for permission should be addressed to the Publisher.

All inquiries regarding copyrighted material from this publication, manuscript submission instructions, and subscription orders and price information should be directed to: EMW Publishing, P. O. Box 425517, Kendall Square, Cambridge, Massachusetts 02142, USA.

E-ISSN 1937-6480

**ELECTROMAGNETIC
WAVES** **PIERL 16**

Progress

In

**Electromagnetics
Research Letters**

Chief Editor: Weng Cho Chew

EMW Publishing
Cambridge, Massachusetts, USA

CONTENTS

A DUAL-BAND CIRCULAR SLOT ANTENNA WITH AN OFFSET MICROSTRIP-FED LINE FOR PCS, UMTS, IMT-2000, ISM, BLUETOOTH, RFID AND WLAN APPLICATIONS

P. C. Ooi and K. T. Selvan

1	Introduction	1
2	Antenna Design	2
3	The Effect of the Feedline Location	4
4	Simulation and Experimental Results	5
5	Conclusions	9

A COMPACT CPW-FED MONOPOLE ANTENNA WITH A U-SHAPED STRIP AND A PAIR OF L-SLITS GROUND FOR WLAN AND WIMAX APPLICATIONS

Z.-Y. Liu, Y.-Z. Yin, S.-F. Zheng, W. Hu, L.-H. Wen, and Q.-Zou

1	Introduction	11
2	Antenna Design	12
3	Parametric Study	14
4	Experimental Results	15
5	Conclusion	18

NUMERICAL SIMULATION OF MAGNETRON INJECTION GUN FOR 1 MW 120 GHz GYROTRON

*U. Singh, N. Kumar, N. Kumar, S. Tandon, H. Khatun
L. P. Purohit and A. K. Sinha*

1	Introduction	22
2	Preliminary Design	23
3	Simulation and Discussion	26
4	Design Validations	28
5	Sensitivity Analysis of the MIG Parameters	29
6	Conclusion	31

A RACKET-SHAPED SLOT UWB ANTENNA COUPLED WITH PARASITIC STRIPS FOR BAND-NOTCHED APPLICATION

M. Zhang, Y.-Z. Yin, J. Ma, Y. Wang, W.-C. Xiao, and X.-J. Liu

1	Introduction	35
2	Antenna Design	36
3	Results and Discussion	38
4	Conclusion	42

A NOVEL CPW DUAL PASSBAND FILTER USING THE SPLIT-MODES OF LOADED STUB SQUARE LOOP RESONATORS

H. J. Lin, X. W. Shi, X. H. Wang, C. L. Li, and Q. Li

1	Introduction	45
2	CPW Square Loop Resonator with Loaded Stub	46
3	CPW Dual Passband Filter Design	48
4	Experiments and Measurement	50
5	Conclusion	51

A ROBUST BEAMFORMER BASED ON WEIGHTED SPARSE CONSTRAINT

Y. P. Liu, Q. Wan, and X. L. Chu

1	Introduction	53
2	MVDR Beamformer	54
3	Weighted Sparse Constraint Beamformer	55
4	Simulation Results	57
5	Conclusion	59

A NOVEL TRI-BAND PRINTED MONOPOLE ANTENNA WITH AN ETCHED \cap -SHAPED SLOT AND A PARASITIC RING RESONATOR FOR WLAN AND WIMAX APPLICATIONS

S.-T. Fan, Y.-Z. Yin, H. Li, S.-J. Wei, X.-H. Li, and L. Kang

1	Introduction	61
2	Antenna Design	63
3	Results and Discussion	64
4	Conclusion	67

COUPLED NONLINEAR TRANSMISSION LINES FOR DOUBLING REPETITION RATE OF INCIDENT PULSE STREAMS

K. Narahara

1	Introduction	69
2	Coupled NLTs	70
3	The Method to Double Repetition Rate of Incident Pulse Streams	75
4	Conclusion	77

DESIGN OF WIDEBAND SUBSTRATE INTEGRATED CIRCULAR CAVITY (SICC) FILTER USING TM_{01} MODE COUPLING

B. Zheng, Z. Q. Zhao, and Y. X. Lv

1	Introduction	79
2	Wideband SICC Filter Design Using TM_{01} Mode Coupling . .	80
3	Validation and Experimental Results	83
4	Conclusion	86

A COMPACT MICROSTRIP-LINE-FED SLOT ANTENNA WITH DUAL BAND-NOTCHED CHARACTERISTICS FOR WLAN/WIMAX APPLICATIONS

F. Li, L.-S. Ren, G. Zhao, and Y.-C. Jiao

1	Introduction	89
2	Antenna Design	90
3	Results and Discussions	92
4	Conclusion	96

THE MINIATURE FREQUENCY DOUBLER USING COMPENSATED CAPACITIVE LINE IN BALUN

Y.-A. Lai, C.-N. Chen, C.-C. Su, C.-M. Lin, and Y.-H. Wang

1	Introduction	99
2	Design of the Proposed Miniature Doubler	100
3	Doubler Results	105
4	Conclusion	106

A NOVEL DUAL BAND-NOTCHED MONOPOLE ANTENNA FOR ULTRA-WIDEBAND APPLICATION

Y. Zhu, F. S. Zhang, C. Lin, Q. Zhang, and J. X. Huang

1	Introduction	109
2	Antenna Design	110
3	Results and Discussion	111
4	Conclusion	116

DUAL-BAND YAGI-UDA ANTENNA FOR WIRELESS COMMUNICATIONS

Q. Xin, F. -S. Zhang, B.-H. Sun, Y.-L. Zou, and Q.-Z. Liu

1	Introduction	119
2	Antenna Configuration and Design Theory	120
3	Design and Optimization of Structure Parameters	122
4	Simulated and Measured Results	124
5	Conclusion	126

A NOVEL COMPACT UWB ANTENNA WITH 3.5/5.2/5.8 GHZ TRIPLE BAND-NOTCHED CHARACTERISTICS

L.-S. Ren, F. Li, J.-J. Zhao, G. Zhao, and Y.-C. Jiao

1	Introduction	131
2	Antenna Design	132
3	Results and Discussions	134
4	Conclusion	139

A WIDE OPEN U-SLOT ANTENNA WITH A PAIR OF SYMMETRICAL L-STRIPS FOR WLAN APPLICATIONS

W. Hu, Y.-Z. Yin, X. Yang, K. Song, Z.-Y. Liu, and L.-H. Wen

1	Introduction	141
2	Antenna Design	142
3	Results and Discussion	143
4	Conclusion	147

W-BAND MICROSTRIP-TO-WAVEGUIDE TRANSITION USING VIA FENCES

R. Shireen, S. Shi, and D. W. Prather

1	Introduction	151
---	------------------------	-----

2	Design	153
3	Fabrication	156
4	Measurement	158
5	Conclusion	159

V-BAND HIGH ISOLATION SUBHARMONIC MONOLITHIC MIXER WITH HAIRPIN DIPLEXER

S.-H. Hung, W.-C. Chien, C.-M. Lin, Y.-A. Lai, and Y.-H. Wang

1	Introduction	161
2	Circuit Design and Implementation	162
3	Experimental Results	166
4	Conclusion	168

ULTRA-WIDEBAND ANTENNA USING MEANDERED SLOTS FOR DUAL BAND-NOTCHED CHARACTERISTIC

Xie, Zhao, Jiao, and Zhang

1	Introduction	171
2	Antenna Design and Parametric Study	172
3	Result and Discussions	175
4	Conclusions	179

WIDEBAND RECTANGULAR DIELECTRIC RESONATOR ANTENNA (DRA) WITH SLOT-FED DESIGN

Z. Weng, X. Wang, Y. Jiao, and F. Zhang

1	Introduction	181
2	Resonant Modes of Rectangular DRS	182
3	Effect of DRA Modification	184
4	Experiment Results	188
5	Conclusion	189

A BENT, SHORT-CIRCUITED, METAL-PLATE DIPOLE ANTENNA FOR 2.4-GHZ WLAN OPERATION

S.-W. Su and T.-C. Hong

1	Introduction	191
2	Antenna Design	192
3	Results and Discussion	194
4	Conclusion	196