

IEEE

# MICROWAVE AND WIRELESS COMPONENTS LETTERS<sup>®</sup>

A PUBLICATION OF THE IEEE MICROWAVE THEORY AND TECHNIQUES SOCIETY



MARCH 2016

VOLUME 26

NUMBER 3

IMWCBJ

(ISSN 1531-1309)

---

LETTERS

**Theory and Numerical Methods**

- Extract the Decay Constant of a Reverberation Chamber Without Satisfying Nyquist Criterion. . . . . *Q. Xu, Y. Huang, L. Xing, and Z. Tian* 153

**Passive Components and Circuits**

- An Improved Wideband Balanced Filter Using Internal Cross-Coupling and  $3/4\lambda$  Stepped-Impedance Resonator . . . . . *Z.-A. Ouyang and Q.-X. Chu* 156
- Gap Waveguide PMC Packaging for a SIW-GCPW-Based Filter . . . . . *J. Zhang, X. Zhang, D. Shen, and K. Wu* 159
- Low-Loss Microaxial Rat-Race Hybrid for Si-Based Microwave Integrated Circuits . . . . . *Y. Tian, H. Wang, Z. Liu, Q. Meng, and K. Lee* 162
- A Compact Millimeter-Wave Patch Quadrature Coupler With a Wide Range of Coupling Coefficients . . . . . *X. F. Ye, S. Y. Zheng, and Y. M. Pan* 165
- Low-Loss Air-Isolated Through-Silicon Vias for Silicon Interposers . . . . . *H. Oh, P. A. Thadesar, G. S. May, and M. S. Bakir* 168
- PEC-PMC Baffle Inside Circular Cross Section Waveguide for Reduction of Cut-Off Frequency. . . . . *A. Y. Modi and C. A. Balanis* 171
- Optimization of Dielectric Material Stoichiometry for High-Reliability Capacitive MEMS Switches . . . . . *N. Tavassolian, M. Koutsourelis, G. Papaioannou, and J. Papapolymerou* 174
- Acoustic-Wave-Lumped-Element-Resonator Filters With Equi-Ripple Absorptive Stopbands . . . . . *D. Psychogiou, R. Gómez-García, and D. Peroulis* 177
- Novel Unequal Dividing Power Divider With  $50 \Omega$  Characteristic Impedance Lines . . . . . *T. Qi, S. He, Z. Dai, and W. Shi* 180
- A Flat-Passband Microstrip Filter With Nonuniform- $Q$  Dual-Mode Resonators. . . . . *L.-F. Qiu, L.-S. Wu, W.-Y. Yin, and J.-F. Mao* 183
- New Triple-Passband Bandpass Filter Using Multipath Stub Loaded Resonators. . . . . *H.-W. Wu, L.-Y. Jian, Y.-W. Chen, and Y.-K. Su* 186
- A Half-mode Substrate-Integrated Filter With Tunable Center Frequency and Reconfigurable Bandwidth . . . . . *B. You, S. Lu, L. Chen, and Q. J. Gu* 189
- Quasi-Elliptic Multi-Band Filters With Center-Frequency and Bandwidth Tunability. . . . . *R. Gómez-García, A. C. Guyette, D. Psychogiou, E. J. Naglich, and D. Peroulis* 192

---

(Contents Continued on Back Cover)



---

<b>Electronic Devices and Device Modeling</b>	
A Modified Canonical Piecewise-Linear Function-Based Behavioral Model for Wideband Power Amplifiers . . . . .	195
..... <i>J. Zhai, L. Zhang, Z. Yu, J. Zhou, and W. Hong</i>	
A Study of Nonlinearity Including Feedback Memory With Application to RF Amplifiers . . . . .	198
..... <i>M. Cook and J. W. M. Rogers</i>	
<b>Hybrid and Monolithic RF Integrated Circuits</b>	
A Low-Power Low-Phase-Noise VCO With Self-Adjusted Active Resistor. . . . .	201
..... <i>J. Sun, C. C. Boon, X. Zhu, X. Yi, K. Devrishi, and F. Meng</i>	
Tuned LC-Resonator Dual-Band VCO. . . . .	204
..... <i>S. Jain, S.-L. Jang, and N. T. Tchamov</i>	
A 205 GHz Amplifier With 10.5 dB Gain and $-1.6$ dBm Saturated Power Using 90 nm CMOS . . . . .	207
..... <i>S. Moghadami and S. Ardalan</i>	
Oscillation Mode Swapping Dual-Band VCO. . . . .	210
..... <i>S. Jain, S.-L. Jang, and N. T. Tchamov</i>	
Generalized Continuous Class-F Harmonic Tuned Power Amplifiers. . . . .	213
..... <i>T. Sharma, R. Darraji, F. Ghannouchi, and N. Dawar</i>	
Compact Doherty Power Amplifier Design for $2 \times 2$ Multiple-Input Multiple-Output System . . . . .	216
..... <i>S. Chen, Z. Cheng, G. Wang, and Q. Xue</i>	
Swing and Phase-Noise Enhanced VCO With Capacitive-Division Dynamic-Threshold MOS. . . . .	219
..... <i>C.-H. Lee, C. Lim, and T.-Y. Yun</i>	
<b>Measurement Techniques, System Modeling Techniques and Applications</b>	
Coupling-Independent Wireless Power Transfer. . . . .	222
..... <i>F. Mastri, A. Costanzo, and M. Mongiardo</i>	

---