# 2016 IEEE Topical Conference on Power Amplifiers for Wireless and Radio Applications (PAWR 2016)

Austin, Texas, USA 24-27 January 2016



**IEEE Catalog Number:** 

CFP16PAR-POD 978-1-5090-1686-0

ISBN:

# Copyright © 2016 by the Institute of Electrical and Electronic 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 publication is a representation of what appears in the IEEE Digital Libraries. Some format issues inherent in the e-media version may also appear in this print version.

 IEEE Catalog Number:
 CFP16PAR-POD

 ISBN (Print-On-Demand):
 978-1-5090-1686-0

 ISBN (Online):
 978-1-5090-1685-3

#### **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 Web: www.proceedings.com



#### **SESSION LIST**

❖ MO1C : RF Power Amplifier Modeling and Design Approaches

♦ MO2C : High-Efficiency RF Power Amplifiers

❖ MO4C : RF Power Amplifier Technology

❖ WE3P: Joint RWW Interactive Poster Session II

#### MO1C: RF Power Amplifier Modeling and Design Approaches

Chair: Jose Pedro, Aveiro University — Co-Chair: Gayle Collins, Intel

(Noushin Faraji, Taylor W. Barton)

Venue: Salon C, 08:00 - 09:40, Monday 25 January 2016

PAGE 1 MO1C-1	Behavioral Modeling for Digital Predistortion of RF Power Amplifiers: From Volterra Series to CPWL Functions ( <i>Invited Paper</i> ) (Anding Zhu)
PAGE 5 MO1C-2	Wideband Linear Distributed GaN HEMT MMIC Power Amplifier with a Record OIP3/Pdc (Jeong-Sun Moon, Jongchan Kang, Dave Brown, Robert Grabar, Danny Wong, Helen Fung, Peter Chan, Dustin Le, Chuck McGuire)
PAGE 8 MO1C-3	Experimental Characterization and Control of a Four-Way Non-Isolating Power Combiner (Prathamesh Pednekar, Leila Deng, Taylor W. Barton)
PAGE 11 MO1C-4	An RF-Input Chireix Outphasing Power Amplifier

### MO2C: High-Efficiency RF Power Amplifiers

Chair: Marc Franco, Qorvo — Co-Chair: Murat Eron, Wireless Telecom Group

Venue: Salon C, 10:10-11:50, Monday 25 January 2016

PAGE 15 MO2C-1	Recent Progress on High-Efficiency CMOS and SiGe RF Power Amplifier Design (Invited Paper) (Donald Y.C. Lie, Jerry Tsay, Travis Hall, Teja Nukala, Jerry Lopez, Yan Li)
PAGE 18 MO2C-2	High-Power, High-Efficiency Digital Polar Doherty Power Amplifier for Cellular Applications in SOI CMOS (Varish Diddi, Hamed Gheidi, James F. Buckwalter, Peter M. Asbeck)
PAGE 21 MO2C-3	2.6GHz 4 Watt GaN-HEMT Two-Stage Power Amplifier MMIC for LTE Small-Cell Applications (Wonseob Lim, Hwiseob Lee, Hyunuk Kang, Wooseok Lee, Youngoo Yang)
PAGE 24 MO2C-4	3.6W/mm High Power Density W-Band InAlGaN/GaN HEMT MMIC Power Amplifier (Yoshitaka Niida, Yoichi Kamada, Toshihiro Ohki, Shiro Ozaki, Kozo Makiyama, Yuichi Minoura, Naoya Okamoto, Masaru Sato, Kazukiyo Joshin, Keiji Watanabe)

## MO4C: RF Power Amplifier Technology

Chair: Fred Schindler, Qorvo — Co-Chair: Slim Boumaiza, University of Waterloo

Venue: Salon C, 15:40 - 17:20, Monday 25 January 2016

PAGE 27 MO4C-1	Envelope Tracking Power Amplifier Design Considerations for Handset Applications (Invited Paper) (Ming Ji, Douglas Teeter, Steve Richard, Eric Shull, Dennis Mahoney)
PAGE 30 MO4C-2	A 53% PAE Envelope Tracking GaN Power Amplifier for 20MHz Bandwidth LTE Signals at 880MHz (Youjiang Liu, Chan-Sei Yoo, John Fairbanks, Jonmei Yan, Donald Kimball, Peter M. Asbeck)
PAGE 33 MO4C-3	<b>Design of a Dual-Band Sequential Power Amplifier</b> (Han Ren, Jin Shao, Mi Zhou, Bayaner Arigong, Jun Ding, Hyoung Soo Kim, Hualiang Zhang)
PAGE 36 MO4C-4	Improvement of LDMOS MMICs Compactness (Sullivan Plet, Gérard Bouisse, Michel Campovecchio)

#### WE3P: Joint RWW Interactive Poster Session II

Chair: Rashaunda Henderson, UT Dallas — Co-Chair: Sergio Pacheco, NXP

Venue: Salon D/E, 12:55 - 14:30, Wednesday 27 January 2016

Not Available WE3P-22	A High Power High Efficiency Class AB Pulse Power Amplifier (S. Alireza Mohadeskasaei, Xianwei Zhou, Somayeh Abnavi)
PAGE 42 WE3P-23	A High-Order Model Looking Beyond the First-Order Harmonic Superposition Assumption (D.T. Bespalko, A. Amini, S. Boumaiza)
PAGE 45 WE3P-24	Investigation of the Practical Output Load Impedance Sensitivity of a 10W GaN Device Subject to Gate Bias Variation (Dragan Gecan, Morten Olavsbråten, Karl M. Gjertsen)
PAGE 49 WE3P-25	Using Waveform Engineering to Understand the Impact of Harmonic Terminations During 5:1 VSWR Stress Tests (David Loescher, Paul Tasker, Steve Cripps)