ectro MITINAM THE AUTHORITY ON

EMERGING TECHNOLOGIES FOR DESIGN SOLUTIONS

January 2017 electronicdesign.com

des

JOHN B. LACSON

MOLO LIBRARM

MAGAIL

SITIME

Wireless in 2017:

p|12

CURSON CU BOY45-1339 SIISI WURBELLA NVE

B SIMBORIO MELITA DALEDA 191 EDEST 19417 0003

S29T# 6T# #875155011 3# EG 005 221 NOVIE C

#BXMPGMZ ********FIRM**CAR-RT LOT**C-031

Access to

Products Online

\$10.00 Powered by Penton*

Periodicals Postage Paid • USPS 100 Approved Poly

In This Issue

FEATURES

- MAJOR WIRELESS DEVELOPMENTS DRIVE AGENDAS lot and 5G top the list of dominant communications trends this year.
- TRENDS THAT WILL SHAPE EMBEDDED TECH IN 2017
 Despite its ups and downs, lot still headlines the embedded arena, with Al and augmented/virtual reality making greater inroads in this rather turbulent market.
- WHAT THE EXPERTS EXPECT IN POWER & ANALOG
 Major players in the semiconductor industry share their predictions for 2017
 regarding power modules, wireless power, data converters, and more.
- 26 11 MYTHS ABOUT PCB LAYOUT PCB layout is not as straightforward as one might think—there is an art form to being effective.
- PUTTING THE PIECES TOGETHER FOR AVNET'S NEXT CHAPTER Gerry Fay, president of Avnet's Electronics Marketing business line, reveals the rationale behind the strategic business decisions the company made in 2016.
- WHAT'S THE DIFFERENCE BETWEEN A DSO AND DPO?
 A digital phosphor oscilloscope is also a digital storage oscilloscope, and the same can be true in reverse. So what exactly separates the two?
- CHANGING THE MINDSET IN IOT MANUFACTURING
 Mark Zuckerberg's guiding mantra of "move fast and break things" may have encouraged a reckless mindset.
- 34 HIGHLY PARALLEL WAFER-LEVEL-RELIABILITY SYSTEMS
 WITH MODULAR SMUs
 To overcome the reliability data bottleneck, many companies are turning to

"BOLT-ON" CIRCUIT, TRANSISTORS

CREATE ZERO-DRIFT CURRENT

PERIOD-TO-RPM CONVERTER

MEASURES VERY LOW FREQUENCIES

to overcome the reliability data bottleneck, many companies are turning to modular platforms like PXI to build highly parallel WLR systems with high uptime.

COLUMNS & DEPARTMENTS

- 7 EDITORIAL
 Do We Need New
 Battery Safety
 Regulations?
- 8 NEWS & ANALYSIS
- 42 NEW PRODUCTS
- 48 LAB BENCH Learning from an Ada Neophyte







26

ils dis

CHO CI.

42

EDITORIAL MISSION:

IDEAS FOR DESIGN

SOURCE

37

30

To provide the most current, accurate, and in-depth technical coverage of the key emerging technologies that engineers need to design tomorrow's products today.

ELECTRONIC DESIGN (ISSN 0013-4872) is published monthly by Penton Media Inc., 9800 Metcalf Ave., Overland Park, KS 65212-2216. Paid rates for a one-year subscription are as rollows: 5120 U.S., \$180 Canada, \$240 intermational. Periodicals postage paid at Kanasa City, MO, and additional mailing offices. Editorial and advertising addresses: ELECTRONIC DESIGN, 1166 Avenue of the Americas, New York, NY 10036. Telephone (212) 204-4200. Printed in U.S.A. Title registered in U.S. Patent Office. Copyright *2016 by Penton Media Inc. All rights reserved. The corrects of this publication may not be reproduced in whole or in part without the consent of the copyright owner. For subscriber services or to order single copies, write to Electronic Design, PO Box 2100, Skokie, IL 60076. PoSTMASTER-Send change of address to Electronic Design, PO Box 2100, Skokie, IL 60076. Canadian Post Publications Mail agreement No. 40612608. Canada return address: IMEX Global Solutions, P.O. Box 25542, London, ON NGC 682.

Permission is granted to users registered with the Copyright Clearance Center inc. (CCC) to photocopy any article, with the exception of those for which separate copyright ownership is indicated on the first page of the article, provided that a base fee of \$2 per copy of the article plus \$1.00 per page is paid directly to the CCC, 222 Rosewood Drive, Danvers, MA 01923 (Code No. 0013-4872/94 \$2.00 + \$1.00). Copying done for other than personal or internal reference use without the express permission of Penton Media, Inc. is prahibited, Requests for special permission or bulk orders should be addressed to the editor. To purchase copies on microfilm, please contact National Archive Publishing Company (NAPC) at 732-302-6500 or 800-420-NAPC (6272) x5578 for further information.