

EM Field-Based Design of Circuit Boards for First Pass EMC Compliance

Daniel Beeker

June 13, 2017

7:30 AM - 6:00 PM

**Giovanni's Restaurant
and Conference Center
Rockford, IL**

Seminar Overview

**Session 1 - Understanding how
Electromagnetic Fields behave on
Circuit Boards**

**Session 2 - First Pass EMC Cir-
cuit Board Design: Techniques
to Improve Performance**

**Session 3 - Power Distribution
Made Easy**

**Session 4 - PCB Design to Sur-
vive Transients**

Seminar Registration

IEEE Members \$125.00
Non-IEEE Members \$175.00
IEEE Student Members \$60.00
**Group Rate (4 + from same
corporation), please call.**

**Seminar Fee includes seminar
attendance, a copy of the
presentation material, and
breakfast, lunch, and refresh-
ments.**

**Registration help for payment:
Adrian Vandergrift
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This seminar will consist of four sessions. The first session will explain how electromagnetic fields behave on circuit boards. Material presented will focus on the basic principles and physics of electromagnetic energy. It will be presented in easy to understand language with plenty of diagrams. Attendees will discover how understanding the behavior of EM fields can help to design PCBs that will be more robust and have better electromagnetic compatibility performance. In the second session, techniques to improve EMC performance of circuit boards will be discussed. A new design approach that utilizes an electromagnetic physics-based design methodology to control the field energy in your design will be presented. The third session will focus on a simple EM physics- and geometry-based approach for designing power distribution networks on PCBs. From input power connection to the IC die, the simple rules discussed can be used to reduce power-supply noise and improve EMC. The final session will be on PCB design to survive transients. This session will cover some definitions of ESD and EOS while explaining the important differences in the energy involved and the resulting damage and design to mitigate transients. The session will also review PCB design for improving system robustness.

Attendees will have the opportunity to network with EMC and Test Equipment vendors. Past seminars have featured up to 30 exhibitors!



With more than 39 years of experience in electronic system design and EMC, Daniel Beeker provides applications support for NXP Automotive customers worldwide. Daniel also supports NXP customers globally with special function development tools and instrumentation (almost all of the "LFxxx" tools on the NXP website). Daniel worked for Freescale Semiconductor before Freescale and NXP merged in 2015. Daniel also specializes in EMC and signal integrity design techniques for systems and PCBs. In support of this, Daniel has completed more than 200 PCB design evaluations for customers and internal NXP products. Daniel teaches field based design techniques at NXP and industry conferences worldwide; more than 70 sessions with more than 3500 attendees since 2010. Daniel is also involved with NXP IC package design and IC development tool teams to support improved EMC performance, working on more than 20 IC designs. Specialties: Microprocessor and Microcontroller development tools, PCB layout techniques for EMC and signal integrity, and Automotive applications specialist.

Rockford, Illinois is located just over an hour's drive from Chicago's O'Hare airport. Direct bus service from Chicago/O'Hare airport is available. There are several hotels within few blocks of the Giovanni's Conference Center. For more information about things to see and do in Rockford, Visit <https://www.gorockford.com/>

For more information visit our website:

<http://sites.ieee.org/rockrivervalley/events/emcseminar/>

To Register Now: <https://goo.gl/M5DDqH>

Questions? Please contact:

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