

EMC Essentials for Product Designers – a Two-Day Short Course

Learn EMC Basics, Design for Compliance, EMI Troubleshooting, and Pre-Compliance Testing

Dates: April 14 - 15, 2020; **Time:** 9:00 – 5:00. **Instructor:** Kenneth Wyatt

Location: EMI Test Lab LLC, 1822 Skyway Dr., Unit J, Longmont, Colorado



Learn how to design electronic products to comply with electromagnetic compatibility (EMC) requirements! These seminars offer a unique blend of theory, application and demonstration. You'll have the option to purchase the excellent textbook from Würth Electronics, *Trilogy of Magnetism*, at a discount. A special module has been added to course materials, which discusses some examples from the book. In addition, Würth and other vendors will be demonstrating their latest EMC-related instruments and filter components. This is a 2-day course, and the curriculum is broken down as follows:

Day 1: EMC Theory (Part 1) - Attendees will be introduced to basic EMC theory; units of measurement, time and frequency domain, differential and common mode currents, radiated emissions, PC board layout, shielding/bonding, transmission lines, how signals propagate in circuit boards. Day one is crucial to understanding the Day 2 presentation, as it will also include demonstrations of many of the basic product design principles.

Day 2: EMC Theory (Part 2) plus Bench Top EMI Measurements, Troubleshooting, and Pre-Compliance Testing – We'll continue with ESD and system design, followed up with practical, low-cost, tools and techniques that can be used for pre-compliance measurements as well as troubleshooting typical EMC problems. We'll demonstrate several probing and analysis techniques that will help identify EMC issues quickly, including Ken's "three-step" process for radiated emissions troubleshooting, which will save you loads of time and money! Included in the demonstrations will be the use of real-time spectrum measurements, how to use an oscilloscope for EMI troubleshooting and the use of TEM cells for radiated emissions and immunity troubleshooting. New this year is an expanded section on self-generated EMI for wireless and IoT products. Several actual case studies will also be described.

This course is a must for technicians, engineers, managers, or anyone tasked with the job of getting a product through EMC compliance testing.

Your instructor, Mr. Kenneth Wyatt, is an expert in the field of EMI/EMC. He has over 30 years experience in the field, and has been responsible for taking numerous products, both commercial and military, through design compliance testing. Ken understands not only the techniques of good EMC design, but also the nuances of troubleshooting elusive EMC problems. He has published numerous articles for magazines, such as EE Times, Microwave Journal, EDN, Interference Technology, and InCompliance and has presented his EMC courses worldwide. He authors "The EMC Blog" at EDN.com, coauthored the book, *EMI Troubleshooting Cookbook for Product Designers*, and served as the senior technical editor for Interference Technology Magazine for a period of three years.



The cost for both days will be \$1,295 per person. This cost includes a hard copy of all course materials, a copy of his book and a ferrite sample kit provided by Würth Electronics, plus gifts from several other vendors. Snacks and refreshments will be provided in the morning and afternoon, with lunch will be provided both days.

Register On-Line at <http://www.emc-seminars.com>

Testimonials:

I really thought you did a great job teaching us about ESD issues last month. I told my boss that your seminar was the best I have attended to date. Dave H.

Good info on general theory – provides a nice point-of-entry for the beginner.

The best part of the course was the troubleshooting methods and equipment.

And from some anonymous evaluation forms:

Good course with lots of info!

Loved the practical tips and tricks; especially the troubleshooting tips.

Great review of concepts. I liked the sharing of the EMI kit and the troubleshooting techniques.

The demonstrations and the DIY tips for building and using your own testing equipment were the best part for me.

The instructor was good...very helpful!

The demos really bring ideas to light and the troubleshooting tips were very enlightening. Overall the course was very good.

