



# Interlab Comparisons and Data Reduction plus Emission Measurements (ANSI C63.4), Antenna Calibration (ANSI C63.5) and Time Domain (TD) Applications



This workshop is presented now in four parts over a two and a half day period: (1) Introduction to interlab emission measurement comparisons and requisite data reduction, (2) Review of the 2009 edition of ANSI C63.4 (now accepted by the FCC for use), (3) Review of the 2006 edition of C63.5 and the changes proposed for the expected 2012 edition and (4) Application of TD for test site validation and antenna calibration. The workshops are designed to increase your understanding of these standards, the TD approach and the importance of interlab comparisons (ILC) as it applies to emission measurements and how to analyze results to improve lab test accuracy. For the C63.4 workshop, there will

be an analysis of the test site validation including using the CISPR S-VSWR method or arranging absorber material on the ground plane. The C63.5 workshop will lead the user through the document, highlighting which technique should be used based on the type of antenna being calibrated. This is essential to ensure that the right antenna factor is obtained, especially when validating semi-anechoic chambers. The proposed application of the same TD method to validating test sites and antenna calibrations will also be presented in real time using the ten meter semi-anechoic chamber at Northwest EMC. Group problem solving will be a highlight of all four workshops. **Visit [www.c63.org](http://www.c63.org) for more information.**

### In the ILC workshop, you will learn:

- Elements of ISO 17025, Clause 5.9
- Collecting/analyzing data
- Setting control limits/uncertainty
- Computing/presenting results
- Lab experience with comparisons

### In the C63.4 workshop, you will learn:

- Emission measurement procedures
- Regulatory implications
- Test facility and instrumentation requirements
- Test arrangements and configurations

### In the C63.5 workshop, you will learn:

- General test conditions
- Appropriate measurement geometry
- Application of standard site method
- Rationale for geometry specific correction factors for biconicals
- Measurement uncertainty guidelines
- Changes proposed for 2012 edition

### In the TD workshop, you will learn:

- Application for site validation
- Application for antenna calibration
- Tips on using TD instrumentation in a ten meter semi-anechoic chamber

### Support Material

- A complete lecture notebook
- FCC handouts and references

### Who Should Attend

- Product Managers and Developers
- EMC Engineers and test technicians
- Regulatory Compliance Managers
- Test Instrumentation Developers
- Calibration labs/technicians
- Accreditation bodies
- Lab quality assessors
- Test instrumentation and chamber manufacturers
- Data reduction analysts

### Host Hotel

Hilton Orange County/Costa Mesa  
3050 Bristol St., Costa Mesa, CA 92626

"ANSI C63" Group Rate: \$99 plus tax for reservations made by July 1, 2011  
Phone: +1 714-540-7000

### Date and Location

August 11 and 12: Host Hotel - Hilton  
August 13: Northwest EMC in Irvine

### Expert Instructors

Workshops feature industry leaders and ANSI C63® members, including Don Heirman, Workshop Director, (Don HEIRMAN Consultants), Bob Hofmann (Hofmann EMC), Greg Kiemel (Northwest EMC), Harry Hodes (Acme Testing Co.), Dennis Camell (NIST), Victor Kuczynski (Vican Electronics) and Zhong Chen (ETS-Lindgren)

### Fee Includes

Lecture notebook, continental breakfast, lunch, breaks, completion certificate, and transportation on August 13 to/from the Host Hotel and Northwest EMC. Fee does NOT include draft or published standards.

### Agenda

#### Interlab Comparison

August 11: Class: 1:00 to 5:00 pm

#### ANSI C63.4:

August 12: Registration: 8:30 am  
Class: 9:00 am to 5:00 pm

#### ANSI C63.5 and Time Domain:

August 13: Registration: 8:30 am  
Class: 9:00 am to 5:00 pm

Registration Form  
Telephone: 425-868-2558

Contact: Janet O'Neil  
j.n.oneil@ieee.org

Ms./Mr. \_\_\_\_\_  
Company \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Daytime Phone \_\_\_\_\_ Fax \_\_\_\_\_  
Email \_\_\_\_\_  
Credit Card (check one): MC \_\_\_\_\_ Visa \_\_\_\_\_ Amex \_\_\_\_\_  
Credit Card No: \_\_\_\_\_  
Expiration Date: \_\_\_\_\_  
Signature: \_\_\_\_\_

**Check or Credit Card Number must accompany registration.**

Make check payable to **U.S. EMC Standards Corporation** in U.S. dollars drawn on a U.S. bank. Mail to:  
Janet O'Neil, ETS-Lindgren  
22316 Northeast 19<sup>th</sup> Street, Sammamish, WA 98074

### Interlab Comparison Workshop only - August 11 (PM)

By June 30\*: \$200 USD \_\_\_\_\_

### C63.4 Workshop only - August 12

By June 30\*: \$500 USD \_\_\_\_\_

### C63.5/TD Workshop only - August 13

By June 30\*: \$500 USD \_\_\_\_\_

### All three workshops

By June 30\*: \$1000 USD \_\_\_\_\_

Add \$200 if after June 30 \$200 USD \_\_\_\_\_

Add'l copy of both workshop notebooks\*\* \$150 USD each \_\_\_\_\_

Total USD \$ \_\_\_\_\_

*NOTE: You are not registered until you receive confirmation*

\*Please do not mail after 30 June. \*\*Order by June 30 for pickup at the workshop. \*\*\*A discount applies to ASC C63 paid@ members: contact Janet O'Neil for this special offer and pricing.

The organizing committee reserves the right to substitute speakers, modify the program (or lecture notes), restrict attendance or to cancel the workshop(s). In the event the workshop(s) is/are cancelled, registration fees will be refunded. No refunds will be made to individuals who cancel after July 1. Substitutions are allowed. Workshops without a minimum of 15 attendees signed up by 1 July 2011 will be cancelled and registration fees returned. It is suggested that you book refundable travel arrangements as appropriate if workshop(s) is/(are) cancelled.