

**NEW Revised Antenna Calibration**  
**Standard (ANSI C63.5-2006)**  
**Workshop**

In December 2004, ANSI ASC C63 published its long awaited antenna calibration standard that replaces the 1988 and 1998 versions. Late last year ASC C63 added to this standard an interpretation that clarified some text and a flow chart. The standard takes into account the errors that are introduced when using certain broadband antennas especially at frequencies below 200 MHz and provides correction factors when these antennas are used for site validation. There are

also introduced alternate measurement techniques for determining antenna factors for other types of antennas. The workshop will lead the user through the new 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 used especially when validating semi-anechoic chambers. As time permits, attendees will get a chance to apply what they learned via problem solving and/or performing an antenna calibration in the lab at the meeting venue.

**Workshop Overview**

In this seminar, you will learn about:

- General test conditions
- Appropriate measurement geometry
- Methods to determine antenna factors
- Application of standard site method
- Reference antenna method
- Equivalent capacitance substitution method
- Discrete and continuous frequency calibration considerations
- Rationale for geometry specific correction factors for biconicals
- Guidelines for measurement uncertainty
- You will also participate in hands-on activity in a state-of-the-art ten meter chamber. This will drive home, in real time, the material presented

**Support Material**

- ANSI C63.5-2006
- A complete lecture notebook
- Handouts and references

**Who Should Attend**

- Those responsible for using and calibrating antennas in making radiated emission compliance measurements and
- Calibration technicians
- Calibration accreditation bodies
- Lab quality assessors
- Regulatory Compliance Managers
- Test instrumentation and chamber manufacturers

**Date and Location**

**Saturday, August 12, 2006 at  
Northwest EMC in Hillsboro, Oregon.**

Transportation from the Hilton Hotel (headquarter hotel for the IEEE EMC symposium) in downtown Portland to Northwest EMC will be provided. Local transportation arrangements will be confirmed upon receipt of registration.

**Agenda (approx.)**

Registration and Continental Breakfast:  
8:00 am  
Class: 8:30 am to 5:00 pm

**Registration Fee Includes**

Complete lecture notebook, continental breakfast, lunch, and breaks, roundtrip local transportation between Hilton Hotel (headquarter hotel) in downtown Portland and Northwest EMC, as well as a copy of ANSI C63.5-2006.

**Hotels**

Several hotels in Portland have rooms reserved for those attending the IEEE EMC Symposium, including the Hilton Portland & Executive Tower Hotel (headquarter hotel for symposium). Please visit the website [www.emc2006.org](http://www.emc2006.org) for complete hotel information.

**Expert Instructors**

Donald N. Heirman, Workshop Director, (Don HEIRMAN Consultants), Dennis Camell (National Institute of Standards and Technology), Michael J. Windler (Underwriters Laboratories)

**Registration Form**

**Contact: Janet O'Neil**

**Telephone and fax: 425-868-2558 (call first for fax)**

Ms./Mr. \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_

Daytime Phone \_\_\_\_\_ Fax \_\_\_\_\_

Email \_\_\_\_\_

Credit Card (check one): MC \_\_\_\_\_ Visa \_\_\_\_\_ Amex \_\_\_\_\_

Credit Card No: \_\_\_\_\_

Expiration Date: \_\_\_\_\_

Signature: \_\_\_\_\_

**C63.5 workshop - 12 August 2006**

By 28 July 2006 \*: Attendees \$400 USD \_\_\_\_\_  
C63 & S/C Members \$350 USD \_\_\_\_\_

Add \$100 if after 28 July or at the door\*\* \$150 USD \_\_\_\_\_  
Add'l copy of notebook\*\* \$100 USD \_\_\_\_\_  
Total \$ \_\_\_\_\_ USD

**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  
22117 Northeast 10<sup>th</sup> Place  
Sammamish, WA 98074  
Email: [j.n.oneil@ieee.org](mailto:j.n.oneil@ieee.org)

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

\*Please do not mail after 28 July 2006.

\*\*With prior telephone or fax registration only.

NOTE: The organizing committee may substitute speakers, modify the program (or lecture notes), restrict class size or cancel the workshop. No refunds will be made to individuals who cancel after 28 July 2006. Substitutions are allowed. Registration will be confirmed on a first come, first served basis. Workshop requires a minimum of 15 attendees; it will be cancelled if less than 15 sign up by 28 July 2006. Please do not wait to register and do not miss the 28 July 2006 absolute deadline. Registration fees will be returned if workshop is cancelled. Book refundable travel arrangements as appropriate if workshop is cancelled.