

# Measurement of Radio-Noise Emissions (ANSI C63.4) and Introduction to Measurement Uncertainty

15-16 August 2008 Detroit, Michigan

This workshop is presented in two parts based on the 2008 edition of ANSI C63.4 and an introduction to basic principles of measurement uncertainty with examples applicable to EMC measurements.

These workshops are designed to increase your understanding of the methods of measurement of radio-noise emissions from low voltage electrical and electronic equipment in the

range of 9 kHz to 40 GHz as it applies to determining compliance with FCC technical standards for digital devices and other similar product requirements. The C63.4 workshop is followed by a half-day introduction to measurement uncertainty and a review of the work contained in the draft ANSI C63.23 on the subject, currently under development.

## WORKSHOP OVERVIEW

In this workshop, you will learn about:

- RF emission measurement procedures
- How to use ANSI C63.4
- National and international regulatory implication
- Test facility and instrumentation requirements
- Equipment test arrangements
- Simple and complex information technology equipment (ITE) problem-solving workshop
- Application to other than ITE
- Measurement uncertainty

## EXPERT INSTRUCTORS

The ANSI C63.4 workshop instructors are Donald N. Heirman, Workshop Director, (Don HEIRMAN Consultants), H. Robert Hofmann (Hofmann EMC Engineering), and Bill Hurst (Federal Communications Commission); instructors for the measurement uncertainty workshop are Don Heirman, Mike Windler and Bob Delisi (both of Underwriters Laboratories)

## AGENDA

### ANSI C63.4

Friday, 15 August 2008

7:30 a.m.

Registration and Continental Breakfast

8:00 a.m. to 4:30 p.m.

Workshop

Saturday, 16 August 2008

7:30 a.m.

Continental Breakfast

8:00 a.m. to noon

Workshop continues

### Measurement Uncertainty

Saturday, 16 August 2008

12:45 p.m.

Registration

1:15 p.m. to 4:45 p.m.

Workshop

## SUPPORT MATERIAL

- ANSI C63.4-2008 and portions of the draft ANSI C63.23
- A complete lecture notebook
- FCC handouts and references

## WHO SHOULD ATTEND

Those responsible for determining compliance with FCC Rules and Regulations (and CISPR 22) of their own or their client's products, including:

- Product Developers
- Test Engineers and Technicians
- Product Managers
- Regulatory Compliance Managers
- Test Instrumentation Developers
- Those responsible for determining the uncertainty of emission measurement instrumentation

## LOCATION

Detroit Marriott at Renaissance Center  
IEEE EMC 2008 Headquarters Hotel  
Please make your reservation directly through the hotel at 313-568-8000 or 800-228-9290 or online through the link at [www.emc2008.org](http://www.emc2008.org). Refer to the 2008 EMC Symposium to receive the discounted rate.

## FEE INCLUDES

**C63.4:** Complete lecture notebook, continental breakfast, lunch (first day only) breaks, and completion certificate.  
**Measurement Uncertainty:** Lecture notebook and certificate of completion

## REGISTRATION FORM

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

Organization \_\_\_\_\_

Address \_\_\_\_\_

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

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

Email \_\_\_\_\_

## PAYMENT

Check  AmEx  Visa  MasterCard  Diners Club  
(Make check payable to U.S. EMC Standards Corporation.  
Checks must be in U.S. dollars drawn on a U.S. bank.)

Card # \_\_\_\_\_ Exp Date \_\_\_\_\_

Signature \_\_\_\_\_

## BY MAIL

Janet O'Neil  
ETS-Lindgren  
22117 Northeast 10th Place  
Sammamish, WA 98074  
USA

## BY EMAIL

[j.n.oneil@ieee.org](mailto:j.n.oneil@ieee.org)  
**BY FAX** (call first)  
+1 (425) 868-2558  
**QUESTIONS?**  
+1 (425) 868-2558

## REGISTRATION FEES

**C63.4 Workshop** (1½ days), 15-16 August

On or Before June 15\* @ \$800 USD \_\_\_\_\_

After June 15 or Onsite\*\* @ \$1000 USD \_\_\_\_\_

C63® & S/C Members by June 15 @ \$750 USD \_\_\_\_\_

C63® & S/C Members after June 15 @ \$950 USD \_\_\_\_\_

**Measurement Uncertainty** (half day), 16 August PM

On or Before June 15\* @ \$400 USD \_\_\_\_\_

After June 15 or Onsite\*\* @ \$600 USD \_\_\_\_\_

C63® & S/C Members by June 15 @ \$350 USD \_\_\_\_\_

C63® & S/C Members after June 15 @ \$550 USD \_\_\_\_\_

**Both Workshops**

On or Before June 15\* @ \$1000 USD \_\_\_\_\_

After June 15 or Onsite\*\* @ \$1200 USD \_\_\_\_\_

C63® & S/C Members by June 15 @ \$950 USD \_\_\_\_\_

C63® & S/C Members after June 15 @ \$1150 USD \_\_\_\_\_

**Add'l copy of both workshop notebooks**

@ \$100 USD (order by June 15 for pickup on site) \_\_\_\_\_

Total (USD) \_\_\_\_\_

\$ \_\_\_\_\_

Payment must accompany registration.

NOTE: You are not registered until you receive confirmation

\* Please do not mail after July 10.

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

The organizing committee reserves the right to substitute speakers, modify the program (or lecture notes), restrict attendance, or cancel the workshop(s). In the event that the workshop(s) is(are) cancelled, registration fees will be refunded. No refunds will be made to individuals who cancel after July 10. Substitutions are allowed. Workshops without a minimum of 15 attendees signed up by 1 July 2008 will be cancelled and registration fees returned. It is suggested that you book refundable travel arrangements as appropriate if workshop(s) is(are) cancelled.