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Accredited Standards Committee C63[®]
Electromagnetic Compatibility
Accredited by the American National Standards Institute, Inc.
Secretariat: Institute of Electrical and Electronics Engineers, Inc.

NEWSLETTER

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Warren Kesselman, Editor

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FCC ACCEPTS USE OF THE 2009 EDITIONS OF C63.4 and C63.10

ASC C63[®] is proud to announce the acceptance of the above standards for use in product compliance measurements for FCC acceptance. The work for updating C63.4 was led by Stephen Berger and his working group in Subcommittee 1 of ASC C63[®]. Art wall and his working group led the effort in Subcommittee 1 in generating the new standard--C63.10. Kudos for their work and a big thank you to the FCC for continuing their acceptance and referencing in their Rules these and other ASC C63[®] standards.

The FCC Announcement
(DA No. 09-2478 Released: 11/25/2009)
“OFFICE OF ENGINEERING AND TECHNOLOGY CLARIFIES USE OF RECENTLY PUBLISHED ASC C63[®] MEASUREMENT STANDARDS FOR COMPLIANCE TESTING OF INTENTIONAL AND UNINTENTIONAL RADIATORS UNDER PART 15”
OET.Contact William Hurst (301) 362-3031,or email William.Hurst @fcc.gov

The full text of the notice is found on
http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-09-2478A1.pdf

MESSAGE FROM THE CHAIR

What a Year!!

Our committee had a bumper crop year of standards activity. We published the following key standards in recent months in 2009:

1. ANSI C63.4, “*American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz*”
2. ANSI C63.10, “*Standard for Testing Unlicensed Wireless Devices*”
3. ANSI C63.14, “*Standard Dictionary of Electromagnetic Compatibility (EMC) including Electromagnetic Environmental Effects (E3)*”

We have asked the FCC to allow the use of the first two standards.

As a quick review, C63.4-2009 should be used quickly as it has significant improvements over the 2003 edition which is presently referenced in the FCC Rules. In particular, the 2009 edition has test site validation criteria above 1 GHz as well as clarifying what must appear on video displays, precautions in using spectrum analyzers, taking into consideration the effect of the material used for the top of test tables, and the new requirements for antenna calibration using C63.5-2006 (eliminating the use of the 1988 and 1998 editions). Note that referencing only C63.5-2006 will mean that the present calibration of antennas by the earlier editions of C63.5 will no longer be accepted. It is not known when the 2006 edition will be required in and by itself. It is clear however that when C63.4-2009 is required only by the FCC, the use of the 2006 edition of C63.5 will be a requirement.

C63.10 is a new standard which consolidates FCC testing requirements in one document for unlicensed wireless devices (transmitters). The document provides procedures for testing compliance of a wide variety of unlicensed wireless devices, including but not limited to: remote control and security unlicensed wireless devices, frequency hopping and direct sequence spread spectrum devices, anti-pilferage devices, cordless telephones, wireless medical unlicensed wireless devices, unlicensed national information infrastructure devices, intrusion detectors, unlicensed wireless devices operating on frequencies below 30 MHz, automatic vehicle ID systems, and other unlicensed wireless devices authorized for operation by a radio regulatory authority. C63[®] has also filed with the FCC the request for the use of this standard.

C63.14 is our dictionary of terms. It is also used by the US military as it replaced MIL STD 463 some time ago. The document provides definitions of terms associated with

electromagnetic environmental effects including EMC, electromagnetic pulse (EMP) and electrostatic discharge (ESD). In addition to definitions, several symbols and abbreviations are included.

So it is really urged that our Newsletter readers that are in the testing business should get a copy of these standards quickly to plan for their use when testing client products for compliance with the FCC Rules. To purchase a copy, log onto

<http://standards.ieee.org>

Click on “shop—Order a standards product today” button under “Products & Services”

Then enter the standard number in the “Search the IEEE Shop” area.

Other activity:

We do not have room here to cite all the activity of the committee, but a few areas may be of immediate interest.

1-As always look at the committee web site on www.c63.org There you will find what is being worked on as well as information on the next meeting series. This will be at the IEEE headquarters in New Jersey the week of 19 April 2010. The details are to be found on the web site in the “C63 Main Committee” button and then the “Upcoming Meeting Schedule & Logistics” button. If the April meeting information is not yet posted, try back later.

2-Work is proceeding on several other standard including:

- a. C63.2 Measurement Instrumentation specifications—soon to be published
- b. C63.15 Immunity measurements and instrumentation—soon to be published
- c. C63.18 (Medical equipment) and C63.24 (general application) On-site immunity testing—C63.18 soon to be published
- d. C63.23 Measurement uncertainty—under development
- e. C63.25 Test site validation (especially above 1 GHz)—under development
- f. C63.26 Testing Licensed wireless devices—work just starting.

This is looking like a bumper crop for 2010 too.

Planned Workshops

There will be a second two-day workshop covering C63.10 to be held at Underwriters Laboratories in Northbrook, IL on 16-17 June 2010. The first workshop was held on 4-5 November 2009 at UL’s facility in Research Triangle Park in North Carolina. Eighteen were in attendance to not only

review the standard but to see its use via laboratory experiments in real time.

We are also planning to repeat our C63.4-2009 and C63.5-2006 and time domain procedures the late week before the start of the IEEE EMC Symposium in Fr. Lauderdale, FL on 23-24 July 2010.

Other plans are providing a workshop covering measurement uncertainty using C63.23 and test site validation especially above 1 GHz using time domain techniques (which is also introduced during the C63.5 workshop in Ft. Lauderdale).

We need you!!

We are always looking for subject matter experts to work on our standards development project working groups. Again the web site is a major resource on what projects we are working on by simply looking at the posted minutes of the last meeting of the main committee and the subcommittees. Questions can be addressed to the subcommittee chairmen which are listed in the membership areas in the subcommittee area on the web site. If there remains any questions, please address them to either the Chairman (d.heirman@ieee.org) or the Secretary (jramie@arctechnical.com).

We look forward to a strong program in 2010 and for you to join us. Please consider this.

Thanks

I want to thank all that worked on our projects this year. Their inputs were invaluable to the work of the committee and to those that use our standards. I want to thank especially the main committee secretary (Jerry Ramie) and secretariat (Mike Kipness) as well as all the subcommittee chairs and officers including all the working group chairs who did superb work this year. Last but not least a thanks go to all the working group members that brought the ideas forward to make our standards technically sound and useable by our customers. I apologize if I missed some one but there are so many that make our committee superb in its service to the EMC community so that I am sure that I missed someone or category. But in any case, **kudos to all and have a happy holiday and I look forward to your work again with us in 2010!**

Don Heirman
Chairman, Accredited Standards Committee C63®

APRIL 2010 ANSI ASC C63® MEETING SERIES

The April 19-23, 2010 meeting series will be held at IEEE Headquarters in Piscataway, NJ. Tentative schedule is:

Meeting	Mon 19Apr	Tues 20 Apr	Wed 21 Apr	Thurs 22Apr	Fri 23Apr
C63® Parent Committee				0830-1500	
WG meeting(s)	0830-1200; 1300-1700; 1715-1900	0830-1200; 1300-1700; 1715-1900		1515-1700; 1715-1900	0830-1200; 1300-1700; 1715-1900
SC1 Measurement			0830-1045		
SC2 Definitions			1100-1200		
SC3 International		1300-1530			
SC5 Immunity		1545-1700			
SC6 Lab Accreditation			1300-1445		
SC8 Medical		0830-1045			
C63® Steering Committee		1715-1900*	1715-1900*		
US EMC Standards Corp Board of Directors	1715-1900**				

* Members only of the Steering Committee.

**US EMC Standards Corp Board members only.

(Please double check on C63®'s website www.c63.org , "C63® main committee", "Upcoming meeting schedule & logistics".)

NOTICE: The October 2010 meeting series is scheduled to be held during the week of 25 October at SAE Headquarters in the Detroit area (Poul Andersen, host). The Main Committee meeting is scheduled on 28 October.

Subcommittee 1 – Techniques and Development

Dennis Camell, **Chair**

This subcommittee is responsible for six active standards with two in revision process and three totally new standards at the working group level. Any interested parties are encouraged to contact the working group chair shown below.

Project on Antenna Calibration C63.5

Chair: Dennis Camell

This revision will include contain several suggested changes. These changes brought varied discussion during the subcommittee meeting. A new PINS was prepared and approved for this work. Some of the topics are:

- *Improved harmonization with IEC and VCCI with reworded/additional text
- *Finalize frequency step size requirements across bands
- *Finalize reference antenna changes
- *Revise uncertainty table for SSM and provide table for SAM
- *Adding the time domain method for free space antenna calibrations
- *Adding annex for dipole corrections for free space antenna calibrations

Project on Standard for Testing Unlicensed Wireless Devices C63.10

Chair: Art Wall

This working group has an active PINS on file. They have met twice with large turnouts at each meeting. Work is just beginning for Edition 2. For C63.10 Edition 2, work is progressing on :

- Measurements above 1 GHz
- Broadband system measurements
- MIMO
- EIRP and ERP measurements
- Polar plots and antenna characteristics
- Multiple transmitters
- Antenna array testing
- Measurements below 30 MHz
- Edition 1 maintenance items

Project on Measurement Uncertainty C63.23

Chair: Bob DeLisi

The first edition of this new standard is nearing completion and will focus on practical instruction on how to determine the actual measurement uncertainty contributor values from calibration data and other sources. In addition the standard will provide guidance on the means to use type A assessments of contributors and overall systems, including nested studies. The draft is expected to be completed for voting soon.

Project on Site Requirements C63.25

Chair: Mike Windler

This project was approved for the development of site requirements for both above and below 1 GHz, with an active PINS on file. The working group is copying the requirements below 1 GHz (NSA) from C63.4 and adding requirements above 1 GHz. The expected completion date is 2010.

Project on Standard for Testing Licensed Wireless Devices C63.26

Chair: Art Wall

This project has an active PINS on file. The working group met twice with a large turnout at each meeting. The work is just beginning for this standard. Roadmap developed and key tasks have been identified. Additional stake holders are being sought.

Subcommittee 2 – E3 Terms and Definitions

Marcus Shellman, Chair

C63.14-2009, “Dictionary of Electromagnetic Compatibility including E3,” was published 23 October 2009. Project initiation of the next maintenance cycle will begin immediately to maintain currency with emerging terminology.

Subcommittee 3 International Standardization

Poul Andersen, Chair

SC3’s role was redefined in April of 2008 and its current scope is as follows: “Provide a forum for comparing international standards activities to ANSI ASC C63[®] (hereafter C63[®]) membership standards activities”. The subcommittee’s Main Activities, General Tasks, and Membership Criteria as well as the Scope, can be found on the SC3 main page of the ASC C63[®] website. The membership consists mainly of the C63[®] Chairman, Subcommittee Chairmen, and the CISPR and TC77 Technical Advisors or their designated representatives. The role of the subcommittee is to provide an open conduit for bilateral information flow between the international EMC and the US EMC standards activities and to look for opportunities for harmonization of standards.

At the October 2009 meeting of SC3, the status of nine C63[®] documents previously identified as candidates for some level of harmonization was reviewed. Work is in progress, but at

this point there have been no specific proposals for change to either the C63® documents or their international counterparts. One additional C63® standard was added to the current list of nine documents. Identification of additional standards for review is a perpetual agenda item. The subcommittee is open to receiving applications for additional members that have relevant qualifications and interests in EMC harmonization. Likewise companies or organizations not currently members of C63® that see potential benefit in having their EMC standards eligible for review by SC3 should consider becoming a member of C63®

Subcommittee 5 Immunity Testing

Edward F. Hare, Chair

Dave Schaefer from TUV America is a new Subcommittee member.

The Subcommittee initiated a new project for interference mitigation in utility settings. Stephen Berger prepared the PINS-C proposal for a new American National Standard for RF Immunity of Power Plant Control Systems.

Description:

“A new generation of power generation plants is being planned. With the increasingly complex electromagnetic environment there is increasing evidence that new RF immunity test methods, recommended limits and post-installation, in-situ evaluation methods are needed. This project will undertake the initial study of these issues and very probably propose one or more standards to address these needs.

This project will explore the need for RF immunity standards for instrumentation and electronic control systems in power generation plants. The areas to be studied are:

Type of standard(s) needed:

- *Laboratory test to qualify control systems.
- *In-situ test to evaluate systems post installation

Technical issues to be evaluated:

- *Required level of immunity
- *Frequency range to be evaluated
- *Modulations to be used in evaluation”

Subcommittee 6 Laboratory Accreditation/Conformity Assessment

Victor Kuczynski, Chair

A motion was passed (at the October meeting) to cancel C63.11 PINS because of copyright issues and costs. Dan Hoolihan reported that this commercial accreditation Standard will require significant copyright fees. A new PINS was presented by Victor Kuczynski for approval of “Inter-lab Comparison for EMC Testing,” and approved by the Subcommittee. The project objective is to write an American National Standard for Inter-lab Comparison EMC Testing Guide.

The Guide will be similar to ISO/IEC Guide 17043 (Conformity Assessment – General Requirements for Proficiency Testing) but it would be narrowly focused on EMC artifacts only. The Guide will cover both administrative and technical aspects of conducted and radiated emission testing. It will cover procedures for undertaking an EMC Inter-laboratory Comparison Program. It will include recommended emission, radiated and conducted, artifacts; recommended frequency ranges of interest; and recommended acceptable test results. It will encompass recommended changes to laboratory facilities and equipment to correct test results outside of an accepted range of values. The Guide will be based on actual test results generated with a series of C63® artifacts

Subcommittee 7 Unlicensed Personal Comm. Services

Stephen Berger, Chair

The Chair reported that over 50% of cordless phones in the US use UPCS band and the C63.17 Standard.

Subcommittee 8 Medical Equipment Testing

Bob DeLisi, Chair

C63.18 is in comment resolution, recirculation to follow. C63.19 will be ready by March 2010.

Working Group/IEC Liaison activity summaries follow:

WG1: ANSI C63.18

- *Resolution to comments is underway
- *Completion for comment resolution targeted for November 30, 2009
- *Submission to the main committee at that time for recirculation ballot.

WG3: C63.19

- *Validation of new procedures in the draft is currently in process
- *Completion of the validation testing is targeted to be completed by February 2010
- *Target to have document ready for Ballot by March 2010

IEC 60601-1-2 Ed. 4, IEC 6XXXX,

- *Interpretation sheet developed
- *Organized a series of five workshops on wireless in healthcare
- *Worked with RFID Experts Group (REG)
- *Working on FDA wireless guidance

IEC 60601-1-2 interpretation sheet 62A/676/DC

- *To reiterate/clarify that if EMC testing is performed at the line voltage and frequency specified in the standard, testing does not need to be repeated at other voltages or frequencies

IEC 60601-1-2 Ed. 4 (62A/673/CD)

- *Points to IEC 6XXXX (62A/672/NP) which includes new test methods, limits for low frequency magnetic fields, new tests and limits for patient cables.
- *****

STANDARDS STATUS MATRIX

The current status of all active ANSI ASC C63® Standards Projects may be found on C63®'s web page www.c63.org. Click on "C63 Main Committee" and then on "Standards Status Matrix".

WISHING ALL A HAPPY AND PROSPEROUS NEW YEAR!

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