

C63[®]

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

NEWSLETTER

Issue 33 June 2012

MESSAGE FROM THE CHAIR

The first meeting of the ANSI-ASC C63R committee for 2012 was held on April 16-19 in Piscataway, New Jersey. The IEEE Operations Center was the location for the meetings and many of the attendees stayed at the Embassy Suites a few miles from the IEEE building. It was the first series of C63R meetings chaired by the new Main Committee Chair, Dan Hoolihan.



IEEE Operations Center in Piscataway NJ hosted the April C63[®] meetings

(All photographs in this Newsletter were taken by Jerry Ramie, C63[®] Secretary)

The Monday meetings started in the afternoon with the wireless working group that is looking at C63.10 and C63.26; this WG is chaired by Art Wall and is doing an excellent job of revising the present C63.10 and developing C63.26 for the first time.

A number of Subcommittee meetings and Working Group meetings were held on Tuesday in PARALLEL. This did not work out as well as expected and will have to be completely revised in the future.

Wednesday was highlighted by two subcommittee meetings in the morning (SC1 and SC8) followed by a special meeting of the main committee in the afternoon which addressed two of our most important standards, C63.4 and C63.5. These two standards are both being revised and it is hoped to publish both new versions in 2012.

Thursday was a more normal day; the Main Committee met all day and approved all the memberships of the Main Committee and the Subcommittees for 2012. There is a contingency on some of the approved memberships; all those organizations and individual subcommittee members who haven't paid their 2012 membership fees will be dropped from the members in "good standing" rolls.



Chair Dan Hoolihan (Hoolihan EMC Consulting) second from right at the head table presides over his first C63[®] meeting.



C63® chairman, Dan Hoolihan (Hoolihan EMC Consulting)—left—presents Don Heirman (Don HEIRMAN Consultants) an outstanding service award plaque thanking him for his 6 years of chairing the committee (2006-2011)

The next series of C63R meetings will be held in Orange County, California from October 1 – 4. The exact location is being determined but probably will be at the Hilton Hotel. We are also planning on visiting Northwest EMC labs for a demonstration of Time Domain Reflectometry (TDR) after hours, most likely on Tuesday night, October 2nd. The Main Committee meeting is on Thursday October 4th. Please check C63®'s website: www.c63.org “C63® main committee”, “Upcoming meeting schedule & logistics” for updated information.

Hope to see many of you at the Fall series of meetings!

Best Regards,
Dan Hoolihan, Chair, Main Committee

Subcommittee 1 – Techniques and Development

Dennis Camell, Chair

This subcommittee (SC1) consists of technical members in the EMC field and has a total of twenty-nine members. Changes in the membership consist of two newly approved members and one that was removed. SC1 provides the technical expertise for incorporating new or existing measurement techniques and associated instrumentation, measurement methods related to EMC into C63® documents. This subcommittee is responsible for maintaining five active standards and developing three new standards (C63.23, C63.25 and C63.26). Of the active standards; one is current (C63.2), one is up for reaffirmation (C63.22), and three are in the revision process (C63.4, C63.5 and C63.10). An unrevised scope was presented at this meeting and it is posted on the website.

Five interpretation requests were received since the October 2011 meeting. Three standards documents were involved (C63.4-2003, C63.4-2009 and C63.5-2006). Three have been resolved and the other two are being investigated. All resolved interpretations are posted on the website with their titles listed below.

C63.5-explanation-Oct 2011-RAM not Roberts

C63.4-explanation-Jan 2012-SA Requirements

C63.4-explanation-Mar2012-hybrid antennas 30 to 1000 MHz

Here is the status of the current working groups. Any interested parties are encouraged to contact the SC1 chair or the appropriate working group chair shown below.

Project on EM Noise & Field Strength Instrumentation, C63.2

Chair: none

This is an active standard that was published in 2009. It was proposed by the SC1 chair that the revision process be started for this document. Currently there is no working group.

Project on Emissions Measurements, C63.4

Chair: Don Heirman

This is an active standard that was published in 2009. There is a working group that has prepared a draft for balloting before the next meeting. Revisions to the text that will be considered include but are not limited to the following topics:

- Remove measurement methods for intentional radiators (clause 13) since they are now covered by C63.10
- Revise the measurement method for emissions above 1 GHz; this would be limited to unintentional radiators
- Revisit site validation methods above 1 GHz, add time interval of validation
- Further describe scrolling H pattern requirements for large screen TV receivers as well as those used as computer monitors. Revision of flowchart using screen size as dictating factor.
- Information on test setup for tablet PCs.
- Replace table 1, antenna list, with three tables covering general measurements, NSA measurements and compliance testing measurements
- Add hybrid antenna qualification requirements as normative annex
- Add measurement uncertainty based on C63.23 when published
- Move antenna calibration requirements to C63.5
- Move site validation requirements to new standard if one is published covering different approaches (potential publication is C63.25)
- Average detector. Add information on average detectors and review average measurement method using a reduced VBW



Don Heirman (Don HEIRMAN Consultants)—left-, Chair of the maintenance team on C63.4 (Emission measurements), leads a discussion on what is going to be balloted for the next edition. Phil Keebler (EPRI) center and Andy Griffin (CISCO) follows along on their laptops

Project on Antenna Calibration, C63.5

Chair: Dennis Camell

This is an active standard that was published in 2006. A new draft document is expected for balloting before the next meeting. This revision will contain several suggested changes that arose from the last revision as well as some new techniques.

Topics discussed

- Need to have all items in scope; specifically something on each section including the time domain gating
- Continue to tie into C63.4 and other C63[®] documents; make sure sections flow between documents
- Mention of ‘reference site’ needs to be clarified that it is the ACS, throughout the document
- Revised flowchart in annex G to reflect the text
- Correction of grammar in some of the SSM sections
- Revise RAM section to include other reference dipole antennas and add uncertainty annex
- Define a statement that the same test site cannot be used for calibrations and product testing. However, at the same site, different areas on a can be used for the two
- Add normative annex for hybrid antenna qualification measurements
- Change SACS to ACS (antenna calibration site) to distinguish from SAC (semi anechoic chamber)
- Definitions for ACS, near free-space geometry and hybrid antenna
- Revised table 1 to reflect current procedures
- Revised figures for ECSM using a network analyzer (either 2-channel or 3-channel)

Project on Standard for Testing Unlicensed Wireless Devices, C63.10

Chair: Art Wall

This is an active standard that was published in 2009. They are meeting regularly with large turnouts at each meeting. A new draft document is expected for balloting before the next meeting. Work has progressed in the following areas:

- Use of new table 1 from C63.5
- New FCC procedures for DTS devices
- Updated procedures for UNII devices
- Measurements above 1 GHz
- FM transmitters (table top and conducted measurements)
- Revised annexes A & B



Art Wall (Radio Regulatory Consultants)—right-- chairs the C63.10 Working Group. Mac Elliot (Motorola Solutions)—next to Art—and Steve Jones (FCC) to Mac’s right focus on the discussion



Working group for C63.10 (Testing unlicensed Wireless Devices) meets in Piscataway. There were close to 30 attendees including a call-in contributor. The draft C63.26 (testing of licensed transmitters) standard was also discussed.

Project on Guide for Automated EMI Measurements, C63.22

Chair: none

This is an active guide that was published in 2004. The reaffirmation balloting has finished. There was one negative vote with comments that will have to be reviewed.

Project on Measurement Uncertainty, C63.23

Chair: Bob DeLisi

This is a draft standard with an active PINS. The draft of this new standard has gone out for balloting with balloting now closed. There was one negative vote and some other comments. Comments are now being addressed with a new ballot target prior to the next meeting.

Project on Validation Methods for EMC Radiated Emissions Test Sites, C63.25

Chair: Dennis Camell

This is a draft standard with an active PINS. This project was approved for the development of site requirements for both above and below 1 GHz. The working group is copying the requirements below 1 GHz (NSA) from C63.4 and adding requirements above 1 GHz. A draft to SC1 is expected by the next meeting.

Project on Standard for Testing Licensed Wireless Devices, C63.26

Chair: Art Wall

This is a draft standard with an active PINS. The working group meets regularly with a large turnout at each meeting. This is a new standard with a projected balloting date of mid-2013. Roadmap developed and key tasks have been identified.

Some major issues being discussed are:

- 4.5 – Test sites – to be included as an option
- 5.1 – RF power output measurements – technology driven
- 5.5 Spurious radiated emissions – signal substitution method
- 6 – Additional tests for specific radio services
- Annex J – Pre-calibrated test procedure

Special session on Draft Standards C63.4 and C63.5

There was a special session prior to the regular main committee meeting to present and discuss the upcoming revisions in C63.4 and C63.5. All the changes mentioned above for the two drafts were discussed including conformity between the two documents but the topic of highest interest was the use of hybrid antennas for product testing. A new normative annex has been added to the balloting copy of C63.4 and eventually to C63.5 titled “Test site-specific hybrid antenna qualification procedures,

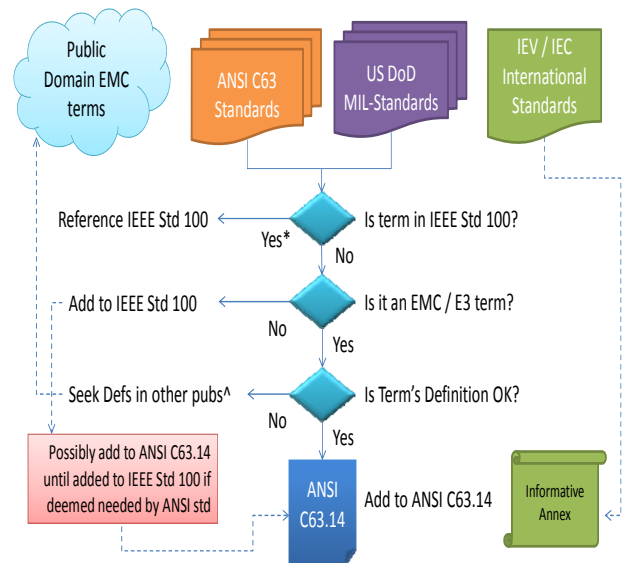
limitations and acceptance criteria”. This annex would provide acceptance criteria for hybrid antennas. The proposed constraints include both physical size and electrical response. Several speakers presented data taken with this procedure at various test sites using a wide range of hybrid antennas. Their results showed that almost all of the hybrid antennas that were tested would pass the proposed qualification criteria, but not all. This proposal in the new draft standard for both C63.4 and C63.5 will allow for acceptance of qualified hybrid antennas for product testing as described in C63.4.

Subcommittee 2 – E3 Terms and Definitions

Marcus Shellman, Chair

SC2 WG1 continued efforts focused on developing and documenting new and emerging definitions and terminology for use by the ASC C63[®] Committee and its subcommittees. The committee defined the process for accepting new definitions into ASC C63.14-201X as shown below. The framework of the process is consistent with the SC2 philosophy used for updating ASC C63.14-2009. The SC2 WG1 also assigned an action to review military standards issued in the last five years for pertinent EMC definitions for inclusion into the draft. SC2 WG1 also approved definitions for the terms “Standard, Specification, and Broadband Emission” which will be incorporated into the draft.

Process for Additions to ANSI C63.14



ANSI C63.14 “customers” are ANSI C63 Standardization and US DoD Standardization

*Note: even if term is in IEEE Std 100, if it is a key EMC term can be added to ANSI C63.14

^Note: SC2 committee may revise definition to be more appropriate

Subcommittee 3 International Standardization

Poul Andersen, Chair

SC3 met on April 17th with 7 members and 7 observers present.

The membership of the SC was reviewed and Steve Whitesell was added as Chair of SC5 to the existing list on the website. The Review Leader for C63.15 was reassigned to Steve Whitesell.

CISPR 1220/Q on Class A/B was discussed. The US is not in favor of the present concept.

Activity in ANSI, SAE, CISPR and ISO regarding electric vehicle charging was reviewed for information.

There were no changes proposed to the Subcommittee Scope. It presently reads:

Subcommittee 3 provides a forum for comparing international standards activities to ASC C63[®] membership standards activities and makes recommendations to the C63[®] Main Committee on possible US positions on international EMC matters, to facilitate harmonization of national and international standards, considering US regulatory as well as commercial requirements. Subcommittee 3 may make recommendations to the C63[®] Main Committee about introducing the work of C63[®] to the US National Committee Technical Advisory Groups for submission to international standards

The membership of SC 3 was approved as:

Voting Members:

Poul Andersen, Chair
Werner Schaefer, Vice Chair
Dan Hoolihan, Bill Hurst, Stephen Berger,
Victor Kuczynski, Dennis Camel, Nate Potts, Bob DeLisi,
Marcus Shellman, Ed Hare, Ralph Showers, Don Heirman,
Steve Whitesell

Non-Voting Members:

Dave Arnett, H. R. Hofmann, Craig Fanning, Terry Mahn,
Andy Griffin

Subcommittee 5 Immunity Testing

Steve Whitesell, Chair

Subcommittee 5 is happy to welcome Jerry Ramie (ARC Technical Resources) as a new member. This brings the total SC5 membership to 17 voting members and 1 emeritus member. There were 12 voting members and 7 observers in attendance at the April meeting.

The subcommittee reviewed a report from WG Chair Richard Worley providing an update on the status of the C63.16 ESD Testing Guide. The goal of the revision is to remove any material that is duplicative with IEC 61000-4-2 while retaining and adding guidance not found anywhere else on detecting ESD susceptibility and avoiding product failures. Examples of such guidance include restricting ESD testing to RH levels no greater than 30% and using a faster rise time simulator than specified in IEC 61000-4-2. New categories of test methods, including connection of charged peripherals to the Equipment Under Test (EUT) and docking of charged EUTs with grounded auxiliary equipment, are also being proposed.

Phil Keebler, Vice Chair of the C63.20 WG on Nuclear Power Plant Immunity, reported the initial draft of the standard is about 60% complete. New participants from the nuclear power industry are being added to the working group. C63.15 and MIL-STD 461F are being referenced. EPRI's TR-102323 guidelines for EMI testing, which have been adopted by the Nuclear Regulatory Commission (NRC), and NRC guide 1.180-2003 are also being consulted as source material. Completion of the initial draft is targeted for the end of May.

Stephen Berger, Chair of the C63.24 WG on Generic In-Situ Immunity Evaluation, indicated that one teleconference was needed before this document would be ready for committee ballot. Jeff Silberberg noted that the C63.18 document, on which the initial draft of C63.24 was based, had ran into editing issues with the use of the trademarked terms "Wi-Fi" and "Bluetooth". He described the solution that had been found of only putting the terms in footnotes and suggested a similar approach be taken with C63.24, if applicable.

Subcommittee 6 Laboratory Accreditation/ Conformity Assessment

Victor Kuczynski, Chair

April 19, 2012 Meeting summary:

17 members and 4 guests were present.

WG3 C63® C63.11™/D1.0 Draft Standard-American National Standard for Inter-lab Comparison EMC Testing.

Dan Hoolihan resigned due to the fact that his now chair of C63 , Victor Kuczynski V-chair, Harry Hodes become Chair of this working group, Werner Schafer, Zhong Chen, Collis Brench, Randy Long, Bob Delisi, Dennis Camell Philip Keebler, Stephen Berger and Nich Hooper are the members.

Proficiency testing updates and the PT program run by ACIL were discussed.

The project PINS were amended



Subcommittee 6 meets with representation from A2LA and NVLAP. Chair Victor Kuczynski (Vican Electronics)—third from left in background leads the discussions. Bethany Hackett (NIST/NVLAP) on his right and his secretary Dave Zimmerman (Spectrum EMC) is on his left.

WG4 C63® C63.8™/D1.0 Draft Guide-Guidance on specifying requirements for the calibrations and verifications of EMC test equipment.

Victor Kuczynski Chair, Bob DeLisi, Dean Ghizzone, Dan Hoolihan, Werner Schaeffer, Randy Long V-chair, Zhong Cheng, Colin Brench, Denise Camell, Philip Keebler, Stephen Berger, Nich Hooper, Dheena Moongilan, Harry Hodes, Adam Gouker, David Zimmerman, Marc Elliot and Brad More

The project PINS is current. SC6 will change wording on its scope for next meeting.

Subcommittee 7 Unlicensed Personal Communications Services Devices

Stephen Berger, Chair

At the most recent C63 meeting SC 7, Spectrum Etiquettes initiated three new projects:

1. A revision of C63.17, American National Standard Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices. This standard is being revised in response to recent FCC changes in the UPCS band service rules.

2. A new standard, C63.27, American National Standard on Evaluation of Wireless Coexistence. This new standards project was launched in response a recommendation in the report from the study project on this topic. The standard will develop evaluation procedures and test methods for evaluating the ability of a wireless device to coexist in the environments it will operate in.

3. The third project is a committee study project on radio receiver design for improved coexistence. This project is logically connected to C63.27, giving recommended guidance on improving the coexistence of radio receivers. Together these projects extend C63's work into the area of dynamic spectrum management. C63.27 in particular will help give quantitative support to a highly complex area. Test methods that have a high correlation to field experience are much needed by those who must plan and manage wireless deployments. Being able to evaluate the wireless coexistence will allow system operators to plan for band crowding issues before they become a reality.



Stephen Berger (TEM Consulting)—far right—leads the discussion of wireless co-existence study question as part of the Subcommittee 7 meeting. To Steve's right is Dheena Moongilan (Alcatel-Lucent) and Jeff Silberberg (FDA). In the foreground is Phil Keebler (EPRI)

Subcommittee 8 Medical Equipment Testing

Bob DeLisi, Chair

Update (April 2012):

The membership was approved by the main committee.

The current membership can be found at:

http://www.c63.org/documents/rosters_public/sc8_members.htm.

The current scope of SC8 is Subcommittee 8 is responsible for writing and maintaining existing and proposed C63[®] standards for medical devices, as assigned by the Main Committee ASC 63[®].

C63.18 underwent the IEEE editing process. As a result, IEEE Style Guide and lawyers wanted all trademarked terms such as WiFi[™], BlueTooth[®] and ZigBee[®] be removed from the document. The resolution was to use generic terms in the text and footnote the trade names. There were no technical impacts with this approach.

C63.19:2011 was recently adopted in FCC Report and Order (WT Docket No. 07-250) with a 12 month transition period. Some addition guidance was requested by commenters to the R&O with respect some areas of the standard. A C63.19 Workshop is planned for the 4th Quarter of 2012 which will address these requests.

A new PINS-C was approved by the Subcommittee. The C63.19 Working Group has proposed a study project to monitor developments with the hearing aid immunity IEC standard and on hearing aid immunity testing. The Working Group will report back regarding any impact to ANSI C63.19 and make recommendations to C63 as appropriate.

Liaison reports were provided from the FDA and AAMI.

The FDA is currently working on IEC 60601-1-2 (4th edition). The CDV of IEC 60601-1-2 is out for vote and ballots closes 8/17/2012. The FDA is involved with RFID testing protocol that was developed jointly by the Association for Automatic Identification and Mobility (AIM Global) RFID Experts Group (REG). A validation project is currently under way with a 3rd party laboratory. The FDA was contacted by SAE regarding the use of chargers of electric vehicles requesting what frequencies would cause the least disruption to both implant and non-implant devices. The FDA noted that this degree of coordination before deployment between potential non-medical sources of EM disturbance and potential medical victims is unprecedented.

AAMI is currently working on wireless coexistence. There is a WG in SC7 that is also working on this topic which includes medical devices. There is work in SC7 to try and coordinate the parallel effort between the work in SC7 and AAMI, in this area.

October 2012 ANSI ASC C63[®] MEETING SERIES

The October 2012 meeting series is planned to be held at the Hilton Hotel in Costa Mesa, California on October 1-4. The closest airport is the John Wayne Orange County airport but the Los Angeles Airport (LAX) is also reasonably close to the hotel.

The Main Committee meeting is on Thursday October 4th.

Please check schedule on C63[®]'s website:
www.c63.org "C63[®] main committee",
"Upcoming meeting schedule & logistics".

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ANSI ASC C63[®] ELECTROMAGNETIC COMPATIBILITY, NEWSLETTER is published approximately forty-five days after Committee meetings and is available on the web site www.c63.org. That site also contains much information about ANSI ASC C63[®] and its Subcommittees.

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