

APPROVED MINUTES
ANSI ASC C63® SC1: Techniques and Development
May 8, 2013
IEEE Headquarters, Piscataway, New Jersey

Presiding Officer: Zhong Chen

Date Prepared: May 8, 2013

Members Present:

Mark Arthurs
Dennis Camell
Zhong Chen (Chair)
Bob DeLisi
Andy Griffin
Don Heirman
Harry Hodes (Vice-Chair)
Dan Hoolihan
Jeff Klinger
Victor Kuczynski
Rick Lombardi
Janet O'Neil (Secretary)
Doug Parker
Ghery Pettit
Nate Potts
Werner Schaefer
Ralph Showers
Dan Sigoion
Jeff Silberberg
Don Umbdenstock
Art Wall
Dennis Ward
Steve Whitesell

Employer:

Sony
NIST
ETS-Lindgren
Underwriters Laboratories Inc. (UL)
Cisco
Don HEIRMAN Consultants
ACIL/ACE-PT
Hoolihan EMC Consulting
Compatible Electronics
Vican Electronics
Visteon (by telecom)
ETS-Lindgren
Liberty Labs
Intel
Liberty Labs
Schaefer Associates
University of Pennsylvania
Industry Canada
FDA Center for Devices & Radiological Health
Tyco Retail Solutions (by telecom)
TCB Council
PC Test Lab
Consultant

Members Absent:

Masud Attayi
Dean Ghizzone
Tim Harrington
H. R. Hofmann
Greg Kiemel
Randy Long

Employer:

RIM
Northwest EMC
FCC
Hofmann EMC Engineering
Northwest EMC
L-A-B

Guests:

Poul Andersen
Mac Elliott
Adam Gouker
Beth Hackett
Ed Hare
Dheena Moongilan
Brad Moore
Jerry Ramie
John Repella
Richard Worley

Employer:

Andersen Consulting
Motorola
A2LA
NVLAP
ARRL
Alcatel-Lucent
NIST
ARC Technology Services
ACIL/Washington Labs
Dell

1.0 Call to Order—Chair

1.1 Opening Remarks and Announcements: Chair

1.2 Meeting Logistics Announcements: Host

1.3 Introductions: Secretary

Chair Zhong Chen called the meeting to order at 1:00 pm. A round of introductions was made.

2.0 Approval of the Meeting Agenda and SC 1 Scope: Chair

Zhong Chen presented the draft agenda for the May 8, 2013 meeting for review. (See Attachment A.) Two items were added to New Business: Update on C63.2 (Schaefer) and Update on C63.7 (Heirman). **Ghery Pettit moved to approve the agenda as amended. The motion was seconded and approved.**

The SC1 “Scope of Work” was presented. (See Attachment B.) **Don Heirman moved to approve the SC 1 Scope of Work as presented. The motion was seconded and approved.**

3.0 Presentation of [patent slides](#): Chair

Zhong Chen gave a presentation that reviewed the status of the meeting fees, ANSI policy related to Intellectual Property (IP), inappropriate topics for IEEE working group meetings and the working group meeting slide template. (See Attachment C.) **Mr. Chen moved to confirm everyone present agreed to abide by the procedures outlined in the patent slides. The motion was seconded. All confirmed compliance.**

4.0 Presentation of [meeting attendance](#) fee slides: Chair

Zhong Chen reviewed the meeting attendance fee structure and noted that Dan Hoolihan, Chair of C63®, would contact individuals present who are required to pay a meeting attendance fee. Mr. Hoolihan noted that the current version of the fee structure shown on the website was outdated. Jerry Ramie agreed to update the fee structure information on the website.

ACTION ITEM: Jerry Ramie to update the C63 meeting fee structure information on the C63 website.

5.0 Approval of Minutes of Previous Meeting: Secretary

Secretary Janet O’Neil presented the minutes of the October 3, 2012 meeting held at the Hilton Hotel in Costa Mesa, California. **Harry Hodes moved to approve the minutes as distributed. The motion was seconded and approved.** The approved minutes are included in Attachment D.

6.0 Review of [Subcommittee Membership](#): Secretary

6.1 Review of membership – Members at risk. Janet O’Neil advised that the membership of Rick Lombardi, Bill Stumpf and Don Umbdenstock is at risk. (See Attachment E for the updated membership tracking record.) Secretary O’Neil contacted them to advise their membership would be terminated if they miss the next meeting. Rick Lombardi and Don Umbdenstock replied that they wish to remain active members. They are participating in the telecom/WebEx for today’s meeting. She did not hear from Bill Stumpf so his membership in SC 1 will be terminated. He can reapply should he wish to rejoin.

6.2 Consideration of Members. The chair advised there is one new SC 1 membership application to review - Dennis Ward from PC Test. Mr. Chen received his membership application and resume. He is interested in being a member of the working group for C63.26. Harry Hodes and Dan Hoolihan noted they endorsed this membership application. **Harry Hodes moved to approve the membership application of Dennis Ward. The motion was seconded and approved.**

Subsequent to the meeting, Mitsunobu (Mits) Samoto from Liberty Labs in Japan submitted an SC 1 membership application. Dan Hoolihan, Victor Kuczynski and Zhong Chen endorsed his membership application. **An electronic motion to approve the membership application of Mits Samoto was made via email on June 10, 2013 with votes being due by June 17, 2013.**

The Chair reviewed the roster of working group members as shown on the C63 website. Some revisions were made. The updated rosters of working groups and the SC 1 membership roster are included in Attachment F.

ACTION ITEM: All working group Chairs need to complete their rosters and indicate their officers (Vice-Chair and Secretary) and submit to Chair prior to the next meeting (November 2013).

7.0 Working Group Reports

C63.4: Emissions Measurements

Working Group Chair: [Don Heirman](#)

Status: Current-2009. Next edition in progress – C63.4-2013

Don Heirman reviewed the activity on this standard. (See Attachment G.) The Initial ballot closed in June 2012 was approved. The first recirculation ballot opened in September 2012 and closed in November 2012 was approved. The second recirculation opened in March 2013 and closed in April 2013 was approved. The maintenance working group met on May 6 to resolve comments on six negative ballots, which did not cause a failed ballot. The next steps include completing the comment resolution by June and to revise the text for a third recirculation by early August, with the ballot to be issued in mid August. A three week ballot period is estimated. Closure is needed to get the standard published by the next C63 meeting. Attachment G reviews the resolutions made and topics addressed during the working group meeting. Mr. Heirman noted all comments received have been retained and will be reviewed for the next edition.

C63.5: Antenna Calibration

Working Group Chair: [Dennis Camell](#)

Status: Current-2006. Next edition in progress

Dennis Camell presented his report on this standard. (See Attachment H.) The PINS was updated to show the new title of the Standard: American National Standard for Electromagnetic Compatibility - Radiated Emission Measurements in Electromagnetic Interference (EMI) Control - Calibration and Qualification of Antennas (9 kHz to 40 GHz). (The word "qualification" was added to the title.) The C63 website needs to be updated to show this title. A working group meeting was held on May 7 to review the latest draft dated April 2013. Mr. Mits Samoto presented on an antenna calibration substitution method used in a semi-anechoic chamber (SAC). This will be considered for the next revision of the standard.

Items in the current draft discussed during the working group meeting included Annex N (validation of hybrid antennas):

- ? Also in C63.4 draft; changes offered but no decision was made to amend Annex N.
- ? Reduce upper frequency from 300 MHz to 200 MHz to calibrate biconical antennas. WG will review data to determine if this works.
- ? Remove 1 dB interval requirement (N.6). WG will look at NSA repeatability data to see if this can be dropped.

Future activity includes sending a revised draft to the working group within two weeks, then on to SC 1 after receipt of working group approval. Once approved by SC 1, it will be sent to the C63 parent committee for ballot, some four weeks later. SC 1 approved sending out the draft C63.5 document now to review and approve by SC 1.

ACTION ITEM: Jerry Ramie to update the C63 website needs to show the new title of C63.5.

ACTION ITEM: Dennis Camell to send C63.5 to all members of the SC 1 committee for review and comment. Comments are due back to Dennis within one month of receipt by committee.

C63.10: Unlicensed Wireless Devices Testing

Working Group Chair: [Art Wall](#)

Status: Next edition in progress

Chair Art Wall presented his report on Project 1-10.1 (See Attachment I) The Wireless Working Group (WWG) met on May 6, 2013 in the afternoon and the morning of May 7, 2013. Attendance included 30 wireless working group members (nine participated via WebEx) plus four observers. The meetings focused on the balloting of C63.10-20XX (on compliance testing of unlicensed transmitters) and development of C63.26 (licensed transmitters).

Regarding C63.10-20XX on compliance testing of unlicensed transmitters, the ballot was approved and all comments were resolved. ANSI public review ends in June 2013 with publication expected this summer.

C63.23: Measurement Uncertainty

Working Group Chair: [Bob DiLisi](#)

Status: New Guide. Published with date of 2012.

Working Group Chair Bob DeLisi presented his report noting the document was published. In addition, he noted this document will be the topic of one of the C63 workshops at the Denver IEEE EMC Symposium.

C63.25: Time Domain Applications for Test Site Validation

Working Group Chair: Dennis Camell

Status: New Standard. Draft being written.

Working Group Chair Dennis Camell presented his report on time domain (TD) applications for test site validation. (See Attachment J.) The PINS is current and posted on the website. The working group met on May 7, 2013 to review the latest draft. Items discussed in this draft included:

- ? Measure TD and SVSWR at five locations and two heights in the SAC of three or four labs. Write a test plan and include measurements to 18 GHz; determine the correlation between the two methods.
- ? Look at using PODS/bicon as a transmit antenna for the TD method and measure TD ring down signature. Modeling of antennas has been received.

The working group needs to revise the current draft to update with IEEE formatting. The plan is take the measurements with the next six months. A revised draft will then be sent to the working group within nine months. Zhong Chen invited anyone interested to participate in the round robin tests. He noted UL, Northwest EMC, ETS-Lindgren, and NIST have committed to making the measurements.

C63.26: Licensed Transmitter Testing

Working Group Chair: [Art Wall](#)

Status: New Standard. Draft being written.

Chair Art Wall presented his report. (See Attachment I.) He advised C63.26 which addresses compliance testing of licensed transmitters is in its 5th draft. The wireless working group met in conjunction with the C63.10 working group as noted above. The scope of the document includes the following table of contents:

- ? Normative references
- ? Definitions and acronyms
- ? Instrumentation
- ? Standard test methods (*RF power output, modulation characteristics, occupied bandwidth, radiated and conducted spurious emissions, frequency stability*)
- ? Test methods for specific radio services (new procedures for consumer boosters)
- ? Test reports

C63.26-20xx is still in the early stages development. The initial ballot is estimated to take place in late 2014. A spreadsheet of rules versus test procedures is being developed. Some of the major issues discussed at the wireless working group meeting included:

- ? Clarified scope
- ? New procedures for consumer booster (FCC 13-21)
- ? New TG for conducted spurious emissions established
- ? Both direct radiated and signal substitution methods to be allowed
- ? Conducted RF power measurements

ACTION ITEM: Art Wall to send the current PINS for C63.26 to Jerry Ramie to post to the C63 website.

8.0 Old Business - Chair

No old business was addressed.

9.0 New Business - Chair

9.1 Smart Meter EMC: C12 operating procedure issue. Jerry Ramie presented on this NEMA standard that is "borrowing" from C63 standards. (See Attachment K). Diagrams from the C63 standards, for example, are used in the NEMA C12.1 standard; however, they are not correct. New material is incorrectly added to the diagrams. Dan Hoolihan suggested these issues be addressed by a task force in

Subcommittee 5, or by a joint task force with other C63 subcommittees. Mr. Hoolihan stressed this should be handled by a task force, not as a formal C63 parent committee activity.

ACTION ITEM: SC 5 chairman to respond to the need to have material corrected on Smart Meter EMC.

9.2. Impact of Tables using Method Defined in CISPR 16-1-4. Andy Griffin presented a report on measurements made with different type tables, including Styrofoam, painted Styrofoam and wood. (See Attachment L) He noted both ANSI C63.4-2003 and -2009 have simple requirements about how to address the impact of materials used for supporting the EUT during radiated emission measurements. However, ANSI draft C63.4:201X has very specific requirements. It has been known for many years that the structure of tables has an impact on the measurement. Fundamental questions are how much do they influence the measurement, and is there an effective solution? During development of the last version of C63.4, these questions were raised, but the view was that the issue should be dealt with by measurement uncertainty (MU) as indicated in CISPR 16-1-4. Mr. Griffin asked the question if CISPR 16-1-4 can be used effectively? Does it give valid results? The presentation reviewed what Mr. Griffin believes are the problem statements, basic assumptions, testing performed and equipment used, CISPR 16-1-4 problems and test difficulties. The table requirements in ANSI C63.10 were reviewed. Mr. Griffin concluded his report by noting it takes a significant amount of effort to get accurate test results. This means the average lab may make mistakes and have an artificially high MU. It appears wood and painted foam tables at higher frequencies tend to look like metal. According to Mr. Griffin, more work needs to be done in ANSI C63 and CISPR to address the impact of tables on test measurements.

9.3 Update on C63.2. Werner Schaefer presented a report on C63.2. (See Attachment M.) He provided an introduction of suggested changes in October 2012 at the ANSI C63 SC 1 meeting. A PINS was prepared and approved by the ANSI C63 parent committee at its meeting in October 2012. The PINS was submitted to IEEE on May 8, 2013. A draft of the revised document is expected to be completed by December 2013. The draft document will also be shared with some manufacturers that are not members of ANSI C63 SC1 for feedback.

9.4 Update on C63.7. Don Heirman presented the PINS for C63.7: ANSI Guide for Construction of Open-Area Test Sites for Performing Radiated Emission Measurements. (See Attachment N.) **Dan Hoolihan moved to approve the PINS for C63.7. The motion was seconded and approved.** The PINS will be presented to the parent committee.

ACTION ITEM: Don Heirman to present PINS for C63.7 to the ANSI C63 parent committee.

10.0 Review of Interpretation Requests: Chair

Zhong Chen advised we are up to date on the interpretations.

11.0 C63.org Website Use and Updates

The chair noted Jerry Ramie is taking over for Ed Hare in maintaining the C63 website.

12.0 Review of the Action Items from Previous Meetings: Secretary

Secretary O'Neil advised that there are no outstanding action items from the last meeting. An updated action item list will be distributed to the SC 1 members along with the draft minutes from this meeting. (See Attachment O for the Action Items list.)

ACTION ITEM: O'Neil to distribute the updated consolidated action items and draft minutes from the May 8, 2013 meeting to the committee.

ACTION ITEM: O'Neil to send the password to the SC 1 committee so they can access the SC 1 "members only" section of the website. NOTE: This user and pass code is for access to the SC 1 page ONLY. Working groups under other SCs will have different user codes and passwords.

13.0 Time and Place of Next Meeting: Chair

Zhong Chen noted the next series of C63® meetings will be determined by the steering committee at its meeting on May 9, 2013.

14.0 Closing Remarks and Adjournment: Chair

With no further business, Zhong Chen adjourned the meeting at 4:00 pm. He thanked everyone for attending the meeting.

Minutes submitted by:



Janet O'Neil, Secretary, SC 1

ATTACHMENTS

- Attachment A: Agenda for May 8, 2013 SC 1 Meeting
- Attachment B: Subcommittee 1 "Scope of Work"
- Attachment C: Patent Slides Required Meeting Template Slides for ASC C63®, IP Info
- Attachment D: Approved Minutes from October 3, 2012 SC 1 Meeting
- Attachment E: Meeting Attendance/Tracking List
- Attachment F: SC 1 Membership Roster and Working Group Roster
- Attachment G: Heirman Report on C63.4
- Attachment H: Camell Report on C63.5
- Attachment I: Wall Report on C63.10 and C63.26
- Attachment J: Camell Report on C63.25
- Attachment K: Ramie Report on Smart Meter EMC: C12 Operating Procedure Issue
- Attachment L: Griffin Report on Impact of Tables using Method Defined in CISPR 16-1-4
- Attachment M: Schaefer Report on Proposed Changes to ANSI C63.2
- Attachment N: PINS on the revision to ANSI C63.7
- Attachment O: Consolidated Action Items List