

APPROVED MINUTES - ANSI ASC C63® SC 1: Techniques and Development
IEEE
Piscataway, NJ
May 3, 2018

Presiding Officer: Zhong Chen

Date Prepared: May 3, 2018

Members Present:

Mark Arthurs (via WebEx)
Mike Antola (via WebEx)
Zhong Chen (Chair)
Bob DeLisi
Andy Griffin
Don Heirman
Harry Hodes (Vice-Chair)
Dan Hoolihan
Steve Jones
Greg Kiemel
Jeff Klinger (via WebEx)
Doug Kramer
Victor Kuczynski
Rick Lombardi (via WebEx)
Randy Long
Michael O'Dwyer
Janet O'Neil (Secretary)
Nate Potts
Mits Samoto (via WebEx)
David Schaefer
Dan Sigouin
Jeff Silberberg
Dennis Ward
Khairul A. Zainal
David Zimmerman

Members Absent:

Thomas Dickten
Mac Elliott
Tim Harrington
Bob Hofmann
Jason Nixon
Werner Schaefer
David Waitt
Steve Whitesell

Guests:

Balaji Ayyaswamy
Vladimir Bazhanov
Henry Benitez
Steve Berger
Aurelia Bria
David Chamberlain
JC Chen
Bill Graff
John Norgard
Megan Riebau
Jerry Ramie
Jen Santulli

Employer:

Sony
Honeywell
ETS-Lindgren
Underwriters Laboratories Inc. (UL)
Cisco
Don HEIRMAN Consultants
ACIL/Proficiency Testing Services
Hoolihan EMC Consulting
FCC
Element Materials Technology
Compatible Electronics
ETS-Lindgren
Vican Electronics
Visteon
ANAB
Apple
ETS-Lindgren
Keysight
Liberty Labs Asia
TUV Sud America
DHS
FDA Center for Devices & Radiological Health
PCTEST
Laird Technologies
Spectrum EMC Consulting, LLC

Employer:

GCC
TUV Sud America
FCC
Hofmann EMC Engineering
ISED Canada
Schaefer Associates
Assessor
Consultant

Employer:

Rohde & Schwarz
VB Laboratory Services
IEEE EMC Society
TEM
Ericsson
ISED
Apple
TUV Rheinland
NASA/JSC
A2LA
ARC Technical Resources
IEEE-SA

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 3:00 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 3, 2018 meeting for review. (See Attachment A.) There was one addition to the agenda since it was last circulated. The change involved revising “New Business” to include discussion on the PINS C63.4 future edition and C63.4 corrigendum.

Don Heirman moved to approve the agenda as amended. The motion was seconded and approved.

Mr. Chen presented the scope of SC 1. It was revised to read as follows:

As assigned by the Main Committee ASC C63[®], subcommittee 1 provides the technical expertise and resources necessary for newly proposed and maintaining existing C63 standards and documents. New or existing measurement methods, site qualification methods, calibration methods, and associated instrumentation are incorporated.

ACTION: Secretary O’Neil will send the updated scope of SC 1 to Jerry Ramie to post to the C63 website.

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

Zhong Chen gave a presentation to review the status of the meeting fees, the ANSI policy related to Intellectual Property (IP), inappropriate topics for IEEE working group meetings and the working group meeting slide template. (See Attachment B.) **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 Approval of Minutes of Previous Meeting: Secretary

Secretary Janet O’Neil presented the minutes of the November 9, 2017 meeting held at ETS-Lindgren in Cedar Park, Texas. **Harry Hodes moved to approve the minutes as distributed. The motion was seconded and approved.** The approved minutes are included in Attachment C.

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

5.1 Review of membership – Members at risk. Janet O’Neil advised that there are three members at risk of losing their membership in SC 1: Thomas Dickten, David Waitt and Steve Whitesell. (See the Member Attendance Log included in Attachment A for the updated membership tracking record.)

5.2 Consideration of New Members. The secretary reported to the subcommittee that a membership application was received from David Schaefer of TUV Sud America. **Harry Hodes moved to approve the membership of Mr. Schaefer in SC 1. The motion was seconded and approved.**

The secretary reviewed the roster of working group members as shown on the C63 website. Some revisions were made. The updated roster of working groups and the SC 1 membership roster are included in Attachment D to these minutes.

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 2018).

6.0 Working Group Reports

C63.4: Emissions Measurements

Working Group Chair: Don Heirman

Status: C63.4: Current-2014. New PINS approved by WG, SC1 and C63 in Nov. 2017

Status: C63.4a: Published-2017. C63.4a amendment to C63.4-2014

Don Heirman presented his report on C63.4. (See Attachment E.) As a bit of background, at the November 2016 WG meeting, three teams were formed for amending certain clauses in C63.4-2014:

- Team 1 (Clauses 1 to 5) - Heirman leader
- Team 2 (Clauses 6 to 11) - Popovici leader
- Team 3 (Clauses 12 & annexes) - Harrington leader

The working group reviewed the standard to make sure that “shall” applied to requirements and that “should” is only for informative statements. This clarified the normative and informative aspects of the standard in all clauses in the standard now and being amended. Harry Hodes asked for an addendum to the current PINS shown. On the second sentence, Item 8, add “And also contains requirements for measurement equipment as well test site specific qualification procedures for certain antennas.” There was no objection and hence the second sentence in item 8 of the PINS will indicate: “It also contains requirements for measurement equipment, text sites and specific qualification procedures for certain antennas”.

Don reviewed the key changes to the document. See his report for the list of these key changes.

The working group will continue its aggressive schedule and work by holding monthly webinars. They have maintained a sequence of team webinars (roughly one week apart) so that work starts with the cover page and advances through the end of the last annex. At the present time, nine 2-hour webinars have been held in 2018 (18 hours of deliberations). The document is some 95 percent complete.

At the working group meeting on May 1, Don presented a “mashed up” draft to date that contains the output of the three teams. This will be the document in the future that will be used by all teams. The working group discussed further changes as needed and included consideration of all interpretations. They will prepare a draft to ballot probably by the next C63 meeting timeframe. Target publication will be in 2019.

ACTION ITEM: Prepare a draft of C63.4 to ballot by November 30, 2018.

C63.5: Antenna Calibration

Working Group Chair: Doug Kramer

Status: Current-2006. Public notice appeared in ANSI Standards Action; publication delayed, expected by end of May 2017

Doug Kramer presented his report. (See Attachment F.) He clarified the scope of this document.

The working group held a meeting on Tuesday, May 1. Three negative votes were received on the corrigendum ballot. These were addressed and the document will go out for 14-day balloting period per IEEE. Doug clarified that this addresses circular loops only. Work on the next edition will address:

- Defining requirements for sites (there was significant debate on this topic)
- Loop update
- Time gating clarification
- General edits

The working group plans to provide a draft for internal review by the end of November 2018.

ACTION ITEM: Provide a draft of C63.5 for internal review by November 30, 2018.

C63.23-2012: Guide for Computations and Treatment of Measurement Uncertainty

Working Group Chair: Jason Nixon

Harry Hodes moved to recommend to the main committee to reaffirm C63.23. The motion was seconded and approved.

C63.25: Time Domain Applications for Test Site Validation

Working Group Chair: Dan Sigouin

Status: New Standard. Draft being written. PINS approved by SC 1 on October 27, 2014

Dan Sigouin presented his report. (See Attachment G.) The working group met on Tuesday, May 1, 2018; 27 people attended the meeting. He advised the C63.25.1 Draft (1 GHz to 18 GHz) TDR is now at the balloting stage. A balloting group has been formed with 18 people participating. Jennifer Santulli from IEEE clarified that the members of the balloting group remains anonymous, with only the chair(s) identified.

The C63.25.2 (30 MHz to 1 GHz) NSA PINS is current. Harry Hodes asked that the working group consider measurements below 30 MHz. Dan agreed this would be considered. Work on C63.25.2 will begin once C63.25.1 is published.

All comments are being resolved per the Mandatory Editorial Coordination (MEC) by Tim Harrington. Mandatory coordination is a method of ensuring that two organizations are aware of, and have a chance to review, a draft standards project and its contents. These organizations include the Standards Coordinating Committee 14 (SCC14 - Quantities, Units and Letter Symbols) and IEEE-

SA Staff Editorial Review. Dan expects all comments to be resolved in the coming week and continue to go to ballot. Publication could occur by the end of 2018.

To summarize, the family of C63.25 standards now includes:

- C63.25.1 (1 GHz to 18 GHz) TDR
- C63.25.2 (30 MHz to 1 GHz) NSA
- C63.25.3 Future plans for below 30 MHz measurements

7.0 Old Business – Chair

There was no old business to discuss.

8.0 New Business – Chair

8.1 Discussion on PINS C63.4 Corrigendum: A motion was made to approve the PINS for the C63.4 Corrigendum. (See attachment H). The motion was seconded and approved. This effort will be chaired by David Zimmerman.

8.2 Discussion on Draft of C63.4 Future Edition

David Zimmerman said that this standard needs to be changed. Harry suggested that the committee fix C63.5 first, then fix C63.4, then petition the FCC to add C63.4a to the FCC rules.

9.0 Review of Interpretation Requests: Zhong Chen reviewed the following open interpretation requests (Items a-e) and closed interpretation request (Items f-h) activity since the last meeting on November 9, 2017. A link to the response for the closed interpretation request is provided below.

- a) C63.4 (2014) **“Clause 4.5 Horn Antenna Aperture”** from Charles Wang, request dated 5-7-16; Subgroup members include Samoto (Chair), Zainal, Heirman, Pettit, Chen, DeLisi, and Potts. Sent to parent committee on June 15, 2016; rejected on July 5, 2016; revised and resent to SC 1 on April 12, 2017. Tim Harrington’s response distributed to SC1 following the 5-10-17 SC 1 meeting. Circulated in SC-1 June 9, 2017, closed June 16, 2017. Editorial Comments were incorporated, including mention of Oct. 13, 2017 publication date of ANSI C63.4a; final version for parent committee circulation sent to SC1 Chair on Nov. 8, 2017. Comments entered on interpretation response form by Tim Harrington as requested by J. Ramie.

Harry Hodes moved to issue a response to this interpretation request that his question was resolved with the recent publication of C63.4a. The motion was seconded and approved.

- b) C63.4 (2014) **“D3 NSA Vertical 3 Meters”** from Charles Wang, request dated 8-29-17. Call for subgroup members email sent on 10-31-17. Subgroup members confirmed at the meeting included Don Heirman (chair) and Khairul Zainal.
- c) **C63.4 (2014) Annex N.1 Antenna Symmetry** from Alexander Kriz, request dated 11-14-2017. Subgroup members include Zimmerman (chair), Heirman, Sigouin, DeLisi, Dickten, Potts, Waitt, Schaefer, Kuczynski, Hodes, and Chen.

- d) **C63.4 (2014) “Clauses 5.5.1 & 8.2.4 sVSWR”** from David Schaefer, request dated 12-22-17. Subgroup members include M. Elliott (chair), Hodes, Heirman, DeLisi, Pott, and Kuczynski. *Subgroup’s response approved on May 3 for sending on to parent committee.*
- e) **C63.4 (2014) Annex N vs. C63.5 re/ Symmetry** from Nate Potts, request dated 3-7-2018. Subgroup members include DeLisi (chair), Harrington, Heirman, Hodes, Potts, W. Schaefer, and Zimmerman. Response being addressed by subgroup.
- f) **C63.5 (2006) “Annex H Antennas for NSA”** from Charles Wang, request dated 5-7-16; Subgroup members include DeLisi (Chair), Hodes, and Potts. [Closed](#).
- g) **C63.4 (2014) “Annex N 1b2 Antenna Symmetry”** and C63.5 (2006) **“Section 4.4.1”** from Scott Drysdale, request dated 5-11-17; Subgroup members include Zimmerman (Chair) Heirman, Chen, Hodes, Waitt, Schaefer, Potts, DeLisi, and Zainal. [Closed](#).
- h) **C63.5 (2017) “Clause 5.1.1e Attenuator Selection”** from David Knight, request dated 5-19-17; Subgroup members include DeLisi (chair), Waitt, Zainal, Potts, Hodes, Chen, and Kuczynski. Response sent to C63 secretary on 8-29-17 for review and approval by parent committee. A new PINS was approved to address this response. [Closed](#).

[Click here for more information about interpretation request procedures](#) (see pages 12-14).

Dan Hoolihan reminded the committee that responses to interpretation requests are informative, NOT normative, in nature.

10.0 [C63.org](#) Website Use and Updates

Jerry Ramie requested members be specific with any requests for postings to the website. He asked members to be sure to update or confirm they are correctly listed on the website.

11.0 Review of the Action Items from Previous Meetings: Secretary

Secretary O’Neil advised that an updated action item list would be distributed to the SC 1 members along with the draft minutes from this meeting. (See Attachment I for the Action Items list.)

ACTION ITEM: O’Neil to distribute the updated consolidated action items and draft minutes from the May 3, 2018 meeting to the committee.

12.0 Time and Place of Next Meeting: Chair

Zhong Chen noted the next series of C63[®] meetings would be held over November 26 to 30 at NIST in Boulder, CO. The SC 1 meeting will be held on Thursday, November 29, 2018.

13.0 Closing Remarks and Adjournment: Chair

With no further business, Zhong Chen adjourned the meeting at 5:30 pm. He thanked everyone for attending the meeting.

Minutes submitted by:



Janet O'Neil
Secretary, SC 1

ATTACHMENTS

- Attachment A: Agenda for May 3, 2018 SC 1 Meeting
- Attachment B: Patent Slides Required Meeting Template Slides for ASC C63®, IP Info
- Attachment C: Approved Minutes from November 9, 2017 SC 1 Meeting
- Attachment D: SC 1 Working Group Roster
- Attachment E: Heirman Report on C63.4 and C63.4a
- Attachment F: Kramer Report on C63.5
- Attachment G: Sigouin Report on C63.25
- Attachment H: PINS for C63.4 Corrigendum
- Attachment I: Consolidated Action Item List