

APPROVED MINUTES
ANSI ASC C63® SC1: Techniques and Development
November 12, 2014
Compliance Testing, Mesa, Arizona

Presiding Officer: Zhong Chen

Date Prepared: November 12, 2014

Members Present:

Mark Arthurs
Zhong Chen (Chair)
Andy Griffin
Tim Harrington
Don Heirman
Harry Hodes (Vice-Chair)
H. R. Hofmann
Dan Hoolihan
Mike Howard
Greg Kiemel
Jeff Klinger
Victor Kuczynski
Rick Lombardi
Randy Long
Michael O'Dwyer
Janet O'Neil (Secretary)
Doug Parker
Ghery Pettit
Mits Samoto
Werner Schaefer
Jeff Silberberg
Don Umbdenstock
Art Wall
Dennis Ward
Khairul A. Zainal
David Zimmerman

Members Absent:

Masud Attayi
Bob DeLisi
Dean Ghizzone
Nate Potts
Dan Sigouin
Steve Whitesell

Guests:

Poul Andersen
Ed Hare
Beth Hackett
Tom Knipple
Doug Kramer
Megan McConnell
Jim Mills
Jerry Ramie
Pat Roder
David Schaefer
Derek Walton

Employer:

Sony
ETS-Lindgren
Cisco
FCC (via telecom)
Don HEIRMAN Consultants
ACIL/Proficiency Testing Services
Hofmann EMC Engineering (via telecom)
Hoolihan EMC Consulting
Liberty Labs
Northwest EMC
Compatible Electronics (via telecom)
Vican Electronics
Visteon (via telecom)
L-A-B
Apple
ETS-Lindgren
Liberty Labs (via telecom)
Intel
Liberty Labs Asia
Schaefer Associates
FDA Center for Devices & Radiological Health
Tyco Retail Solutions (by telecom)
TCB Council
PC Test Lab
LS Research (by telecom)
Spectrum EMC Consulting, LLC

Employer:

Blackberry Corp.
Underwriters Laboratories Inc. (UL)
Northwest EMC
Liberty Labs
Industry Canada
Consultant

Employer:

PA Consulting
ARRL
NVLAP
Motorola Mobility
ETS-Lindgren
A2LA
TUV SUD America
ARC Technology Services
IEEE
TUV SUD America
L.F. Research

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 April 30, 2014 meeting for review. (See Attachment A.) Art Wall asked to add an agenda item to new business on a forming a working group to address RF lighting emission issues and wireless charging devices. **Harry Hodes moved to approve the agenda as amended. 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 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 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.

5.0 Approval of Minutes of Previous Meeting: Secretary

Secretary Janet O’Neil presented the minutes of the April 30, 2014 meeting held at ETS-Lindgren in Cedar Park, TX. **Harry Hodes moved to approve the minutes as distributed. The motion was seconded and approved.** The approved minutes are included in Attachment C.

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

6.1 Review of membership – Members at risk. Janet O’Neil advised that Jeff Klinger and Doug Parker are two members, whose membership is at risk, meaning by not attending the meeting today, they will have missed three consecutive meetings. Doug Parker and Jeff Klinger joined the meeting today via telecom so their membership is no longer at risk (See Attachment D for the updated membership tracking record.)

6.2 Consideration of Members. The chair advised there were two new SC 1 membership applications approved since the last meeting for David Zimmerman and Michael Howard.

The Chair 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 E.

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 (May 2015).

7.0 Working Group Reports

C63.2: Specifications for Electromagnetic Noise and Field Strength Measurement Instrumentation

Working Group Chair: Werner Schaefer

Status: PINS submitted to IEEE on May 8, 2013 Next edition in progress C63.2

Werner Schaefer presented a verbal report. The draft of C63.2 was circulated by the SC1 secretary on October 23, 2014 with a review deadline set for November 20, 2014. So far one editorial comment has been received. The document refers to CISPR 16-1-1 for normative requirements of measuring receivers which include spectrum analyzers and EMI receivers in the frequency range 9 kHz to 18 GHz. In addition, requirements that are currently not included in CISPR 16-1-1 (e.g., frequency accuracy) are included. For the frequency range 18 GHz to 40 GHz a set of requirements is specified as well to cover the complete frequency range of ANSI C63.4. These additional specifications were established by evaluating equipment specifications of several US and international manufacturers to ensure requirements that are both realistic and not associated with one specific manufacturer. The working group chair especially thanked Mark Terrien of Keysight Technologies for all his contributions.

The working group plans to approach the subcommittee after the November review deadline and possible resolution of the comments received to move the document forward to the parent group for formation of a ballot group and subsequent ballot.

ACTION ITEM: Werner Schaefer to verify the PINS for this C63.2 work includes all comments from SC 1 and is distributed to SC 1 with a motion to approve.

C63.4: Emissions Measurements

Working Group Chair: [Don Heirman](#)

Status: Current-2014. Next edition planned (2018?)

Don Heirman presented his report. (See Attachment F.)

Zhong Chen noted to SC 1 that the PINS for the 2014 edition has been terminated since the standard was published in June 2014. A PINS-C was required for studying what should be considered for the next edition. The chair asked Don to continue his efforts as working group chair for the next edition. Don asked for volunteers to support the working group from SC 1. Dan Hoolihan asked that members of the C63 parent committee also be invited to join the working group.

ACTION ITEM: Don Heirman to invite C63 parent committee members to join the working group.

ACTION ITEM: Don Heirman to draft new PINS-C for the next edition and circulate to SC 1 to approve.

On future activity, the C63.4 working group developed a PINS-C to capture what should be considered for the next edition of C63.4. The PINS-C was successfully approved by the working group, SC 1 and the parent committee C63 on November 7, 2014. One comment was received from the responsive ballot. The 21 proposals for work were narrowed down initially to nine; those not of high priority (the remaining 12) were identified and reasons for not considering them were provided in the C63 voting document.

C63.5: Antenna Calibration

Working Group Chair: Bob DeLisi
Status: Current-2006. Next edition in progress

Working Group Vice-Chair Doug Kramer presented a report. (See Attachment G). The recirculation ballot closed in July 2014. The standard was approved by 16 members of the balloting group; there were four disapproval votes and 14 members sent in comments. There were 293 comments in total, with 41 technical comments to be addressed. The target for comments to be addressed is the next C63® meetings in May 2015. Submission for recirculation to C63 will occur shortly after the comments are addressed.

Bob DeLisi and Doug Kramer will hold webinars to address the comments. They are interested in moving the document forward quickly, as Don Heirman requested.

Items discussed during the working group meeting held on November 11 included removing Annex N from the document. This is also referenced in a few other standards (including C63.4, for example). Don Heirman noted that it states in C63.4 that Annex N will be removed once C63.5 is published. Bob DeLisi noted he feels Annex N does not belong in C63.5 since the content does not pertain to antenna calibration. Harry Hodes suggested moving Annex N to C63.25. Werner Schaefer suggested Annex N stay in C63.4. Annex N concerns the use of hybrid antennas used in a chamber environment. Group consensus was to keep Annex N in C63.4. Tim Harrington suggested including a reference to the CISPR document on measurement uncertainty evaluations and/or C63.23.

C63.7: Construction of Test Sites

Working Group Chair: [Don Heirman](#)
Status: Current 2005. Next edition in progress

Don Heirman presented his report. (See Attachment H.) The working group met on November 10 and resolved one set of editorial comments. The ballot closed on November 12. One comment was received. The working group will review the second set of editorial comments that appeared upon ballot closing. They will submit the comment resolutions and a slightly edited document to the secretariat to circulate to the balloting group to inform them of comment resolution and to view the document, not to launch a recirculation ballot. The expectation is no comments will be received and there will not be a need for recirculation.

C63.25: Test Site Validation

Working Group Chair: Dan Sigouin
Status: New Standard. Draft being written.

Zhong Chen noted in the absence of Dan Sigouin, there was an ad hoc committee meeting with Greg Kiemel and the working group on November 11. (See Attachment I.) The discussion reviewed correlating the site VSWR (sVSWR) method with the time domain (TD) method. Greg noted Annex D of this document explains the correlation between TD and sVSWR. He asked the working group if they wanted to use the same antenna setup for the TD sVSWR method that is described in CISPR 16-1-4 which does NOT require bore sighting of the antennas. The consensus was to keep the setup the same. There was also consensus to carry forward both the TD sVSWR method and CISPR method. The TD sVSWR method will need statistical post processing per Zhong Chen's method for correlation with the CISPR method. Also, due to all the possible errors that can be introduced when making TD measurements with a VNA, the working group agreed that detailed step-by-step guidance on how to operate the measurement equipment should be included in the standard. Werner Schaefer offered several suggestions to achieve wide-spread acceptance of the TD sVSWR method, including mentioning this method specifically in ANSI standards

such as C63.4, C63.7, C63.10, and C63.26. Otherwise, the CISPR committee may question the acceptance and validity of ANSI standards that do not refer to this alternative method of site validation.

It was noted that the working group has taken many TD and sVSWR measurements (at four different locations and at two antenna heights) to 12 GHz, including Northwest EMC and UL. Because of equipment limitations and dynamic range considerations, most measurements were performed up to 12 GHz only (12.4 GHz to account for the gating). The measurements were made using the model 3183 mini-bicon antenna, though some labs also used PODS. The Model 3183 antenna performs over the entire range of 1 to 18 GHz. The PODS antenna set consists of two biconical antennas to cover the frequency range from 1 to 18 GHz.

The PINS for this work is available on the C63 website and is dated October 2007.

C63.26: Licensed Transmitter Testing

Working Group Chair: [Art Wall](#)

Status: New Standard. Draft being written.

Chair Art Wall presented his report. (See Attachment J.) The wireless working group met on November 10-11 for two half-day sessions. There were 36 attendees at these meetings (12 were present via webinar) plus 10 observers.

On C63.10-2013, the working group is awaiting acceptance by the FCC and IC.

On C63.26D11, this was circulated in January 2014 to SC 1 and the wireless working group.

On C63.26D12, this was circulated to the wireless working group on September 9, 2014. A summary of comments was discussed and resolved during the meetings on November 10-11. After edits, C63.26 will be ready for balloting by the end of this year. A motion is required to allow for the balloting and formation of a balloting committee as soon as possible. The final draft of C63.26 should be ready for balloting by the end of this year, at which time it will be sent to the IEEE review committee. Assuming balloting is completed by the end of March 2015, a summary and resolution of the ballot comments will be discussed at the next wireless working group meeting.

Art Wall moved to request balloting of C63.26. Dan Hoolihan asked to amend the motion to read as shown per the slides Art presented, i.e. move to request the balloting of and immediate formation of a ballot group for approval of C63.26-201x. Art accepted the amended motion. The amended motion was seconded by Harry Hodes and approved by the committee.

Tim Harrington abstained from voting. Andy Griffin said as a comment that he was confused. Dan noted we are rewriting our procedures document so that our process is clearer. A task force has been formed to address this.

Pat Roder of IEEE confirmed the "MEC" process will be taking place in parallel with the formation of the ballot group.

8.0 Old Business - Chair

PINS-C63.25: Zhong Chen noted that this draft was circulated to the committee for review. A vote will be taken to approve the PINS via email since working group chair Dan Sigouin was not able to attend the meeting.

NOTE: Subsequent to the meeting Pat Roder of IEEE confirmed with ANSI that PINS do not expire so there is no need to approve a new one.

9.0 New Business – Chair

Art Wall noted that the FCC is receiving many complaints on interference due to RF lighting and power transfer ISM equipment (including wireless power transfer). This involves FCC Part 18. He approached the wireless working group to see if there was interest in forming a new working group to address these issues. Don noted there is activity in CISPR Subcommittee B on this topic and he would like to see activity on this within ANSI C63. Tim Harrington noted there is an IEEE standard 179 on RF lighting. Art said the limits should be addressed by the FCC. Dan Hoolihan advised there are some active US based engineers on the CISPR committees who may be interested in being on this working group. Werner cautioned that this is a substantial project as test site requirements below 30 MHz are to be considered and antenna specifications as well as antenna calibration methods in addition to the actual test methods. The project will be much more extensive than just revising the current MP5. Ghery suggested this involved a lot of work and we should break it down to address one product group at a time. Art asked for a show of hands on who would be interested in pursuing this work. Several people were interested.

ACTION ITEM: Don Heirman, Derek Walton and Harry Hodes to assist Art Wall in drafting a PINS-C to address interference due to RF lighting and power transfer ISM equipment, including wireless power transfer.

10.0 Review of Interpretation Requests: Chair

Zhong Chen advised there have been several interpretation requests as shown on the agenda and below:

- C63.4-2014, request dated 8-1-14, Subgroup Chair Schaefer - Closed
- C63.4-2009, request dated 9-10-14, Subgroup Chair Heirman - Open
- C63.4-2009, request dated 10-28-14, Subgroup Chair TBD - Open
- C63.4-2009 and -2014, request dated 11-6-14, Subgroup Chair TBD - Open

Harry Hodes explained the new process for processing an interpretation request. This is a consensus driven result for the interpretation request.

Zhong said that there are two open interpretation requests. One is from Intel which was circulated within SC 1 prior to the meeting. Ghery Pettit explained what generated the request. Zhong asked for volunteers to form a task force to address the open requests. Anyone interested in participating should send an email to Secretary Janet O’Neil and chair Zhong Chen to document their interest.

11.0 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.

12.0 Review of the Action Items from Previous Meetings: Secretary

Secretary O’Neil advised that there is one 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 K for the Action Items list.)

ACTION ITEM: O'Neil to distribute the updated consolidated action items and draft minutes from the November 12, 2014 meeting to the committee.

13.0 Time and Place of Next Meeting: Chair

Zhong Chen noted the next series of C63® meetings will be announced following the C63 steering committee meeting that evening.

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 November 12, 2014 SC 1 Meeting
- Attachment B: Patent Slides Required Meeting Template Slides for ASC C63®, IP Info
- Attachment C: Approved Minutes from April 30, 2014 SC 1 Meeting
- Attachment D: Meeting Attendance/Tracking List
- Attachment E: SC 1 Membership Roster and Working Group Roster
- Attachment F: Heirman Report on C63.4
- Attachment G: Kramer Report on C63.5
- Attachment H: Heirman Report on C63.7
- Attachment I: Kiemel Report on C63.25
- Attachment J: Wall Report on C63.26
- Attachment K: Consolidated Action Items List