

**APPROVED MINUTES - ANSI ASC C63® SC1: Techniques and Development**  
**WebEx Meeting**  
**Friday, June 11, 2021**

**Members Present:**

Nicholas Abbondante  
Mike Antola  
Mark Arthurs  
Zhong Chen (Chair)  
Bob DeLisi  
Mac Elliott  
Andy Griffin  
Tim Harrington  
Dan Hoolihan  
Steve Jones  
Greg Kiemel  
Doug Kramer  
Victor Kuczynski  
Rick Lombardi  
Nima Molaei  
Jason Nixon (Vice Chair)  
Michael O'Dwyer  
Janet O'Neil (Secretary)  
David Schaefer  
Dan Sigouin  
Jeff Silberberg  
Dennis Ward  
David Zimmerman

**Members Absent:**

David Chamberlain  
Jeff Klinger  
Randy Long  
Nate Potts  
Mits Samoto

**Guests:**

Jens Medler  
Horia Popovici

**Employer:**

Intertek  
UL  
Sony  
ETS-Lindgren  
Underwriters Laboratories Inc. (UL)  
TUV Sud America  
Cisco  
FCC  
Hoolihan EMC Consulting  
FCC  
Apple  
ETS-Lindgren  
Vican Electronics  
Visteon  
PCTEST  
ISED Canada  
Apple  
ETS-Lindgren  
Element Materials Technology  
Timco  
FDA Center for Devices & Radiological Health  
PCTEST  
Spectrum EMC, LLC

**Employer:**

ISED Canada  
Compatible Electronics  
ANAB  
Keysight  
Liberty Labs Asia

**Employer:**

Rohde & Schwarz  
ISED Canada

## 1.0 Call to Order: Chair

Chair Zhong Chen called the meeting to order at 8:00 am PDT.

## 2.0 Approval of the Consent Agenda: Secretary

Secretary O'Neil presented the consent agenda. This includes the draft meeting agenda for June 11, 2021, the acceptance of the terms contained in the [patent slides](#) by all attendees, and approval of the minutes from the last meeting held on March 5, 2021. The consent agenda was approved as presented. (See Attachment A for the approved agenda. See Attachment B for the Approved Minutes of the March 5, 2021 meeting.)

## 3.0 Review of [Subcommittee Membership](#) and Scope: Secretary

**3.1 Review of Membership – Members at Risk.** Secretary Janet O'Neil reviewed the Member Attendance Log included in the agenda. (See Attachment A). There are no members at risk. The updated SC1 Membership Roster is included in Attachment C.

### 3.2 Consideration of New Members – Working Group Rosters

The secretary advised that there have not been any new membership applications requested for SC 1. The updated Working Group Roster is included in Attachment D.

**ACTION ITEM: All Working Group (WG) Chairs need to complete their rosters and indicate their officers (Vice-Chair and Secretary) and submit to SC1 Chair prior to the next meeting.**

### 3.3 The SC1 Scope was confirmed as follows:

Subcommittee 1 provides the technical expertise and resources necessary for maintaining existing and newly proposed C63<sup>®</sup> approved standards documents. Subcommittee 1 addresses new and existing measurement methods, site qualification methods, calibration methods, associated instrumentation, and limits development as assigned by the Main Committee ASC C63<sup>®</sup>.

## 4.0 Working Group Reports

### C63.2: Field Strength Measuring Instrumentation – 9 kHz to 40 GHz

Working Group Chair Jens Medler presented his report. (See Attachment E.) His Working Group with 22 members is preparing a revision of ANSI C63.2:2016. The last meeting of the WG was held on April 15, 2021; they discussed the confirmed changes needed to the first draft of the document, namely:

- Update Reference to CISPR 16-1-1 from Edition 3.2 (2014) to Edition 5 (2019)
- Align ANSI C63.2 with CISPR 16-1-1:2019 where applicable
- Update Table 1 for showing the new structure of CISPR 16-1-1
- Delete frequency tuning tolerance of 2% in Table 2 (in CISPR 16-1-1 now)
- Delete the decadic IF bandwidths (6 dB) in Table 2, not used across ANSI
- Delete the mandatory audio output in Table 2; it will show up as an optional requirement in the main text instead
- Update bibliographical references to latest standard revisions, e.g. CISPR 16-2-3

Jens noted a task force was formed on the need for adding RMS detection mode and RBW 3 dB. ANSI C63.26:2015 specifies a spectrum analyzer with a resolution bandwidth of 3 dB as the default measurement instrument and RMS detection mode. The task force had its first meeting on May 20, 2021 and proposed neither to add normative requirements on RMS detection mode and RBW (3 dB) nor to move material from ANSI C63.26:2015 into ANSI C63.2:20xx. Instead, a note with reference to ANSI C63.26:2015 will be added. The next WG meeting will be held on June 17, 2021.

Andy Griffin requested the WG be careful to not mandate test labs to replace older equipment with new equipment since this could be a burden to smaller test labs (the instrumentation is expensive at some \$50,000 USD).

#### **C63.4: Emissions Measurements**

Working Group Chair: Andy Griffin

Status: C63.4: Current-2014. New PINS approved by WG, SC1 and C63 in Nov. 2017. The draft was considerably revised in late 2020; latest draft circulated to SC 1 in mid-2021. Publication timing will be dependent upon publication of C63.25.2 to make sure these documents are harmonized.

Andy Griffin presented his report. (See Attachment F.) He showed his list of current working group members. He summarized the SC1 vote on the last draft circulated in early 2020. Voting ended on Feb. 21, 2020 and passed (14 yes, 10 no, 3 abstain). Eight members submitted a total of 122 comments. Since the last SC1 meeting, the working group has held monthly meetings to try and sort out the remaining issues. They have made significant progress developing the 2 dB rule, but there are some minor tweaks still needed.

For next steps, the WG will wait for progress with C63.25-2, and then remove the relevant parts from C63.4. The WG also needs to ensure that correct elements are defined for antenna calibration in regards to the updated C63.5. At the next WG meeting, they will discuss a few items to make sure the document is successful, including:

- 2 dB rule (this topic is 99% complete)
- Time for review of the document (need to allow plenty of time to review – Andy will coordinate this timing with Zhong)
- Above 1 GHz test method (initial discussions are underway; hopefully complete discussions at the next meeting)
- Reference in ANSI C63.4 A1:2017 (from the vote on ANSI C63.25.2 indicated that this should not be a problem. It is still on the agenda for the next meeting)
- Dated references (agreed at the last meeting to have dated references to ANSI C63 standards)
- Impact of CISPR 16-1-1:2019 (may become a bigger problem, i.e. the reference to the newer version of C63.2)
- Minor editorial tweaks are needed
- SC1 vote

The committee discussed the boresight versus linear scan method and measurements above 1 GHz. The WG decided to leave in the boresight method since that is more consistently used among test labs. However, they will include guidance on the linear scan as an alternative method as it aligns with CISPR 32. Andy noted the timing is important to align with the related C63 documents to make sure they are published in concert.

#### **C63.5: Antenna Calibration**

Working Group Chair: Doug Kramer

Status: Current-2017

Zhong Chen presented the report on C63.5 for WG Chair Doug Kramer. (See Attachment G.) The formal title of the standard is “American National Standard for Electromagnetic Compatibility—Radiated Emission Measurements in Electromagnetic Interference (EMI) Control—Calibration and Qualification of Antennas.” The WG continues work on the next edition. They are reviewing major edits and incorporating changes, including harmonizing with C63.25.2 for requirements on site validation related topics.

Bob DeLisi noted that the WG is moving items around in the document so it reads better. Andy Griffin asked for the latest version of the document so they can read it and have an idea of what is included. The WG would like to know what to reference in the latest edition of C63.4. The latest version of C63.5 should be circulated to SC1 so members can see the latest version of it and plan C63.4 activity accordingly. Zhong asked Doug to circulate it to SC1 by the next meeting. He noted the plan to remove the reference to C63.4 as site validation will move to C63.25.2.

**ACTION: Doug Kramer to circulate latest version of C63.5 to SC1 by September 17, 2021.**

#### **C63.7: Construction of Test Sites**

Status: Published update on March 9, 2015; working group disbanded

The Chair noted the vote on the PINS to reaffirm C63.7 passed within SC1. However, the parent committee recommended tabling the affirmation and work on addressing a comment by Werner Schaffer to include more chamber guidance. Hence, SC1 needs to develop a new PINS with a WG to address the addition of chambers to the document. To date, no one on SC1 has indicated an interest in chairing this WG. Victor Kuczynski said he would be interested in joining the WG as did Zhong Chen, Nate Potts, and Nima Molei. Nick Abbondante asked about adding CATRs to the document and being included in the WG.

**ACTION: Anyone interested in Chairing the WG and drafting a new PINS for revision of C63.7 should contact Zhong Chen.**

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

Status: Reaffirmed on August 10, 2020; posted to IEEE Xplore in October 2020

Working Group Chair: N/A

Bob DeLisi will check with the C63.26 working group to see if anyone is interested in being the WG Chair for this standard. Jens Medler said he did not have time to look at the document to compare it with the CISPR equivalent. Jason Nixon wrote/submitted the PINS but is not available to be the WG Chair.

**ACTION: Bob DeLisi to see if a member of the C63.26 WG is interested in being the Chair of a new C63.23 WG.**

#### **C63.25: Time Domain Applications for Test Site Validation**

Working Group Chair: Dan Sigouin

Status: New Standard. Draft being written. PINS approved by SC1 on October 27, 2014

This work addresses the family of C63.25 standards:

- o C63.25.1 (1 GHz to 18 GHz) TDR – Published Dec 2018.
- o C63.25.2 (30 MHz to 1000 MHz) NSA – Work began in January 2019.
- o C63.25.3 (Above 18 GHz) – Future plan to address NSA above 18 GHz.

WG Chair Dan Sigouin presented a verbal report. In the future, these standards will be separated out and individual reports will be made by the WG Chairs for .1, .2, and .3.

On C63.25.2, comments from SC1 are currently being addressed. The document is nearly ready, pending final review by the WG. Once the comments have been addressed, the draft will be circulated within SC1 for future action by the main committee. The WG expects to circulate the latest draft to SC1 by September seeking approval to forward C63.25.2 to the main committee. The next step will be to send out a vote to approve a motion to send C63.25.2 to the IEEE for the formation of a ballot.

C63.25.3 WG Chair Nick Abbondante said their first meeting will be held on June 15. They have 40 people on the WG – there is a lot of interest!

Zhong noted the continued coordination among the three standards C63.25.2, C63.5, and C63.4 regarding site validation requirements. The C63.25 standards will have the sole responsibility for site validation. New versions of C63.4 and C63.5 are supporting documents on this topic and will defer to C63.25.2 for site related requirements.

**ACTION: Dan Sigouin to send latest draft of C63.25.2 by next meeting to SC1 for review and approval to send to the parent committee for future action.**

**5.0 Old Business – Chair**

There was no old business to discuss.

**6.0 New Business – Chair**

**6.1 Coordination with SC3 for Harmonization**

Zhong said SC Chair Ross Carlton is reviewing modifications on the scope of work for this committee in order to be more proactive in their harmonization efforts with the global standards development organizations.

**Reviewer Actions**

RA #	Task	Responsible party	Due Date	Status
RA-5	Compare C63.5 to CISPR 16-1-6	Nate Potts	2/1/20	Open
RA-17	Compare C63.25 to CISPR 16-1-4 (two freq. ranges under C63.25.1 and C63.25.2)	Dan Sigouin	5/1/19	Open

**7.0 Review of Interpretation Requests:** Zhong Chen reviewed the following open and/or new interpretation requests received since the last meeting on March 5, 2021.

- a) **C63.4 (2014) Annex N 1B4 “Antenna Calibration”** from David Waitt, request dated Feb 5, 2021. Task Group members include A. Griffin (Chair), N. Potts, V. Kuczynski, D. Zimmerman, J. Klingler, D. Sigouin, B. DeLisi, N. Abbondante. Status – SC1 approved the response (20 yes, 1 no, 1 abstain) and sent to Jerry Ramie on 3/5/2021 for providing to the the parent committee for further action.
- b) **C63.4 (2014) Clause 4.5.1 “Accredited Antenna Calibration”** from Steve Behm, CKC Laboratories, request dated Feb 26, 2021. The Chair called for volunteers to prepare a

response. Andy Griffin (Chair) and the team in 7.a above will address this since the question and response are similar. Status – Response approved by SC1 and sent to Jerry Ramie on 3/5/2021 for providing to the the parent committee for further action.

[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.

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

Zhong requested on behalf of Jerry Ramie that SC1 members be specific with any requests for postings to the website. Zhong asked SC1 members to be sure to update or confirm with Jerry directly that they are correctly listed on the website.

#### **9.0 Review of Action Items from Previous Meetings: Secretary**

Secretary O'Neil advised that an updated action item list would be distributed to the SC1 members along with the draft minutes from this meeting.

**ACTION ITEM: O'Neil to distribute the updated consolidated action items and draft minutes from the June 11, 2021 meeting to the committee.**

#### **10.0 Time and Place of Next Meeting: Chair**

Zhong Chen advised that SC1 would meet via WebEx on Friday morning, September 17, from 8:00 am – 10:00 am PDT.

#### **11.0 Closing Remarks and Adjournment: Chair**

With no further business, Zhong Chen adjourned the meeting at 10:00 am PDT. He thanked everyone for attending the meeting.

Minutes submitted by:



Janet O'Neil  
Secretary, SC1

#### **ATTACHMENTS**

- Attachment A: Approved Agenda for June 11, 2021 SC1 Meeting
- Attachment B: Approved Minutes from March 5, 2021 SC1 Meeting
- Attachment C: SC1 Membership Roster
- Attachment D: SC1 Working Group Roster
- Attachment E: Medler Report on C63.2
- Attachment F: Griffin Report on C63.4
- Attachment G: Kramer Report on C63.5