



American National Standards Committee C63[®]
Electromagnetic Compatibility
Subcommittee 1: Techniques and Developments

Chair: Andy Griffin

Vice Chair: Jason Nixon

Secretary: Janet O'Neil

Approved Meeting Agenda

Thursday, October 3, 2024
8:30 am – 12:00 pm Central Time
Rohde & Schwarz, Coppel, Texas
[\(WebEx Direct Link Here\)](#)

1. Call to Order: Chair

- 1.1 Opening remarks and announcements: Chair**
- 1.2 Meeting logistics announcements: Host**
- 1.3 Introductions: Secretary**

2. Approval of the Consent Agenda: Secretary

The Consent Agenda consists of the **a. Agenda items below**, an acknowledgement of the **b. acceptance of the terms in the [patent slides](#)** by all attendees and **c. Approval of the minutes of the previous meeting** (May 16, 2024).

3. Review of [Subcommittee Membership](#) and [Scope](#) Secretary – (as of May 2024). Report any errors to the Secretary.

Subcommittee 1 Membership Roster

Name	Role within SC	Affiliation
Abbondante, Nicholas	Member	Intertek
Antola, Mike	Member	UL LLC
Arthurs, Mark	Member	Sony
Chamberlain, David	Member	Innovation, Science and Economic Development Canada
Chen, Zhong	Member	ETS-Lindgren
DeLisi, Bob	Member	UL LLC
Elliott, William (Mac)	Member	TÜV SÜD America, Inc.
Griffin, Andy (Chair)	Member	CISCO Systems
Harrington, Tim	Member	FCC
Heckrotte, Mike	Member	UL LLC
Hodes, Harry	Member	Consultant
Hoolihan, Dan	Member	Hoolihan EMC Consulting
Jones, Steve	Member	Member Emeritus (FCC Retired)
Kiemel, Greg	Member	Apple Inc. (Primary Rep)
Klinger, Jeff	Member	Cetecom, Inc.
Kramer, Doug	Member	Apple Inc. (Technical Expert)
Kuczynski, Victor	Member	Vican Electronics

Long, Randy	Member	ANSI National Accreditation Board (ANAB)
Mitchell, Bob	Member	TUV Rheinland
Molaei, Nima	Member	Element Materials Technology Washington DC LLC
Nixon, Jason	Vice-Chair	Innovation, Science and Economic Development Canada
O'Neil, Janet	Secretary	ETS-Lindgren
Potts, Nate	Member	Keysight Technologies
Royer, Tim	Member	Timco Engineering, Inc. and IIA Company (Primary)
Schaefer, David	Member	Element Materials Technology - Primary
Shumakov, Denys	Member	Innovation, Science and Economic Development Canada
Silberberg, Jeffrey L.	Member	FDA Center for Devices and Radiological Health
Zimmerman, Dave	Member	Spectrum EMC, LLC

3.1 Review of Membership Guidelines

Subcommittees:

For an individual to remain a voting member of a Subcommittee, active participation in Subcommittee meetings and regular responses to Subcommittee email votes is required. Should a member fail to attend at least one of three consecutive scheduled meetings (in person or remotely via web conference - when used) or respond to at least one of every two consecutive Subcommittee email votes, their membership in that Subcommittee may be at risk. Note: Abstentions shall be treated the same as a "yes" or "no" vote regarding the requirement to respond to email votes.

Working Groups:

For an individual to remain a member of a Working Group, active participation is required. Should a member fail to attend at least one of three consecutive scheduled meetings (in person or via web conference - when used) their membership in that Working Group may be at risk. Individual Working Groups may establish additional participation criteria and/or modify this requirement.

Member Attendance Log:

Name	5/18/2022 WebEx + In Person	11/9/2022 WebEx + In Person	5/11/2023 WebEx + In Person	10/4/2023 WebEx + In Person	5/16/2024 WebEx + In Person
Nicholas Abbondante	X	X	X	X	X
Mike Antola		X	X	X	
Mark Arthurs	X	X	X	X	X
David Chamberlain		X	X	X	X
Zhong Chen	X	X	X	X	X
Bob DeLisi	X		X	X	X
Mac Elliott	X	X	X	X	X
Andy Griffin	X	X	X	X	X
Tim Harrington	X	X	X	X	X
Mike Heckrotte			X	X	X
Harry Hodes	X				X
Dan Hoolihan	X	X	X	X	X
Steve Jones (Member Emeritus)	X	X	X		X
Greg Kiemel	X	X	X	X	X
Jeff Klinger	X	X	X	X	X

Doug Kramer	X	X	X	X	X
Victor Kuczynski	X	X	X	X	X
Randy Long	X	X	X	X	X
Bob Mitchell				X	X
Nima Molaei	X	X		X	
Jason Nixon	X	X	X	X	X
Janet O'Neil	X	X	X	X	X
Nate Potts	X	X	X	X	X
Tim Royer		X			X
David Schaefer	X	X		X	X
Denys Shumakov					X
Jeff Silberberg	X	X	X	X	X
David Zimmerman	X	X	X		

3.2 Membership at risk? Consideration of new members? Memberships dropped? [Application for C63® Subcommittee Membership](#). David Zimmerman's membership may be at risk since he has missed two consecutive meetings. Soham Surve (Amazon Lab 126, Sunnyvale, CA) and Brandon Hobbs (AMD, Austin, TX) submitted applications for membership in SC1 and Working Group C63.4. Their respective membership applications were approved by SC1. They have been added to the applicable rosters on the C63 website and to the SC1 database.

4. Working Group Reports - Chair - [More information about each standard](#) is available on the Standards Status Matrix page of the [C63® web site](#). This information will be reviewed for accuracy at each Subcommittee meeting. Following are the standards addressed by Subcommittee 1.

C63.2: Field Strength Measuring Instrumentation - Status: Working Group Chair: [Jens Medler](#)
Published in late 2023.

C63.4: Emissions Measurements: - Verify accuracy of document [status matrix](#) content and report any errors to the ANSC C63® Secretary.

C63.4R-2014-202X Learn more	Emission measurements	SC1	Andy Griffin , Working Group Chair	C63.4 PINS	Published in 2014. High priority items in PINS Vote Approved PINS for Reaffirmation Ballot of ANSI C63.4 in February 2024.
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C63.4: C63.4-2014 American National Standard for Methods of Measurement of Radio- Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz

Contact: Andy Griffin, Working Group Chair; Horia Popovici, Working Group Vice-Chair

Scope: U. S. consensus standard methods, instrumentation, and facilities for measurement of radio-frequency (RF) signals and noise emitted from electrical and electronic devices in the frequency range 9 kHz to 40 GHz are specified in this standard. This standard does not include generic nor product-specific emission limits. Where possible, the specifications herein are harmonized with other national and international standards used for similar purposes.

Status: Vote to approve ended on Feb. 21, 2020 and passed (14 yes, 10 no, 3 abstain); eight members

submitted a total of 122 comments. These were addressed with latest draft circulated to SC1 in mid-2021, publication timing will be dependent upon publication of C63.25.2 to harmonize these documents.

Purchase: [IEEE Store](#). It is recommended not to purchase the 2014 edition and to wait until the newer edition is published late 2025. If there is a need for the 2014 edition, however, go to the IEEE store and search on the standard number, i.e. C63.4.

C63.5: Antenna Calibration - Verify accuracy of document [status matrix](#) content and report any errors to the ASC-C63® Secretary.

C63.5-2017 Learn more	Antenna Calibration	SC1	Potts, Nate	C63.5 PINS	2017 edition published - site requirements as in CISPR 16-1-5
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C63.5: C63.5-2017 Electromagnetic Compatibility - Radiated Emission Measurements in Electromagnetic Interference (EMI) Control - Calibration and Qualification of Antennas

Contact: Potts, Nate (Working Group Chair)

Scope: Revision of ANSI C63.5-2017 Methods for determining antenna factors of antennas used for radiated emission measurements of electromagnetic interference (EMI). Antennas included are linearly polarized antennas such as loops, rods (monopoles), tuned dipoles, biconical dipoles, log-periodic dipole arrays, hybrid linearly polarized arrays, broadband horns, etc., which are used in measurements governed by ANSI C63.4. The methods include standard site (i.e., 3-antenna), reference antenna, equivalent capacitance substitution, standard transmitting loop, standard antenna, and standard field methods.

Status: Current. New revision being developed.

C63.7: Construction of Test Sites - Status: Published update on 9 March 2015; working group disbanded. Reaffirmed standard as requested by Dan Hoolihan, parent committee chair, in 2022. A new PINS and working group chair are needed to initiate work on the next edition of this standard.

C63.23: Measurement Uncertainty - Status: Reaffirmed at May 2018 meeting by the parent committee. IEEE reaffirmed C63.23 on August 10, 2020; it was posted to IEEE Xplore in October 2020. No current activity; a new PINS is needed to initiate activity on a the next edition of this standard.

C63.25: Test Site Validation (insert link to [WG report](#)) Verify accuracy of document [status matrix](#) content and report any errors to the C63® Secretary.

C63.25.1-2018 Learn more	Validation Methods for Radiated Emission Test Sites, 1 GHz to 18 GHz	SC1	Chen, Zhong	New PINS circulated in May 2024	Published in March 2019, SC1 to vote on new PINS at Oct 2024 meeting.
C63.25.2-draft Learn more	Validation Methods for Radiated Emission Test Sites, 30 MHz to 1 GHz	SC1	DeLisi, Bob	C63.25.2 PINS	Published April 2024
C63.25.3-draft	Site Validation Requirements for Calibration and Testing, Above 18 GHz	SC1	Abbondante, Nick	C63.25.3 PINS	PINS dated Dec. 11, 2020 approved by SC1. Parent committee approved PINS v2 in February 2021.

C63.25.1-2018: Validation Methods for Radiated Emission Test Sites, 1 GHz to 18 GHz

Contact: [Chen, Zhong](#) (Working Group Chair)

Scope: This standard provides methods of measurement requirements for the validation of radiated emission test sites in the frequency range of 1 GHz to 18 GHz. These requirements are applicable to open area test sites (OATS), fully and partially covered OATS, semi-anechoic chambers (SAC), and fully anechoic rooms (FAR).

Status: New standard. NPRM issued by FCC in February 2022. Update of document in process with new PINS.

Purchase: Published in March of 2019 and now available for sale.

C63.25.2-draft: Validation Methods for Radiated Emission Test Sites, 30 MHz to 1 GHz

Contact: [DeLisi, Bob](#) (Working Group Chair)

Scope: This standard will contain the methods to conduct Normalized Site Attenuation from 30MHz – 1 GHz.

Status: New standard. Published April 2024

Purchase: [Search IEEE Standards](#) - Enter C63 Standard number then Search (Enter) - Click on the version you want - Click on Purchase

C63.25.3-draft: Site Validation Requirements for Calibration and Testing, Above 18 GHz

Contact: [Abbondante, Nick](#) (Working Group Chair)

Scope: This standard will contain the methods to conduct Normalized Site Attenuation above 18 GHz

Status: New standard. PINS v2 approved by parent committee in February 2021.

Purchase: Not yet available for sale.

5. Old Business: None

6. New Business: Chair

6.1 Motion to approve PINS for new work on C63.25.1 – Validation Methods for Radiated Emission Test Sites, 1 GHz to 18 GHz – Zhong Chen

6.2 Antenna Height Scan (Data from Otto von Guericke University, Magdeburg) – Zhong Chen

6.3 New PINS for C63.4 – Horia Popovici

6.4 Price of C63 Standards – Harry Hodes

7. Review of Interpretation Requests: Chair

Below are the interpretation requests open or received since the last meeting on May 16, 2024.

C63.4 (2014) Gaps in Ground Plane received from Charles Wang, request dated October 20, 2023. Call for task group chair/members sent to members of SC1 on May 16 with follow up sent on August 12. Task group members include David Zimmerman, Victor Kuczynski and Harry Hodes.

C63.4 (2014) Annex F Insulating Ground Plane received from Brandon Hobbs, December 13, 2023. Call for task group chair/members sent to members of SC1 on May 16 with follow up sent on August 12. Task group members include Victor Kuczynski and Harry Hodes.

C63.4 (2014) Clause 10.2.7 Special Software received from David Zimmerman, July 31, 2024. Call for task group chair/members sent to members of SC1 on August 12.

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

8. [C63.org](#) website use and updates: **Secretary** - We normally post documents to the [SC1 protected area](#). If any SC or WG needs help with this posting, please contact Jerry Ramie.

9. **Review of the Action Items from Previous Meeting: Secretary**

See table below for the action items.

10. **Time and place of next meeting: Chair**

11. **Closing Remarks and Adjournment: Chair**

Action Item #	Subject	Responsible Person(s)	Status	Comments
1.	Complete working group rosters, indicate their officers (Vice-Chair and Secretary), and submit to Chair Griffin by the next meeting.	Working Group Chairs	Ongoing	
2.	Update the list of standards currently on the C63 website so it aligns with the committee's duty.	Andy Griffin (SC1 Chair)	Ongoing	
4.	Create an informative annex for C63.5 to address comments by Andy Griffin.	Andy Griffin/Bob DeLisi/Nate Potts/Doug Kramer	Ongoing	Andy will determine if his comments work best in C63.4.
5.	Send the working group approved draft of C63.4 to SC1 for review.	Andy Griffin	Ongoing	
6.	Create new PINS for SOW on plans to revise C63.23	Jack McFadden	Open	Zhong to assist Jack with writing PINS
7.	Send Jack expired/withdrawn PINS on C63.23	Jason Nixon	Open	Possibly incorporate this old PINS content into new PINS
8.	Direct C63.5 WG towards publishing C63.5 before the updated version of C63.4 is published.	Nate Potts	Open	
9.	Create a new PINS to update C63.25.1.	Zhong Chen (C63.25.1 WG Chair)	Open	PINS circulated to SC1 to review; vote to approve to be taken at Oct 3, 2024 meeting.
10.	Add Cylindrical Mode Filtered Site Voltage Standing Wave Ratio (CMF SVSWR) test method to PINS for C63.25.1.	Andy Griffin	Open	