



Accredited Standards Committee C63®

Electromagnetic Compatibility

Subcommittee 4: Wireless and ISM Equipment

Chair: Bob Delisi

Vice Chair: Dave Case

Secretary: Jerry Ramie

November 28, 2018; 8:00 AM – 10:00 AM - MST

NIST
Boulder, CO

Approved Meeting Minutes

1. **Call to Order: Chair** - The Called the meeting to order at 8:03AM-MST.
 - 1.1 **Announcements: Chair's remarks** - We will review our web content and SC reports.
 - 1.2 **Meeting logistics announcements: Host** - logistics of the facility were covered.
 - 1.3 **Introductions: Secretary – roll call** (record attending members with their affiliations and guests separately below) Report any roster errors to the ASC-C63® Secretary ([SC4 membership roster](#))

Subcommittee 4 Membership Roster

Name	Role in SC	Affiliation
Antola, Mike	Member	Resideo
Case, David	Vice Chair	Cisco Systems
Chen, Zhong	Member	ETS-Lindgren
DeLisi, Bob	Chair	UL LLC
Dickten, Thomas	Member	GC Consulting
Elliott, William (Mac)	Member	TÜV SÜD America, Inc.
Graff, William	Member	TCB Council, Inc.
Hodes, Harry	Member	Bay Area Compliance Laboratories Corp.
Hoolihan, Dan	Member	Hoolihan EMC Consulting
Howard, Mike	Member	Iron Eagle Technologies
Jones, Steve	Member	FCC Laboratory
Kiemel, Greg	Member	Element Materials Technology
Klinger, Jeff	Member	Compatible Electronics
Kramer, Doug	Member	ETS-Lindgren
Mendoza, Ernesto	Member	Philips Lighting Electronics NA
Moongilan, Dheena	Member	Nokia Bell Labs
Nixon, Jason	Member	Innovation, Science and Economic Development Canada
Pino, Dan	Member	PCTEST Engineering Laboratory
Schaefer, Werner	Member	Schaefer Associates
Sigouin, Dan	Member	DHS-EMC
Skoglund, Kenth	Member	Ericsson AB
Terrien, Mark	Member	Keysight Technologies
Waitt, David	Member	Consultant
Wall, Art	Member	Radio Regulatory Consultants
Ward, Dennis	Member	PCTEST Engineering Laboratory
Zimmerman, Dave	Member	Spectrum EMC, LLC

Guests and Observers: (non-voting) Allen Crumm, Dan Sigouin, Khairul Zainal, Xiong Yufei, Randy Long, Jason Coder, Henry Benitez, Deanna Zakharia, JC Chen, Edmund Lee, David Chamberlain, Gary Fenical, Sze Khan Ho, George He, Warwick Wong, Nate Potts, Charles Jackson, Travis Thul, Ed Hare,

1.4 Quorum: (50% of roster + 1) constitutes a quorum. (rounding down) **(Example:** 27 roster members / 2 = 13.5 + 1 = 14 (therefore 14 people are required for a quorum) **Was quorum achieved? (Yes)** If not, any actions taken are subject to confirmation by electronic ballot or at a future meeting. (Quorum is not required for Working Group meetings)

1.5 Review of the [patent slides](#) - Secretary - The patent slides were shown and no patent policy issues were raised.

2. Approval of the Agenda: Secretary - The [Agenda](#) was approved by acclamation.

2.1 Approval of the previous Minutes - [Minutes of the previous meeting](#) - The previous Minutes were [approved](#) by acclamation.

3. Review of [Subcommittee Membership](#): Secretary - Report any errors to the ASC-C63[®] Secretary See roster in 1.3 above.

3.1 Review of Membership Guidelines – [From SC4 roster page:](#)

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. (insert Member Attendance Log as below)

Member Attendance Log: Any errors in the log? AI-14: Jerry to add Jonas Friden to the roster & WebEx

SC4 Roster:	20160511	20161109	20170510	20171108	20180502
Antola, Mike				x	x
Case, David	x			x	x
Chen, Zhong		x	x	x	
DeLisi, Bob	x	x	x	x	x
Dickten, Thomas		x	x		
Elliott, William	x	x	x	x	
Graff, William					x
Hodes, Harry	x	x	x		x
Hoolihan, Dan	x	x	x	x	x
Howard, Mike					
Jones, Steve	x	x	x	x	x
Kiemel, Greg				x	x
Klinger, Jeff		x	x	x	x
Kramer, Doug				x	x
Mendoza, Ernesto					a
Moongilan, Dheena	x	x	x	x	x
Nixon, Jason	x	x	x	x	x

Pino, Dan					p
Schaefer, Werner					
Sigouin, Dan	x	x	x	x	x
Skoglund, Kenth					x
Waitt, David		x	x		
Wall, Art	x	x	x	x	x
Ward, Dennis	x			x	x
Zimmerman, Dave	x			x	x

Any members at risk? These members are at risk: **Mike Howard, Werner Schaefer** (At the discretion of the Chair, the Secretary can send a letter to each member at risk)

3.2 Consideration of new members? [Application for C63® Subcommittee Membership](#)
Edmund Lee will submit his [Application for SC4 membership](#) and [Resume](#) for e-mail voting. **AI-15:** Jerry to run a two-week ballot at the Main Committee level upon receiving Edmund Lee's application. (see Section 6.2 of our [Procedures](#))

3.2.1 – New members added via E-mail vote: [Mark Terrien](#) (closed 11/13)

5. Working Group reviews - Chair - [More information about each standard](#) is available on the Standards Status Matrix page of the [C63® web site](#). This information must be reviewed for accuracy at each Spring Subcommittee meeting.

5.1 C63.10 – Unlicensed transmitters - Nixon ([C63.10 WG report](#))

C63.10-2013 Learn more	Procedures for compliance testing of unlicensed wireless devices	SC 4	Nixon, Jason	C63.10 PINS	Current. (published 9/15/2013)
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C63.10: C63.10-2013 American National Standard for Testing Unlicensed Wireless Devices

Contact: [Nixon, Jason](#) (Working Group Chair)

Scope: This standard is intended to cover procedures for testing the compliance of a wide variety of unlicensed wireless devices (also called unlicensed intentional radiators) including but not limited to: remote control and security unlicensed wireless devices, frequency hopping and direct sequence spread spectrum devices, anti-pilferage devices, cordless telephones, wireless medical unlicensed wireless devices, Unlicensed National Information Infrastructure devices, intrusion detectors, unlicensed wireless devices operating on frequencies below 30 MHz, automatic vehicle identification systems, and other unlicensed wireless devices authorized by a radio regulatory authority.

Status: Current.

Purchase: [IEEE Store](#). To purchase individual standards, go to the IEEE store and search on the standard number. Draft revisions are not yet available for sale.

5.2 C63.26 – Licensed transmitters - Jones ([C63.26 WG report](#))

C63.26-2015 Learn more	Procedures for compliance testing of licensed transmitters	SC 4	Jones, Steve	C63.26 PINS	2015 edition not under revision
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C63.26-2015: American National Standard of procedures for compliance testing of transmitters used in licensed radio services

Contact: [Jones, Steve](#) (Working Group Chair)

Scope: This standard covers the procedures for testing a wide variety of licensed transmitters; including but not limited to transmitters operating under Parts 22, 24, 25, 27, 90, 95 and 101 of the FCC Rules, transmitters subject to the general procedures in Part 2 of the FCC Rules and procedures for transmitters not covered in the FCC Rules. The standard also addresses specific topics; e.g., ERP/EIRP, average power measurements and instrumentation requirements.

Status: New Standard published 1/15/16. New work is pending.

Purchase: [IEEE Store](#). To purchase individual standards, go to the IEEE store and search on the standard number.

5.3 C63.29 – Lighting equipment - Mendoza ([C63.29 WG report](#))

C63.29-draft Learn more	Lighting products	SC 4	Mendoza, Ernesto	C63.29 PINS	New standard. Draft being written.
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C63.29-draft: American National Standard of procedures for compliance testing of lighting products

Contact: [Mendoza, Ernesto](#) (Working Group Chair)

Scope: This standard is intended to include procedures for compliance testing of general illumination lighting products with applicable radio regulatory requirements. This standard encompasses various technologies, from traditional lighting like fluorescent or HID, as well as novel technologies like LED and others. Related national and international standards (e.g., CISPR 15, ANSI C63.4) will be reviewed and used to the extent possible.

Status: New standard. Draft being written.

Purchase: Not yet available for sale.

5.4 C63.30 – Wireless Power Transfer equipment - Thul ([C63.30 WG report](#))

C63.30-draft Learn more	Wireless Power Transfer Products	SC 4	Thul, Travis	C63.30 PINS	New standard. Draft being written.
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C63.30-draft: American National Standard of procedures for compliance testing of Wireless Power Transfer products

Contact: [Thul, Travis](#) (Working Group Chair)

Scope: This standard is intended to include procedures for compliance testing of several different types of Wireless Power Transfer (WPT) products with applicable electromagnetic compatibility (EMC) and radio regulatory requirements. Test procedures will focus on radiated field and conducted measurements and may reference established standards. WPT RF exposure compliance procedures will not be included, although standards pertaining to laboratory EMF safety may be referenced. WPT testing methods may consider, but are not limited to, large in-situ installations, charging systems for electric vehicles (including impact of host on electromagnetic fields), house-hold appliances, and desktop chargers. Consideration will also be given to appropriate testing distances and test locations (such as Semi-Anechoic Chambers, Open Area Test Sites, ground plane, and earth sites). Related national and international standards (e.g., CISPR, SAE, etc.) will be reviewed and used to the extent possible.

Status: New standard. Draft being written.

Purchase: Not yet available for sale.

 Timeline for completion is unknown. LLAS testing has been done at one lab so far. Ground plane effects have not been addressed yet. An objective is to coordinate with SAE on hardware specifications. We have several of their members on the Working Group. They are also developing a Standard and we want to coordinate with them closely.

5.5 C63.31 – ISM equipment - Walton ([C63.31 WG report](#))

C63.31-draft Learn more	ISM equipment (MP-5)	SC 4	Walton, Derek	C63.31 PINS	New standard. Draft being written.
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C63.31-draft: American National Standard for compliance testing of Industrial, Scientific and Medical (ISM) Equipment

Contact: [Walton, Derek](#) (Working Group Chair)

Scope: This standard is intended to include procedures for compliance testing of traditional ISM equipment (industrial heaters, dielectric heaters, food tempering equipment, microwave ovens, medical diathermy equipment, etc.) with applicable EMC and radio regulatory requirements. Related national (FCC/OET MP-5) and international standards (e.g., CISPR, IEEE) will be reviewed and used to the extent possible.

Status: New standard. Draft being written.

Purchase: Not yet available for sale.

 Mr. DeLisi asked about their timeline. Mr. Crumm thought a draft could be shown at the November meeting. Mr. DeLisi asked about loading. Mr. Crumm spoke about microwave ovens and industrial lasers, which must have loads to function. Mr. Hodes noted that they are looking at CISPR 14 and IEC 60601-1-2 for guidance.

6. Old Business: Chair

6.1 Coordination with SC2 for definitions - Before any Working Group draft can be submitted to Subcommittee for approval, the document must be provided to the SC2 Chair for evaluation and coordination of the definitions used. Only the definitions section needs to be provided. (any definition used in the Standard) We want to assure that a term is not used in a new way.

6.2 Coordination with SC3 for harmonization - Before any Working Group draft can be submitted to the to Subcommittee for approval, the document must be provided to the SC3 Chair for evaluation and coordination of any harmonization effort. A [Standards comparison template](#) now exists as a two-page document. SC3 meets four times per year to consider these documents. Mr. Jones asked if the entire document should be provided? Only the worksheet with a summary is required.

7. New Business: Chair - none

8. C63.org website use and updates: Secretary - We normally post documents to the [SC4 protected area](#). If any SC or WG needs help with this posting, a Technical Secretary is available to assist.

9. Review of the Action Items: Secretary

9.1 Review of Action Items from this meeting: The Action Items from this meeting were reviewed and agreed-upon.

9.2 Review of Action Items from previous meeting: The Consolidated Action Item table from the previous meeting Minutes was shown below:

Consolidated Action Items from 5/2/17 Meeting of SC4

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
AI-9:	All SC4 Working Group Chairs are to include the full title of their document on the report Title slide	All SC4 Working Group chairs	Closed	Next meeting	
AI-10:	Jerry to add <u>Doug Kramer</u> as a member on the roster.	Jerry Ramie	Closed	Next meeting	Added 5/22
AI-11:	Mr. Ramie to send a note to Mike Howard, Ernesto Mendoza and Werner Schaefer warning them that their membership in SC4 is at risk	Jerry Ramie	Closed	Next meeting	Sent 5/22
AI-12:	Mr. Ramie to add Kenth Skoglund to the SC4 roster	Jerry Ramie	Closed	Next meeting	Added 5/22
AI-13:	Jerry to send a note to all WG chairs to send their definitions to SC2 when their drafts start to stabilize.	Jerry Ramie	Closed	Next meeting	Sent 5/22

10. Time and place of next meeting: Chair - Next meeting is **week of April 29 at UL-RTP**

11. Closing remarks and Adjournment: Chair - The Subcommittee 4 Chair thanked the working group Chairs for their efforts. Mr. Hoolihan asked how many of our Standards will be published next year. C63.10 and C63.26 were likely. The meeting was adjourned at 9:30AM-MST.

***** End of Meeting *****

Consolidated Action Items from 11/28/18 Meeting of SC4

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
AI-14:	Jerry to add Jonas Friden to the roster & WebEx	Jerry Ramie	Closed	Next meeting	Added 12/14
AI-15:	Jerry to run a two-week ballot at the Main Committee level upon receiving Edmund Lee's application	Jerry Ramie	Closed	Next meeting	Received 12/4 Balloted 12/14