

C63[®] American National Standards Committee C63[®]

Electromagnetic Compatibility Subcommittee 4: Wireless and ISM Equipment

Chair: Bob DeLisi

Vice Chair: Dave Case

Secretary: Jerry Ramie

February 15, 2022
1:00 PM – 3:00 PM - EST

Webinar

Approved Minutes

1. **Call to Order: Chair** - The Chair called the meeting to order at 1:01PM-EST

1.1 **Announcements: Chair's remarks** - Thanks for attending!

1.2 **Meeting logistics announcements: Host** - N/A

1.3 **Introductions: Secretary – roll call** (record attending members with their affiliations and guests separately below) **Report any roster errors to the C63[®] Secretary** ([SC4 membership roster](#) from the website is shown below) **Grayed-out names** did not attend. **Green names** were excused.

Subcommittee 4 Membership Roster

Name	Role in SC	Affiliation
Abbondante, Nicholas	Member	Intertek
Antola, Michael	Member	UL LLC
Case, David	Vice Chair	Consultant
Chamberlain, David	Member	Innovation, Science & Economic Development Canada
Chen, Zhong	Member	ETS-Lindgren
Coder, Jason	Member	NIST
DeLisi, Bob	Chair	UL LLC
Elliott, William (Mac)	Member	TÜV SÜD America, Inc.
Friden, Jonas	Member	Ericsson AB
Graff, William	Member	TÜV Rheinland of North America
Hoolihan, Dan	Member	Hoolihan EMC Consulting
House, Jody	Member	Element Materials Technology
Jones, Steve	Member	FCC Laboratory
Kiemel, Greg	Member	Apple Inc.
Klinger, Jeff	Member	Cetecom, Inc.
Kramer, Doug	Member	ETS-Lindgren
Lee, Edmund	Member	Apple Inc.
Mahn, Terry	Member	Fish & Richardson P.C.
Mansergh, Dan	Member	Apple Inc.
Mendoza, Ernesto	Member	Signify
Molaei, Nima	Member	Element Materials Technology Washington DC LLC
Nixon, Jason	Member	Innovation, Science & Economic Development Canada
Pino, Dan	Member	Element Materials Technology Washington DC LLC
Sigouin, Dan	Member	TIMCO ENGINEERING, INC. (Primary)
Skoglund, Kenth	Member	Ericsson AB
Ward, Dennis	Member	Element Materials Technology - Technical Expert
Zimmerman, Dave	Member	Spectrum EMC, LLC

Guests and Observers: (non-voting) Jerry Ramie, Joe Krueger, Travis Thul,

1.4 Quorum: (50% of roster) constitutes a quorum. (rounding up) (27 roster members / 2 = 13.5 >> 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 potentially essential patents or I.P. issues were declared.

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

2.1 Approval of the previous Minutes - [20210909](#) The previous Minutes were reviewed in a line-by-line manner and [approved](#) by acclamation.

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

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.

Member Attendance Log: Any errors in the log?

20171108	20180502	20181128	20190501	20191120	20200602	20200924	20210225	20210527	20210909	SC4 Roster:
					x	x	x	x	x	Abbondante, Nicholas
							x	x	x	Antola, Michael
x	x	x	x	x	x	x	x	x	x	Case, David
	x	x	x	x	x	x	x	x	x	Chamberlain, David
x			x	x			x	x	x	Chen, Zhong
							x	x	x	Coder, Jason
x	x	x	x	x	x	x	x	x	x	DeLisi, Bob
x		x	x	x	x	x	x	x	x	Elliott, William (Mac)
			x		x				x	Friden, Jonas
	x	x	x	x			x		x	Graff, William
x	x	x	x	x	x	x	x	x		Hoolihan, Dan
										House, Jody
x	x	x	x	x	x	x	x	x		Jones, Steve
x	x			x	x	x	x	x	x	Kiemel, Greg
x	x		x	x	x		x	x	x	Klinger, Jeff
x	x	x	x	x	x	x			x	Kramer, Doug
			x	x		x	x	x		Lee, Edmund
					x			x		Mahn, Terry
			x		x			x	x	Mansergh, Dan
	a	x			x	x	x	x	x	Mendoza, Ernesto
				x	x	x	x	x	x	Molaei, Nima
x	x	x	x	x	x	x	a		x	Nixon, Jason
	p		x				x			Pino, Dan
x	x	x		x		x		x	a	Sigouin, Dan
	x	x	x	x	x	x		x	x	Skoglund, Kenth
x	x	x	x	x	x	x	x	x		Ward, Dennis
x	x			x	x		x	x	x	Zimmerman, Dave

Any members at risk? None are at risk.

3.2 Consideration of new SC4 members? [Application for C63® Subcommittee Membership](#) Pelin Salem - [Application Resume](#) The application was accepted unanimously.
AI-44: Jerry to notify Dr. Salem of her acceptance in SC4 and add her to the roster.

3.3 ~~Review and approval of SC4 scope, membership, and duties – Spring Meeting~~

3.3.1 - Scope & Duties - ASC-C63®. AI-45: Jerry to ask Shannon to change the SC4 landing page Scope/Duties text to read: ANSC-C63® Subcommittee 4 is responsible for writing and maintaining existing and proposed C63® standards for wireless and ISM devices (e.g. lighting, wireless power transfer, Industrial and dielectric heaters, and similar equipment), as assigned by the Main Committee-

- ~~C63.10~~
- ~~C63.26~~
- ~~C63.29~~
- ~~C63.30~~
- ~~C63.31~~

Massive MIMO Distance Study

4. Working Group reviews - 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 Spring Subcommittee meeting. The WG reports shall be made using either the [C63 PowerPoint template](#) or the [C63 PowerPoint template wide](#).

4.1 C63.10 Unlicensed transmitters - Nixon (verbal [WG report](#)) Published, NPRM is out for 30 day comment. It should be used by the end of the year.

4.11 Status Matrix Review Verify accuracy of document [status matrix](#) content and report any errors to the ANSC-C63® Secretary. **Is this information correct? (Yes)**

C63.10-2020 Learn more	Procedures for compliance testing of unlicensed wireless devices	SC 4	Nixon, Jason	C63.10 PINS	Published 1/29/2021. No further work scheduled on the document. WG disbanded.
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C63.10: C63.10-2020 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: Published 1/29/2021. No further work scheduled on the document. WG disbanded.

Purchase: [IEEE/ANSI C63.10-2020 - American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices](#). To purchase individual standards, go to the IEEE store and search on the standard number.

4.2 C63.10 – draft Corrigendum v1 - Nixon (verbal [WG report](#)) Bob asked Jennifer what is happening with the formation of a balloting group. IEEE is waiting for MEC editing, we would like this effort in parallel with the formation of the balloting pool. We hope to be going to ballot soon.

4.21 Status Matrix Review Verify accuracy of document [status matrix](#) content and report any errors to the ANSC-C63® Secretary. **Is this information correct? (Yes)**

C63.10 Corr1-202X Learn more	Procedures for compliance testing of unlicensed wireless devices	SC 4	Nixon, Jason	C63.10 Corr1 PINS	Corrigendum to fix errors in the standard. Draft awaiting circulation in Main Committee ballot group. Ballot invitation closed 12/17/2021.
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C63.10: C63.10 CORR-1 202X American National Standard for Testing Unlicensed Wireless Devices

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

Scope: This corrigendum of C63.10:2020 Standard for American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices, will correct an error in the UWB -10 dB bandwidth, correct an error in the pulsed desensitization formula, clarify for WPT devices are tested to ASC C63.30 for the WPT functions and harmonize clause 6.2.2 related to the use of an extension cord between the EUT and the LISN.

Status: New Corrigendum. Draft is being written.

Purchase: This standard is not yet complete and not available for purchase.

4.3 C63.26 – Licensed transmitters - Elliott ([WG report](#))

Deniz Demirci [Application](#) [Resume](#) The application and resume were reviewed and Mr. Demirci was accepted for membership in C63.26WG unanimously. **AI-46:** Jerry to notify Deniz Demirci of his acceptance and add him to the C63.26 roster.

4.31 Status Matrix Review Verify accuracy of document [status matrix](#) content and report any errors to the ANSC-C63® Secretary. **Is this information correct? (Yes)**

C63.26-2015 Learn more	Procedures for compliance testing of licensed transmitters	SC 4	Elliott, William	C63.26 PINS	2015 edition 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: [Elliott, William](#) (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.

4.4 C63.29 – Lighting equipment - Mendoza (verbal [WG report](#)) Invitation to ballot closed 12/12/21. Bob asked Jennifer to form the balloting pool while the document is undergoing MEC editing.

4.41 Status Matrix Review Verify accuracy of document [status matrix](#) content and report any errors to the ANSC-C63® Secretary. **Is this information correct? (Yes)**

C63.29-draft Learn more	Lighting products	SC 4	Mendoza, Ernesto	C63.29 PINS	New standard. Draft Awaiting circulation in Main Committee ballot group. Ballot invitation closed 12/12/2021.
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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 under final review.

Purchase: Not yet available for sale.

4.5 C63.30 – Wireless Power Transfer equipment - Thul (verbal [WG report](#)) The document was published last July. A press release was sent to the IEEE. The FCC was petitioned. Mr. Jones stated that they have received the petition but it's not in the latest NPRM. He expected a good outcome. Mr. Nixon (ISED) noted that it is under review in Canada. All the major players in WPT were on board, except Tesla.

Magazine article: <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=9614240>

AI-47: Jerry to update the C63.30 status matrix text as shown below.

4.51 Status Matrix Review Verify accuracy of document [status matrix](#) content and report any errors to the ANSC-C63® Secretary. **Is this information correct? (No)**

C63.30-draft Learn more	Wireless Power Transfer Products	SC 4	Thul, Travis	C63.30 PINS	Published. WG disbanded.
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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: Balloting complete – document passed. ~~Now with IEEE for editing process.~~ WG disbanded.

Purchase: ~~Not yet a~~ Available for sale.

4.6 C63.31 – ISM equipment - Abbondante ([WG report](#))

4.61 Status Matrix Review Verify accuracy of document [status matrix](#) content and report any errors to the ANSC-C63® Secretary. **Is this information correct? (Yes)**

C63.31-draft Learn more	ISM equipment (MP-5)	SC 4	Abbondante, Nicholas	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: [Abbondante, Nicholas](#) (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.

4.7 C63.xx - Massive MIMO - PINS-C Project - Case ([TG Report](#))

4.71 Status Matrix Review Verify accuracy of document [status matrix](#) content and report any errors to the ANSC-C63® Secretary. **Is this information correct? (Yes)**

C63.xx (pending) Learn more	Massive MIMO Test Distance Study	SC 4	Case, David	C63.xx PINS-C*	Develop a test method to supplement mmW test procedure
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C63.xx-pending: Massive MIMO Test Distance Study

Contact: [Case, David](#) (Working Group Chair)

Scope: This working group will study how to address measurements when the required separation distance is larger than that available due to the minimum wavelength as determined by the antenna design.

Status: Study project

Purchase: Not yet available for sale.

5. Old Business: Chair

5.1 Written reports - Written reports of this Subcommittee meeting shall be presented by the Subcommittee Chair at the Main Committee meeting. These reports shall be made using either the [C63 PowerPoint template](#) or the [C63 PowerPoint template wide](#). Prior to the Main Committee meeting, the [SC report](#) and [approved previous SC meeting minutes](#) shall be provided to the projectionist for showing on the screen at the Main meeting. The Presentation and any written report shall also be sent by the Subcommittee Chair to the ASC-C63® [Newsletter editor](#)

5.2 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. **AI-40:** Bob will provide the C63.29 draft to SC2 for their review. **Closed**

5.3 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. **AI-41:** Ernesto to provide the comparison report C63.29 to SC3 (Ross Carlton, Jerry Ramie) for their review. **Closed**
AI-42: Bob & Travis to provide a comparison report on C63.30 to SC3. **Open** Horia will do the comparison.

6. New Business: Chair

6.1 – C63.30 FCC Petition – ([Microsoft Word - Petition for Rulemaking ASC C63.30-2021 9-14-2021 \(fcc.gov\)](#))

6.2 - Notice of Proposed Rulemaking, ET Docket Nos. 21-363 and 19-48 (C63.10:2020) - The chair noted that the FCC has release a NPRM that includes C63.10:2020 and C63.25.1. The order can be found at [FCC-22-3A1.pdf](#)

6.3 – C63.10 Amendment (interpretation request on BW measurement, others?) Is an amendment appropriate? mmW section may need clarification about distances. Should we allow for different heights? Any other ideas need amendments? Are they warranted? Jason Nixon asked about the UWB content on anechoic material. It should be included.
AI-48: SC members should submit ideas for an amendment to C63.10 before March 15th.

6.4 – Next meeting (Face-to-Face at ETS-Lindgren, Cedar Park, TX) Bob asked who will not attend in person. ISED, Dave Case, Dennis Ward, Ericsson & Jerry Ramie are unable to attend. WG meetings to be outside the usual time slots. (evenings)
AI-49: Jerry to send a Doodle poll to the SC4 Members regarding their attendance in Texas. (yes/no)

7. 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.

8. Review of the Action Items: Secretary

8.1 Review of Action Items from this meeting: The **Action Items** were reviewed and all affected agreed that they understood their meaning.

8.2 Review of Action Items from previous meeting: Consolidated Action Item table from the previous meeting Minutes is shown below:

Consolidated Action Items from 9/9/21 Meeting of SC4

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
AI-38:	Jerry & Bob to add C63.10 Corr. & "Learn more" text to Status Matrix	Jerry Ramie Bob DeLisi	Closed	9/9/21	
AI-39:	Jerry & Bob to correct C63.10 date & "Learn more" text in Status Matrix	Jerry Ramie Bob DeLisi	Closed	9/9/21	
AI-40:	Bob will provide the C63.29 draft to SC2 for their review	Bob DeLisi	Closed	9/9/21	
AI-41:	Ernesto to provide the comparison report C63.29 to SC3 (Ernesto Mendoza , Jerry Ramie) for their review.	Ernesto Mendoza	Closed	Next meeting	
AI-42:	Bob & Travis to provide a comparison report on C63.30 to SC3.	Bob DeLisi Travis Thul	Open	Next meeting	Horia will do the comparison
AI-43:	Bob to bring up dated/undated references at the upcoming C63 Steering Committee meeting.	Bob DeLisi	Closed	Next meeting	(see C63.30 for transition text)

9. Time and place of next meeting: Chair - May 16 - 20, Cedar Park, TX (ETS-Lindgren)

10. Closing remarks and Adjournment: Chair - The Chair thanked the members for their attendance and adjourned the meeting at 2:23PM-EST.

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

Consolidated Action Items from 2/15/22 Meeting of SC4

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
AI-42:	Bob & Travis to provide a comparison report on C63.30 to SC3.	Bob DeLisi Travis Thul	Open	Next meeting	Horia will do the comparison
AI-44:	Jerry to notify Dr. Salem of her acceptance in SC4 and add her to the roster	Jerry Ramie	Closed	Next meeting	Also added to Webex invitation list
AI-45:	Jerry to ask Shannon to change the SC4 landing page Scope/Duties text to read: ANSC-C63®	Jerry Ramie	Closed	Next meeting	Request sent 2/15
AI-46:	Jerry to notify Deniz Demirci of his acceptance and add him to the C63.26 roster.	Jerry Ramie	Closed	Next meeting	Added 2/15 A. Crumm to add to Webex list
AI-47:	Jerry to update the C63.30 status matrix text as shown below.	Jerry Ramie	Closed	Next meeting	Updated 2/15
AI-48:	SC members should submit ideas for an amendment to C63.10 before March 15th.	All SC Members	Open	3/15/22	mmW section may need clarification about distances. Should we allow for different heights? Any other ideas need amendments? Are they warranted? Jason Nixon asked about the UWB content on anechoic material. It should be included.
AI-49:	Jerry to send a Doodle poll to the SC4 Members regarding their attendance in Texas. (yes/no)	Jerry Ramie	Closed	Next meeting	Sent 2/15 Poll closes 2/25 @ 5:00PM-PST