



C63[®] Committee

Electromagnetic Compatibility Subcommittee 4: Wireless and ISM Equipment

Chair: Bob DeLisi

Vice Chair: Dave Case

Secretary: Jerry Ramie

May 27, 2021; 2:00 PM – 4:00 PM - EDT
Webinar

Approved Minutes

1. **Call to Order: Chair** - The Chair called the meeting to order at 2:03PM-EDT
 - 1.1 **Announcements: Chair's remarks** - Thanks for attending! We may not need the full two hours, as we have two documents going into publication.
 - 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.

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
Jones, Steve	Member	FCC Laboratory
Kiemel, Greg	Member	Apple Inc.
Klinger, Jeff	Member	Compatible Electronics
Kramer, Doug	Member	ETS-Lindgren
Lee, Edmund	Member	Apple Inc.
Mahn, Terry	Member	Fish & Richardson P.C.
Mansergh, Dan	Member	Apple Inc.
McGann, Ryan	Member	Keystone Compliance, LLC
Mendoza, Ernesto	Member	Signify
Molaei, Nima	Member	PCTEST Engineering Laboratory
Nixon, Jason	Member	Innovation, Science and Economic Development Canada
Pino, Dan	Member	PCTEST Engineering Laboratory
Sigouin, Dan	Member	DHS-EMC
Skoglund, Kenth	Member	Ericsson AB
Ward, Dennis	Member	PCTEST Engineering Laboratory
Zimmerman, Dave	Member	Spectrum EMC, LLC

Guests and Observers: (non-voting) Jerry Ramie, Joe Krueger, Allen Crumm

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 - [20210225](#) 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?

20161109	20170510	20171108	20180502	20181128	20190501	20191120	20200602	20200924	20210225	SC4 Roster:
							x	x	x	Abbondante, Nicholas
									x	Antola, Michael
		x	x	x	x	x	x	x	x	Case, David
			x	x	x	x	x	x	x	Chamberlain, David
x	x	x			x	x			x	Chen, Zhong
									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			Friden, Jonas
			x	x	x	x			x	Graff, William
x	x	x	x	x	x	x	x	x	x	Hoolihan, Dan
x	x	x	x	x	x	x	x	x	x	Jones, Steve
		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		Kramer, Doug
					x	x		x	x	Lee, Edmund
							x			Mahn, Terry
					x		x			Mansergh, Dan
			a	x			x	x	x	Mendoza, Ernesto
						x	x	x	x	Molaei, Nima
x	x	x	x	x	x	x	x	x	a	Nixon, Jason
			p		x				x	Pino, Dan
x	x	x	x	x		x		x		Sigouin, Dan
			x	x	x	x	x	x		Skoglund, Kenth
				x	x	x	x	x		Terrien, Mark
		x	x	x	x	x	x	x	x	Ward, Dennis
		x	x			x	x		x	Zimmerman, Dave

Any members at risk? None are at risk.

3.2 Consideration of new members? [Application for C63[®] Subcommittee Membership](#)

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

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 (no [WG report](#))

4.11 Status Matrix Review (Spring meeting only) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-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 Store](#). To purchase individual standards, go to the IEEE store and search on the standard number.

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

4.21 Status Matrix Review (Spring meeting only) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-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.

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

4.31 Status Matrix Review (Spring meeting only) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-C63® Secretary. **Is this information correct? (No)** **AI-37:** Jerry to correct C63.29 Status Matrix text

C63.29-draft Learn more	Lighting products	SC 4	Mendoza, Ernesto	C63.29 PINS	New standard. Draft under final review .
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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.

4.4 C63.30 – Wireless Power Transfer equipment - Thul (verbal report received)

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

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

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

4.51 Status Matrix Review (Spring meeting only) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-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.

4.6 C63.xx - Massive MIMO - PINS-C Project - Case ([WG report](#)) A white paper will be the output. It will be sent to SC4 to see if they wish to publish it. Has C63 ever published a white paper? Mr. Hoolihan thought this has happened before and is not prohibited by our procedures.

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

C63.xx (pending)	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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Learn more					
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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.

5.2 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.

6. New Business: Chair

6.1 C63.10 Corrigendum - Nixon - Stand-alone document

6.1.1 [Draft C63.10 Corr. PINS](#) - Approved by Main Committee 5/11/21

6.1.2 Formation of a Working Group - No roster submitted yet. Jason may not be able to become the Chair, so we may need other candidates.

6.1.3 Summary of C63 - IEEE Wireless Workshop - Chair - Thanks go to Travis & Ernesto as the presenters for this workshop. It made people aware of C63.29 and C63.30. We may want to do more of these workshops for our other Standards. There were over 200 registered for the event and over 100 attended! (50% is normal) Travis reported that the attendees felt that the C63.30 roster was representative of the top people in the field.

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: One **Action Item** was shown.

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 2/25/21 Meeting of SC4

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
AI-30:	Bob to make the motion to approved SC4 Scope, Membership & Duties at the Steering Committee meeting	Bob DeLisi	Closed	3/18/21	Steering Comm meeting date
AI-31:	Bob to provide new Chair for C63.26 Status Matrix and "Learn more" text	Bob DeLisi	Closed	3/18/21	Matrix is updated, roster need new

	and a new roster (Rapella gone?)				Rapella contact
AI-32:	Jerry to clear the C63.30 roster and indicate the WG is disbanded	Jerry Ramie	Closed	3/18/21	Cleared 2/25
AI-33:	Jerry to extend Mr. DeLisi's term as SC4 Chair on Officer's roster page.	Jerry Ramie	Closed	3/18/21	3 more years changed 2/25
AI-33a:	Jerry to modify C63.26 roster to add M. Elliott as Chair, Dave C. as Vice Chair, Steve Jones as Member	Jerry Ramie	Closed	3/18/21	Modified 2/25
AI-34:	Jason N. and Bob DeLisi will draft a PINS for the C63.10 corrigendum	Jason Nixon Bob DeLisi	Closed	3/18/21	
AI-35:	Bob agreed to find speakers on two Standards for a tutorial.	Bob DeLisi	Closed	3/18/21	
AI-36:	Jerry to remove the link to this EMC Society tutorial from the C63 index page	Jerry Ramie	Closed	3/18/21	Removal order sent to Shannon 2/25

9. Time and place of next meeting: Chair - September 9, 2021 @ 2:00PM-EDT (2 hours)

(meeting set 5/27) Our Fall meeting is tentatively set for Nov 15-19, 2021 at IEEE headquarters in Piscataway, NJ.

10. Closing remarks and Adjournment: Chair - The Chair thanked the members for their attendance and adjourned the meeting at 2:50PM-EDT.

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

Consolidated Action Items from 5/27/21 Meeting of SC4

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
AI-37:	Jerry to correct C63.29 Status Matrix text	Jerry Ramie	Closed	9/9/21	Corrected 5/27