



Accredited Standards Committee C63®
Electromagnetic Compatibility
Subcommittee 5: Immunity Testing and Measurements

Chair: [Ed Hare](#)

Vice Chair: [Steve Whitesell](#)

Secretary: [Jerry Ramie](#)

January 30, 2018; 1:30 PM – 3:30 PM - EST
Webinar

Approved Meeting Minutes

1. **Call to Order: Chair** - The meeting was called to order at 1:34PM-EST
 - 1.1 **Announcements: Chair**
 - 1.2 **Meeting logistics announcements: Host**
 - 1.3 **Introductions: Secretary** – roll call (insert attendee names) Mac Elliott, Don Heirman, Steve Whitesell, Jerry Ramie, Dave Zimmerman, Jeff Silberberg, Ed Hare, Henry Benitez, Ross Carlton, Craig Fanning,
2. **Approval of the Agenda: Secretary** - There was a motion from Don, seconded by Dave to approve the agenda. The motion carried.
 - 2.1 **Approval of the previous Minutes** - [Minutes of the previous meeting](#) The previous Minutes were reviewed and [approved](#) by acclamation.
 - 2.2 **Review of the [patent slides](#)** - The patent slides were shown and all agreed to abide by the patent policy. No patent issues were raised.
3. **Review of [Subcommittee Membership](#)** - Report any errors to the ASC-C63® Secretary (insert [SC5 membership roster](#) from the website as shown below)

Subcommittee 5 Membership Roster

Name	Role within SC	Affiliation
Berger, Stephen	Member	TEM Consulting
Fanning, Craig	Member	Elite Electronic Engineering
Griffin, Andy	Member	Cisco Systems
Hare, Ed	Chair	ARRL
Heirman, Don	Member	Don HEIRMAN Consultants
Hoolihan, Dan	Member	Hoolihan EMC Consulting
Lombardi, Rick	Member	Visteon Corporation
Long, Randy	Member	ANSI-ASQ National Accreditation Board dba L-A-B
Ramie, Jerry	Secretary	ARC Technical Resources, Inc.
Schaefer, Dave	Member	TUV SÜD America
Silberberg, Jeffrey L	Member	FDA Center for Devices & Radiological Health
Whitesell, Steve	Vice Chair	Whitesell Consulting
Zimmerman, Dave	Member	Spectrum EMC

3.1 Review of Membership Guidelines – any members at risk?

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:

SC5 Members	Apr 2014	Nov 2014	May 2015	Nov 2015	May 2016	Nov-16	May-17	Nov-17
Stephen Berger	X	X			x			x
Craig Fanning						x		x
Andy Griffin	X	X	x	W	x	x		
Ed Hare	X	X	X	X	x	x	x	x
Don Heirman	X	X	X	X	x	x	x	x
Dan Hoolihan	X	X	X	X	x	x		x
Rick Lombardi	X		W	W	x	x	x	x
Randy Long				X	x	x		x
Jerry Ramie	X	X	X	X	x	x	x	x
David Schaefer		X	X	W		x		
Jeff Silberberg	X	X	X	X	x	x	x	x
Steve Whitesell	X	X	X	X	x	x	x	x
D. Zimmerman	X		X	W	x	x	x	x

Members at risk? There were no members at risk. **AI-51:** Jerry to send reminders to Griffin & Schaefer re/ their attendance.

3.2 Consideration of new members? [Application for C63® Subcommittee Membership](#)
Ross Carlton has attended two consecutive meetings.

3.3 Approval of [Scope and Duties](#) (First yearly meeting only) (Report approval or any changes to the Main Committee) (new text shown below in red)

Scope

Subcommittee 5 is responsible for developing and maintaining new and existing ANSI ASC C63® standards for immunity testing techniques and associated instrumentation as requested by the Main Committee ANSI ASC C63®.

Don moved, seconded by Jeff, to change the scope as shown in red above. No discussion, none were opposed, no abstentions. The motion carried. The new Scope will be submitted to the Main Committee in Piscataway. Para. 6.1 of our procedures covers the Scope.

3.4 Election of Officers (as required)

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.

4.1 C63.9 – Office Equipment Immunity - Heirman (insert link to [WG report](#)) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-C63® Secretary.

C63.9-2014 Learn more	Office equipment immunity	SC 5	Heirman, Don	C63.9 PINS	PINS approved to revise 2008 edition including the 2014 reaffirmation.
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C63.9: C63.9-2008 American National Standard for RF Immunity of Audio Office Equipment to General Use Transmitting Devices with Transmitter Power Levels up to 8 Watts

Contact: [Heirman, Don](#)

Scope: This standard provides recommended test methods and limits for assuring the RF immunity of office equipment to general use transmitters with transmitter power up to 8 watts

Status: Reaffirmed in 2014. Revision currently underway to update references, add coverage for interference threats from newer technologies such as LTE, consider latest test instrumentation and techniques, and clarify alternative test methods.

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

Is this information correct? (Yes) Corrected by Don 1/28; The document structure may need revision and text movements/changes which will be indicated by different color font. Document won't be ready until the end of 2018.

4.2 C63.15 – Immunity Measurement & Instrumentation - Heirman (insert link to [WG report](#)) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-C63® Secretary.

C63.15-2010 Learn more	Immunity Measurement & Instrumentation	SC 5	Heirman, Don	C63.15 PINS	In final editing for publication first quarter 2018
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C63.15: C63.15-2010 American National Standard Recommended Practice for the Immunity Measurement of Electrical and Electronic Equipment

Contact: [Heirman, Don](#) (Working Group Chair)

Scope: This immunity measurement and measurement instrumentation recommended practice document complements the emission measurement procedures specified in ANSI C63.4 noting that C63.15 is a recommendation while C63.4 is a standard. The immunity methods are of use to manufacturers who want to produce a reliable product working in the customer location RF environment to reduce customer complaints. This document generally covers the frequency range of 30 Hz to 10 GHz. The test instrumentation needed to replicate the RF environment is also identified that will support the immunity testing.

Status: Final editing for 2018 edition.

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

Is this information correct? (Yes) Corrected by Don 1/28. Upon the request by Don (chair of the C63.4a and C63.15 WGs) Lisa Perry, IEEE editor, worked on C63.4a first last fall to get it to publication. C63.15 editing for publication was to follow in a month. Don sent her an email asking for the status of the review. There has not been a response yet. The concern was voice that we are going on a 3 month delay in getting C63.15 edited and published. This was not acceptable to the subcommittee. Don has indicated that the document should be published no later than the end of the 1Q-2018.

AI-52: Ed should contact Jennifer Santulli, the C63 Secretariat representative, for direction and attention to C63.15 editing by 2/9/18 so it will meet the first quarter 2018 publication date.

4.3 C63.16 – ESD Test Methodology - Whitesell (insert link to [WG report](#)) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-C63® Secretary.

C63.16-2016 Learn more	ESD Test Methodology	SC 5	Whitesell, Steve	No active PINS	Current. (published 5/10/16) Working group disbanded
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C63.16: C63.16-1993 American National Standard Guide for Electrostatic Discharge Test Methodologies and Criteria for Electronic Equipment

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

Scope: This guide provides electrostatic discharge (ESD) test considerations that a manufacturer should use in assessing the expected ESD effects on products in a wide range of environments and customer use. The focus is well beyond that used to simply show that a product complies with a local, regional, or international standard or regulation. The guide includes unique new material on testing of charged peripherals being connected to a system and system components being placed in a docking station. It also includes information on the use of preliminary investigatory testing to identify test points, methods for visually documenting the location of those test points, and the use of a stepped approach in ratcheting up the test voltage to determine failure thresholds. The annexes include test plan and data sheet examples along with more background on air and contact discharge for those who want to further understand the differences in these methods.

Status: Current. Guide was published 10 May 2016.

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

Is this information correct? (Yes) Verified by S. Whitesell 1/26.

AI-53: Jerry to implement new changes to C63.16 matrix entry as shown in **green** above.

4.4 C63.24 – On-Site Generic Immunity testing - Heirman (insert link to [WG report](#))

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

C63.24-draft Learn more	On-Site Generic Immunity testing	SC 5	Heirman, Don	C63.24 PINS	New recommended practice restarted (joint task with IEEE 473); new PINS needed
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C63.24-draft: American National Standard Recommended Practice for In-Situ RF Immunity Evaluation of Products, Instrumentation, and Control Systems in High Reliability Installations

Contact: [Heirman, Don](#) (Working Group Chair)

Scope: This recommended practice provides an in-situ EMC immunity qualification test for products, instrumentation, and control systems in their installed environment. The **recommended practice** will focus on installation environments that require a high level of confidence that these products and systems have a high level of EMC immunity. This project will provide a generic method for evaluating the RF immunity of electronic products, instrumentation, and control systems, as and where installed or operated. A particular focus is on immunity to RF sources that may enter the environment, intentionally or unintentionally or be integrated into the operating environment. The characteristics of RF sources in the environment will be used to establish the levels and test methods.

Status: New **recommended practice**. Consideration being given to working as a joint project with the revision of EMC Society standard IEEE 473 on RF site survey measurement. PINS will need revision.

Purchase: Not yet available for sale.

Is this information correct? (Yes) Corrected by Don 1/28; we are looking at common wording for test setup information for both documents. The chair of the P473 WG is Chad Kiger. To facilitate the common work, Chad is added to the C63.24 WG roster. Both WG chairs believe that a realistic target date for publication will into 2019.

AI-54: Jerry to implement new changes to C63.24 matrix entry as shown in **green** above.

5. Other 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 the [PowerPoint template](#). Prior to the Main Committee meeting, the [SC report](#) and [approved previous 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](#).

There were no written reports.

5.2 Coordination with SC2 for definitions - Before any Working Group draft can be submitted to the [subcommittee for approval](#), the document must be provided to the SC2 Chair for evaluation and coordination of the definitions used.

AI-55: Don will confirm that definitions for his documents(C63.9, C63.15, and C63.24 have been submitted to SC2 for their review and comments.

5.3 Coordination with SC3 for harmonization - Before any Working Group draft can be submitted to the [subcommittee for approval](#), the document must be provided to the SC3 Chair for SC 3 evaluation and coordination of any harmonization effort.

Don noted that C63.12 (Recommended Practice) is the only C63 document that it is responsible for. At this time there is no activity as the document was recently published. .

6. New Business: Chair

7. [C63.org](#) website use and updates: Secretary - We normally post documents to the [SC5 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 previous meeting: The consolidated Action Item table from the previous meeting Minutes are shown below:

Consolidated Action Items from 11/8/17 Meeting of SC5

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
AI-40:	Steve to offer such an amended version of IEC 61000-4-2, with C63.16 content inserted, for submission to TC77B from SC3. AI-50: Steve to ask Jennifer for WORD version of 61000-4-2 to provide amended text to SC3	Steve Whitesell	Open	Next meeting	We need suggested text submitted. Need WORD version of 61000-4-2
AI-44:	Jerry to correct the C63.9 Matrix and "Learn more" text as shown above in red .	Jerry Ramie	Closed	1/30/18	Matrix corrected 12/2
AI-45:	Jerry and Don H. to set a date of 1/12/18 @2:00PM-EST (2 hours) for a kick-off C63.9WG webinar to see if there is interest.	Jerry Ramie Don Heirman	Closed	12/11/17	Webinar set 12/11
AI-46:	Jerry to add Ross Carlton and Dan Sigouin as new members on the new C63.15WG roster / WebEx invitation	Jerry Ramie	Closed	1/30/18	New roster posted 12/2/17. WebEx list updated
AI-47:	1993 date in C63.16 "Learn More" text needs correction by Jerry to show 2016.	Jerry Ramie	Closed	1/30/18	Matrix corrected 12/2
AI-48:	Mike Cibulka was asked to forward the C63.16-2016 document to TC-77B for consideration in the next IEC 61000-4-2.	Mike Cibulka	Closed	Next meeting	See AI-40
AI-49:	Jerry to send these Minutes and the upcoming SC5 1/30/18 webinar meeting announcement to all attendees at this meeting	Jerry Ramie	Closed	1/30/18	Webinar set 12/7 Announcement sent 12/12

8.2 Review of Action Items from this meeting: The Action Items from this meeting were reviewed and agreed upon and are shown below..

9. Time and place of next meeting: Chair - 3/6/18 @ 1:30PM-3:30PM - Eastern
(Established at this meeting)

10. Closing remarks and Adjournment: Chair - The Chair thanked the participants for their contributions and adjourned the meeting at 3:14PM-EST.

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

Consolidated Action Items from 01/30/18 Meeting of SC5

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
AI-40:	Steve to offer such an amended version of IEC 61000-4-2, with C63.16 content inserted, for submission to TC77B from SC3.	Steve Whitesell	Open	3/6/18	We need suggested text submitted in WORD version of 61000-4-2
AI-50:	Steve to ask Jennifer for WORD version of 61000-4-2 to provide amended text to SC3	Steve Whitesell	Open	3/6/18	
AI-51:	Jerry to send reminders to Griffin & Schaefer re/ their attendance.	Jerry Ramie	Closed	3/6/18	Sent 1/30
AI-52:	Ed should contact Jennifer Santulli for direction and attention to C63.15 editing by 2/9/18	Ed Hare	Open	2/9/18	
AI-53:	Jerry to implement new changes to C63.16 matrix entry as shown in green above.	Jerry Ramie	Closed	3/6/18	Changed 1/30
AI-54:	Jerry to implement new changes to C63.24 matrix entry as shown in green above.	Jerry Ramie	Closed	3/6/18	Changed 1/30
AI-55:	Don will confirm that definitions for his documents(C63.9, C63.15, and C63.24 have been submitted to SC2 for their review and comments.	Don Heirman	Open	3/6/18	