

Meeting Minutes
Accredited Standards Committee (ASC) C63[®]
Electromagnetic Compatibility
SUBCOMMITTEE 2 – E3 Terminology Definitions and EMC Best Practices
Tuesday, 21 June 2021, 1300, to 1430
ANSI C63[®] WebEx

1. **Call to Order.** Mr. Marcus Shellman, SC2 Chairman, called the meeting to order.
 - 1.1. **Opening Remarks:** Mr. Shellman welcomed members and observers to the 2nd SC2 meeting of 2021. In addition, he noted that Dan Hoolihan would not be in attendance for the meeting.
 - 1.2. **Meeting Logistics Announcements:** None.
 - 1.3. **Introductions:** Mr. Duncanson conducted the roll call to record SC2 membership attendance and determine the establishment of a quorum. The meeting attendee list appears in Attachment 1.
 - 1.4. **Quorum:** Based on the number of SC2 member attendees, the Chairman determined that a quorum had been met.

2. **Review and Adoption of the Agenda.** Mr. Shellman called for a review of the agenda, highlighting key areas of significance for the meeting. A motion to approve the agenda was passed by voice vote. Mr. Duncanson accepted an action to provide the approved agenda to the C63 Secretary, Jerry Ramie. (See Action Item 20210621-1)
 - 2.1. **Approval of the Previous Minutes:** Mr. Shellman displayed minutes of the SC2 meeting held on 09 March 2021 via WebEx. A motion to approve the minutes as written was passed by voice vote. The approved minutes will be provided to Jerry Ramie along with the agenda.
 - 2.2. **Review of the Patent Slides:** Mr. Shellman presented the C63[®] Patent Policy slides and polled attendees with respect to knowledge of patent related issues. There were no affirmations of patent issues or objections to the patent policy.

3. **Review of Subcommittee Membership.**
 - 3.1. **Membership.** Mr. Shellman displayed the SC2 membership as it appears on the Member Attendance Log which highlights member participation.

- 3.2. **Members at Risk.** Mr. Shellman discussed member attendance, noting that for the past several meetings Janet O’Neil has participated in place of Zhong Chen and is present today, so his attendance should be reflected in the log. Mr. Duncanson took an action to make the correction. Mr. Shellman also noted that Steven Burger’s attendance should be considered waived for the present time. As always, representation by a surrogate is encouraged for those committee chairs who cannot attend. No SC2 members were found to be at risk. (See Action Item 20210621-2)
- 3.3. **Consideration of new members.** The Chairman stated that no new applications for membership have been received. No new members have been added to the SC2 membership at this time.
4. **Display of Scope and Duties.** The Chairman displayed the SC2 Scope and Duties which were approved at the 24 June 2020 meeting. He acknowledged the inquiry made by Mr. Hodes at the last meeting about expanding the Scope to include US Federal Government agencies, stating it would be addressed with the action items. As a result of that discussion, Mr. Shellman took an action to submit two proposed versions of edits to the Scope to SC2 members for review, discussion, and a potential vote, prior to the next meeting. (See Action Item 20210621-3)
 - 4.1 **Election of Officers.** Mr. Shellman noted that no actions are needed with respect to the election of officers. The current SC2 officers have been reaffirmed for another term, through December 2023.
5. **SC2 Status, Working Group Reports and C63® Standards Projects.**
 - 5.1. **Working Group 1 Report.** Mr. Duncanson provided an update of WG1 activities since the last meeting, specifically ballot activities for draft ANSI C63.14-20XX. He reported that the SAE copyright release issue previously reported, and the single obstacle to completing IEEE MEC requirements, remains unresolved. He recounted repeated attempts to obtain an affirmative response from the SAE and discussed potential alternative measures the subcommittee might consider tabling the issue for now, a matter of omitting the definitions for “reflected power,” and “net power,” from the present draft to proceed to balloting. He noted that the definitions for the two terms exist in ANSI C63.19-2019. After discussion about potential copyright issues for both documents, Mr. Duncanson took an action on the recommendation of the Chairman to elevate the issue to the IEEE and have Jennifer Santulli address the release issues for both documents, with the SAE. (See Action Item 20210621-4)

Mr. Duncanson proceeded to provide the status of SC2 Pre-Ballot coordination with other subcommittees on the terms and definitions in their draft standards. He reported

that SC2 recently completed initial coordination with SC7 on terms and definitions from draft ANSI C63.27. He commended SC7 and remarked that the review went very well, that SC2 comments were few and minor in nature. He went on to address the status of coordination with SC5 on draft C63.24, which was a topic of discussion at the last meeting due to introduction of the terms, “in situ immunity testing,” and, “on site immunity testing.” He reported that the coordination, while unknown at the last meeting, was already overtaken by events as ANSI C63.24 was published in January 2021. Those definitions now exist and will be published in C63.14 and the IEEE 100 dictionary online.

In other coordination activities, Mr. Duncanson addressed the recent motion to ballot issued by Jerry Ramie for draft ANSI C63.25.2, from SC1. He noted that while it is understood the motion to ballot has been withdrawn at this time, coordination with SC2 for the terms and definitions in the draft has not taken place. He stated that SC2 would go ahead and conduct the review, since the draft is available, to do the coordination in anticipation of the motion being revisited. Mr. Delisi noted that definitions in the draft are undergoing some changes and edits to the draft are being reviewed by SC1. He took an action to provide the updated definitions to Mr. Duncanson for SC2 coordination, upon availability after the review. (See Action Item 20210621-5)

He concluded the report summarizing the .14 issues, noting the projected publication of .14 is moved to the late-September timeframe.

5.2. **Working Group 2 Report.** Mr. Dilay provided a status update for WG2 activities in the preparation of draft ANSI C63.28-20XX,” Best Practice Methodologies, Processes, and Procedures for Electromagnetic Compatibility (EMC).” He displayed the “Title,” “Scope,” and “Purpose,” noting that these have not changed with the current version of the draft. He recognized the WG2 officers and membership, noting there have been no changes since the last meeting. He stated that the last WG2 meeting was held on 20 April 2021. The next meeting is TBD. He explained that due to a personal emergency he was out the whole month of May.

Mr. Dilay went on to provide the status of draft C63.28, noting that the document is still in the draft development phase. The current revision, version 1.42 has been undergoing a detailed WG CRM review. He stated the document currently consists of 11 clauses, 10 in progress with initial drafts, and 1 that still requires an initial draft or significant input. He noted, however, that due to the CRM review there is a new recommended way forward that impacts the focus of the draft. He stated that the key takeaway from the new direction is that the document will focus more on the C63[®] standards. He explained that whereas to date the table of contents has been generic in

nature, the recommendation, proposed by Marcus Shellman and Mike Duncanson is for the document to focus more on the C63[®] portfolio of standards and tailor it more to C63[®] stakeholders, manufacturers, test labs, etc. Additionally, the idea seeks to make modifications based on the purposes and scopes of the C63[®] standards and integrate the international standards comparison studies into the draft. He cited proposed changes to the table of contents of the standard, stating that much of the original verbiage will continue to be used, but the document will become more C63[®]-centric. Some of the benefits anticipated are for potential C63[®] customers, to provide awareness in the application of the standards and meaningful .28 updates to align new standards with technology developments. He noted a reorganized draft was provided to the WG for consideration and will be the focus of the next meeting, TBD, likely sometime in July. He stated that the meeting will address the document at a high level, and once the organization and content are finalized, writing assignments will be addressed for authorship of the new sections required. He provided a general conclusion reiterating there will be changes to the document moving forward.

5.3 **C63[®] Subcommittees & EMC Standards Projects.**

Mr. Shellman displayed the active status of C63[®] standards projects as maintained on the SC2 Agenda and inquired of the group to identify any needed updates. Mr. Delisi stated that draft ANSI C63.8, “American National Standard for Guidance on Specifying Requirements for the Calibration and Verification of EMC Test Equipment,” has now been designated draft C63.34. Additionally, draft C63.32,” American National Standard for Evaluating Immunity of Portable Electronic Medical Devices to Electronic Article Surveillance (EAS) Systems and Metal Detectors,” has become draft C63.33. This section will be updated accordingly. (See Action Item 20210621-6)

6. **Other Old Business.**

6.1 **Written Reports** – Mr. Shellman stated that the SC2 report will be provided after the Fall meeting.

6.2 **Coordination with SC2 for definitions** - Mr. Shellman reiterated the SC requirement for timely actions for coordination with SC2 on their terms and definitions, particularly considering the issues with C63.24.

6.3 **Coordination with SC3 for Harmonization** – Mr. Shellman noted that SC2 received several International Standards Comparison Study write-ups from SC3 after the last meeting. He requested of the SC3 chairman that going forward these studies be submitted to SC2 as soon as they are finalized, for incorporation to the .28 draft.

7. **New Business.** None.

8. **C63® SC2 Website Status.** Mr. Dilay had previously reported that he has been unable to access the computer needed to get to the SC2 member website and update the files. He does have all the files and will implement the updates as soon as he has access.

9. **Action Item Review.**

9.1. **Newly assigned actions appear below:**

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
20210621-1	Provide Jerry Ramie with the approved SC2 agenda from today's meeting and the approved minutes from the 09 March 2021 meeting.	Mr. Duncanson		06/28/21	
20210621-2	Correct the SC2 meeting attendance log in the agenda to reflect surrogate representation of the SC1 Chair by Janet O'Neil.	Mr. Duncanson		06/28/21	
20210621-3	Submit proposed versions of edits to the SC2 Scope to members for review, discussion, and a potential vote, prior to the next meeting.	Mr. Shellman		09/08/21	
20210621-4	Reach out to Jennifer Santulli for IEEE resolution of the copyright release issues concerning SAE J551-1, ANSI C63.14 and ANSI C63.19.	Mr. Duncanson		06/28/21	
20210621-5	Provide Mike Duncanson with the updated terms and definitions in draft ANSI C63.25.2 upon availability, for SC2 coordination.	Mr. Delisi		ASAP	
20210621-6	Update section 5.3 of the SC2 agenda to: Replace C63.8 with C63.34; Replace C63.32 with C63.33.	Mr. Duncanson		06/28/21	

9.2. **Action Items from the previous meeting appear below:**

AI #	<u>ACTION ITEM</u>	<u>Disposition</u>
20200624-4	Mr. Duncanson to explore the placement of all IEEE / C63® definitions preparation criteria on the C63® website with the standards development support materials.	OPEN
20200929-6	Mr. Duncanson to reach out to Jerry Ramie to determine update status of the status of C63 standards page on the C63 Website.	CLOSED
20210309-1	Mr. Shellman to provide Jerry Ramie with the approved SC2 agenda from today's meeting.	CLOSED
20210309-2	Mr. Shellman to provide Jerry Ramie with the SC2 Scope, Duties and Membership approved at today's meeting.	CLOSED

AI #	<u>ACTION ITEM</u>	<u>Disposition</u>
20210309-3	Mr. Shellman to take up for discussion with SC2 potential expansion of the SC2 Scope, to include US Federal Government agencies.	CLOSED
20210309-4	Mr. Duncanson to provide Bob Delisi with the proposed C63.24 definitions for, “in situ immunity testing,” and, “on site immunity testing.”	CLOSED
20210309-5	Mr. Duncanson to update section 5.3 of the SC2 agenda to: Remove C63.22; add C63.25.3 to SC1; and add C63.32 to SC8.	CLOSED
20210309-6	Mr. Shellman to forward latest SC3 standards comparison reports to Chris Dilay for incorporation to draft C63.28.	CLOSED

9.3. **C63® Newsletter Input.** Preparation of the newsletter input is pending outcome of the October Steering Committee meeting. Input will be provided to Mr. Hoolihan assuming the decision to publish by the end of the year.

10. **Time and place of next meeting.** The next SC2 meeting is scheduled for 14 September 2021 to be held via WebEx.
11. **Adjournment.** The SC2 meeting was successfully completed as scheduled. The chairman adjourned the meeting at 1400.

Attachment 1

SC2 Meeting Attendance List (21 June 2021)

ANSI C63® WebEx

NAME	TITLE	EMAIL
Marcus Shellman	Chair, SC2	marcus.shellman.civ@mail.mil
Chris Dilay	Vice Chair, SC2	christopher.a.dilay.civ@us.navy.mil
Michael Duncanson	Secretary, SC2	michael.duncanson@amentum.com
Ross Carlton	Chair, SC3	Ross.Carlton@ets-lindgren.com
Bob Delisi	Chair, SC4	bob.delisi@ul.com
Jason Coder	Chair, SC7	jason.coder@nist.gov
Janet O’Neil	Member	j.n.oneil@ieee.org

Attachment 2

C63[®] Accredited Standards Committee C63[®]

Electromagnetic Compatibility

Subcommittee 2: E3 Terminology Definitions and Best Practices

Chair: Marcus Shellman **Vice Chair: Chris Dilay** **Secretary: Michael Duncanson**

June 21, 2021; 1:00 PM - 2:00 PM - EST

ANSI C63[®] WebEx

Meeting Agenda

1. Call to Order: Chair

1.1 Announcements: Chair's remarks

1.2 Meeting logistics announcements: Host

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** (insert [SC2 membership roster](#) from the website as shown below)

Subcommittee 2 Membership Roster

Name	Role in SC	Affiliation
Marcus Shellman	Chair Subcommittee 2	DoD-Joint Spectrum Center (JSC)
Chris Dilay	Vice Chair Subcommittee 2	Naval Information Warfare Center, Pacific
Michael Duncanson	Secretary Subcommittee 2	DoD-Joint Spectrum Center (JSC)
Dan Hoolihan	C63 [®] Chair	Hoolihan EMC Consulting
Zhong Chen	Chair Subcommittee 1	ETS - Lindgren
Ross Carlton	Chair Subcommittee 3	ETS - Lindgren
Bob DeLisi	Chair Subcommittee 4	Underwriters Laboratories
Ed Hare	Chair Subcommittee 5	ARRL
Randy Long	Chair Subcommittee 6	ANSI National Accreditation Board
Jason Coder	Chair Subcommittee 7	NIST
Stephen Berger	Chair Subcommittee 8	TEM Consulting
Janet O'Neil	Member	ETS - Lindgren

Guests and Observers: (non-voting)

1.4 Quorum: (50% of roster + 1) constitutes a quorum. (rounding down) **(Example:** 9 roster members / 2 = 4.5 + 1 = 5.5 (therefore 5 people are required for a quorum) **Was quorum achieved? (Yes/No)** 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)

2. Approval of the Agenda: Secretary

2.1 Approval of the previous Minutes - [Minutes of the previous meeting](#)

2.2 Review of the [patent slides](#)

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

3.1 Review of Membership Guidelines: Secretary

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	Role	05/01/2019	11/19/2019	06/24/2020	09/29/2020	12/08/2020	03/09/2021
Marcus Shellman	SC2 Chair	X	X	X		X	X
Chris Dilay	SC2 Vice-Chair	X	X	X	X	X	X
Michael Duncanson	SC2 Secretary	X	X	X	X	X	X
Dan Hoolihan	C63 Chair	X	X	X	X	X	X
Zhong Chen	SC1 Chair		X				
Ross Carlton	SC3 Vice-Chair	X	X			X	
Bob DeLisi	SC4 Chair		X	X	X	X	X
Ed Hare	SC5 Chair	X	X	X	X	X	
Randy Long	SC6 Chair	X	X	X	X	X	
Jason Coder	SC7 Chair			X	X	X	X
Stephen Berger	SC8 Chair						
Janet O'Neil	Member	X	X	X			X

Any members at risk? These members are at risk: (send letter to each member at risk)

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

4. Display of the [Scope and Duties](#) (Approved at the March meeting)

Scope: E3 Terminology, Definitions, and Best Practices

Subcommittee 2 (SC2) is responsible for developing electromagnetic environmental effects (E3) terminology for C63® publications and harmonizing the use of E3 terms with U.S. military and international standardization bodies. SC2 is also responsible for developing guidelines and best practices for application of C63®, other commercial, and U.S. military E3 standards.

Duties:

- (1) ANSI C63.14, "American National Standard Dictionary of Electromagnetic Compatibility (EMC) including Electromagnetic Environmental Effects (E3) "
- (2) ANSI C63.28, "American National Standard Guide to Best Practice Methodologies, Processes, and Procedures for Electromagnetic Compatibility (EMC)."

4.1 Election of Officers – No action required at this time.

- **Marcus Shellman, SC2 Chairman (12/31/2023)**
- **Chris Dilay, SC2 Vice Chairman (12/31/2023)**
- **Michael Duncanson, SC2 Secretary (12/31/2023)**

5. 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.

5.1 C63.14 – Definitions - Duncanson (insert link to [WG report](#).) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-C63® Secretary.

Is this information correct? (Yes/No) (repeat this verification for all Standards covered by this Subcommittee)

5.2 C63.28 – Best Practices for Electromagnetic Compatibility - Dilay (insert link to [WG report](#).) Verify accuracy of document [status matrix](#) content and report any errors to the ASC-C63® Secretary.

Is this information correct? (Yes/No) (repeat this verification for all Standards covered by this Subcommittee)

5.3 ASC-C63® Subcommittees & EMC Standards Projects

SC1: C63.2, C63.4, C63.5, C63.7, C63.23, C63.25.1, C63.25.2, C63.25.3

SC2: C63.14, C63.28

SC3: C63.12

SC4: C63.10, C63.26, C63.29, C63.30, C63.31

SC5: C63.9, C63.15, C63.16, C63.24

SC6: C63.8

SC7: C63.17, C63.27

SC8: C63.18, C63.19, C63.32

6. Other Old Business: Chair

6.1 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](#).

6.2 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.

6.3 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 evaluation and coordination of any harmonization effort.

7. New Business: C63® Chair discussion of the committee's name change and accreditation process.

8. C63.org website use and updates: Secretary - We normally post documents to the [SC2 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: Secretary - (read Action Items to Members, who must agree that they understand their meaning)

9.2 Review of Action Items from previous meeting: Secretary - (insert consolidated Action Item table from the previous meeting Minutes as shown below)

Consolidated Action Items from previous Meetings of SC2

#	<u>ACTION ITEM</u>	<u>Disposition</u>
20200624-4	Mr. Duncanson to explore the placement of all IEEE / C63® definitions preparation criteria on the C63® website with the standards development support materials.	06/21/2021
20200929-6	Mr. Duncanson to reach out to Jerry Ramie to determine update status of the status of C63 standards page on the C63 Website.	06/21/2021
20210309-1	Mr. Shellman to provide Jerry Ramie with the approved SC2 agenda from today's meeting.	06/21/2021
20210309-2	Mr. Shellman to provide Jerry Ramie with the SC2 Scope, Duties and Membership approved at today's meeting.	06/21/2021
20210309-3	Mr. Shellman to take up for discussion with SC2 potential expansion of the SC2 Scope, to include US Federal Government agencies.	06/21/2021

#	<u>ACTION ITEM</u>	<u>Disposition</u>
20210309-4	Mr. Duncanson to provide Bob Delisi with the proposed C63.24 definitions for, “in situ immunity testing,” and, “on site immunity testing,”	06/21/2021
20210309-5	Mr. Duncanson to update section 5.3 of the SC2 agenda to: Remove C63.22; add C63.25.3 to SC1; and add C63.32 to SC8.	06/21/2021
20210309-6	Mr. Shellman to forward latest SC3 standards comparison reports to Chris Dilay for incorporation to draft C63.28.	06/21/2021

9.3 Review Newsletter input: The SC Presentation and any written report shall also be sent by the Subcommittee Chair to the ASC-C63® [Newsletter editor](#).

10. Time and place of next meeting: Chair

11. Closing remarks and Adjournment: Chair

***** End of Meeting

Consolidated Action Items from today's Meeting of SC2

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
20210621-1					

Attachment 3

SC2 Membership List

Chairman – Marcus Shellman
ASC C63[®] / SC2 Membership Roster

NAME	TITLE	EMAIL
Mr. Marcus Shellman	Chair, SC2 (WG1/WG2)	marcus.shellman.civ@mail.mil
Mr. Chris Dilay	Vice Chair, SC2 (WG1/WG2)	christopher.a.dilay.civ@us.navy.mil
Mr. Michael Duncanson	Secretary, SC2 (WG1/WG2)	michael.duncanson@amentum.com
Mr. Dan Hoolihan	Chair, C63 [®]	danhoolihanemc@aol.com
Mr. Zhong Chen	Chair, SC1	zhong.chen@ets-lindgren.com
Mr. Ross Carlton	Chair, SC3	Ross.Carlton@ets-lindgren.com
Mr. Bob Delisi	Chair, SC4	bob.delisi@ul.com
Mr. Ed Hare	Chair, SC5	W1RFI@arrl.org
Mr. Randy Long	Chair, SC6	rlong@anab.org
Mr. Jason Coder	Chair, SC7	jason.coder@nist.gov
Mr. Stephen Berger	Chair, SC8	stephen.berger@ieee.org
Ms. Janet O'Neil	Member	j.n.oneil@ieee.org