Meeting Minutes
Accredited Standards Committee (ASC) C63[®]
Electromagnetic Compatibility
SUBCOMMITTEE 2 – E3 Terminology Definitions and EMC Best Practices

Tuesday, 08 November 2022, 1300, to 1430 EST
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 to 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 Secretary 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 with identified minor edits was approved by voice vote.

    2.1. **Approval of the Previous Minutes:** Mr. Shellman called for a review of the minutes of the previous meeting. He stepped through minutes of the SC2 meeting held on 17 May 2022 via WebEx, addressing areas of significance. A motion to approve the minutes of the September meeting was passed via voice vote. The approved agenda and minutes will be provided to Jerry Ramie for posting to the C63® website. (See Action Item 20221108 - 1)

    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 C63® website, asking whether any changes were needed. It was noted that the Chair of SC6 is now Doug Kramer from Apple. The identified change will be provided to Jerry Ramie for posting to the C63® website. (See Action Item 20221108 – 2)

    3.2. **Members at Risk.** He displayed the member attendance log, noting that based on today's attendance and in acknowledgement of Steve Berger's status, there are no members at risk. Jason Coder, Chair of SC7 is represented at today's meeting by Jeff

Silberberg. Doug Kramer, Chair of SC6 is represented at today's meeting by Randy Long.

3.3. **Consideration of new members.** Mr. Shellman noted confirmation of new member Harry Hodes, who's application for membership was approved at the 17 May SC2 meeting and approved by the C63® Main Committee. No new applications for membership have been received since the last meeting. The SC2 membership list appears as Attachment 3.

4. **Display of Scope and Duties.** Mr. Shellman displayed the SC2 Scope and Duties, modifications to which were approved by SC2 at the 17 May meeting and received final approval by the C63® Main Committee.

4.1 **Election of Officers.** Mr. Shellman noted the current SC2 officers, himself as SC2 Chair and Mike Duncanson as SC2 Secretary and Chair of WG1, are affirmed through December 2023. A vacancy remains at the Vice-chair position.

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. He reported that all edits to draft .14 resulting from the ballot period that ended in April 2021 have been completed and the document is ready for a recirculation ballot. In other business impacting the balloting of .14, he addressed efforts dating back to 2019 to get 20 new terms and definitions from draft .4 into .14 and the C63® Steering Committee request for suspense of .14 balloting until the .4 terms and definitions could be published. He noted, however, that by all indications the balloting of .4 remains some ways away. The C63.4 WG has stated in fact that draft C63.25.2 needs to be balloted prior to C63.4 for harmonization purposes, further complicating the timeline for draft .14. He stated that given the situation a mutually acceptable remedy was sought by WG1 that would allow resumption of the .14 schedule.

He reported that a potential solution has been found in the C63® rules for terms and definitions development. He displayed the C63® flowchart for definitions development which details the paths by which new terms and definitions are eligible for inclusion in draft .14. Clearly indicated is the eligibility of those developed by the C63® in coordination with SC2. Mr. Duncanson recommended that the way the definitions in question were developed meets the rules criteria and should be allowed to remain in draft .14, developed by the C63®.   He noted that the drawback of the decision would be omission of the attributions to draft C63.4. After additional discussion, it was agreed the idea presented a workable path out of the situation. It was also agreed a determination is needed that no updates or changes have taken place to the draft .4 definitions since their 2019 entry into draft .14. Mr. Duncanson took an action to provide the terms and definitions to SC1 for comparison. Mr. Chen agreed to review them and respond to SC2 with any changes. Mr. Shellman called for a motion to accept the draft .4 terms and definitions without attribution, as developed by C63®. The motion passed by voice vote. (See Action items 20221108 – 3 & 4)

Mr. Duncanson continued the report with the status of SC2 coordination with other subcommittees on their terms and definitions citing recent initial reviews of draft C63.9 and draft C63.25.2. Mr. Delisi informed the group that definitions from draft C63.26 will be submitted to SC2 for review shortly. Mr. Duncanson concluded the report recapping the status the status of .14 and the way ahead to BSR 9 balloting. In addition, he reported anticipated coordination with SC1, SC4 and SC5 on the terms and definitions in draft C63.9, C63.25.2 and C63.26.

5.2. **Working Group 2 Report.** Mr. Shellman reported there has been no WG2 activity since the Spring of 2021. He stated that Mr. Dilay has indicated he may be returning to C63® but has given no indication of when that might be. Mr. Shellman inquired whether it would be appropriate to suspend or withdraw the C63.28 PINS. Mr. Hoolihan stated that withdrawal would be the only real option. He wondered, however, if we could get a more definitive status on Mr. Dilay's potential return and discuss it at the next meeting. Mr. Shellman agreed and took an action to contact Mr. Dilay and report back on his return status. It was agreed that the .28 PINS should remain active in the meantime. (See Action Item 20221108 – 5)

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. No new updates were identified.

6. **Other Old Business**.

6.1 **Written Reports** – Mr. Shellman stated that the SC2 meeting report will be prepared for the Main Committee meeting.

6.2 **Coordination with SC2 for definitions** - Mr. Shellman noted the earlier discussion and reiterated the SC requirement for timely actions for coordination with SC2 on their terms and definitions.

6.3 **Coordination with SC3 for Harmonization** – Mr. Shellman noted the responsibility of all subcommittees to coordinate SC3 as well, for international harmonization.

7. **New Business.** None.

8. **C63® SC2 Website Status.** Mr. Duncanson reported he has been in touch with Mr. Ramie about assistance in updating the website content and that while the site appears mostly up to date, updates to the content are underway. Mr. Ramie offered training to SC2 members on the FileZilla FTP application to facilitate uploading of new content.

9. **Action Item Review.**

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

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

20221108 - 1	Provide Jerry Ramie with the approved SC2 agenda from the 11/08/2022 meeting and the approved minutes from the 17 May 2022 meeting.	Mr. Duncanson		05/10/2023	
20221108 - 2	Provide Jerry Ramie with a correction to the SC2 membership to show Doug Kramer, Apple as the chair of SC6.	Mr. Duncanson		05/10/2023	
20221108 - 3	Provide SC1 with the 20 terms and definitions in draft C63.14 sourced from draft C63.4 for review, to ensure they are identical to those in the current version of draft .4.	Mr. Duncanson		05/10/2023	
20221108 - 4	Conduct SC1 review of the draft .14 terms and definitions sourced from draft .4. Provide any updates / modifications of those terms and definitions as they appear in the current .4 draft to Mike Duncanson for updating of draft .14.	Mr. Chen		05/10/2023	
20221108 - 5	Reach out to Mr. Chris Dilay for a determination of the likelihood and potential timeframe for his return to C63®, to inform the way ahead for draft C63.28.	Mr. Shellman		05/10/2023	

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

AI #	ACTION ITEM	Disposition
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** (for content decisions)
20210621-5	Mr. DeLisi to provide Mike Duncanson with the updated terms and definitions in draft ANSI C63.25.2 upon availability, for SC2 coordination.	**CLOSED**
2022517 - 1	Mr. Duncanson to provide Jerry Ramie with the approved SC2 agenda from the 5/17/2022 meeting and the approved minutes from the 14 September 2021 meeting.	**CLOSED**
2022517 - 2	Mr. Shellman to reach out to Randy Long to inform him of his attendance record and request he provide a an SC6 member to represent him if he is unable to attend the next meeting.	**CLOSED**
2022517 - 3	Mr. Hoolihan to explore new language for C63® Procedures to address pertinent aspects of policy for SC Chair surrogates who attend SC2 meetings.	**CLOSED** (Moved to the C63® Steering Committee.)
2022517 - 4	Mr. Hodes to research, using IEC Electropedia or other sources, definitions for "reflected power," and "net power."	**OPEN**
2022517 - 5	Mr. Duncanson to reach out to Jerry Ramie for assistance in updating and maintaining the SC2 member website.	**OPEN**

9.3. C63® **Newsletter Input.** Mr. Hoolihan stated that the decision was made to publish the newsletter once a year to be distributed at the IEEE Symposium and that inputs

would be gathered after the Spring meeting. Mr. Shellman stated that SC2 input would be provided after the Spring meeting.

10. **<u>Time and place of next meeting.</u>** Mr. Hoolihan noted that the new C63® Chairman, to be elected at the Main Committee meeting on Thursday, will be choosing the time and place of the next meeting.

11. **<u>Adjournment</u>.** The SC2 meeting was successfully completed as scheduled. The chairman adjourned the meeting at 1430 EST.

<u>Attachment 1</u>

SC2 Meeting Attendance List (08 November 2022)
ANSI C63® WebEx

NAME	TITLE	EMAIL
Marcus Shellman	Chair, SC2	marcus.shellman.civ@mail.mil
Michael Duncanson	Secretary, SC2	michael.duncanson@validatek.com
Dan Hoolihan	Chair, C63®	danhoolihanemc@aol.com
Zhong Chen	Chair, SC1	zhong.chen@ets-lindgren.com
Ross Carlton	Chair, SC3	ross.carlton@outlook.com
Bob DeLisi	Chair, SC4	bob.delisi@ul.com
Ed Hare	Chair, SC5	W1RFI@arrl.org
Doug Kramer*	Chair, SC6	dkramer2@apple.com
Jason Coder**	Chair, SC7	jason.coder@nist.gov
Harry Hodes	Member	hhhodes@yahoo.com
Randy Long	Member, SC6	rlong@anab.org
Jeffrey Silberberg	Member, SC7	Jeffrey.silberberg@fda.hhs.gov
Jerry Ramie	Guest	jramie@arctechnical.com
Steve Anderson	Guest	W1EMI@arrl.org
Ken Gjerde	Guest	ken_gjerde@starkey.com
Jeremy Cline	Guest	jeremy.cline@rsa.rohde-schwarz.com

*Doug Kramer was represented by Randy Long.
**Jason Coder was represented by Jeffery Silberberg.

C63® American National Standards Committee C63®

Electromagnetic Compatibility

Subcommittee 2: E3 Terminology Definitions and Best Practices

Chair: Marcus Shellman   Vice Chair: Vacant   Secretary: Michael Duncanson

November 8, 2022; 1:00 PM - 2:30 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)
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
Harry Hodes	Member	Individual Member

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	09/29/2020	12/08/2020	03/09/2021	06/21/2021	09/14/2021	05/17/2022
Marcus Shellman	SC2 Chair		X	X	X		X
Michael Duncanson	SC2 Secretary	X	X	X	X	X	X
Dan Hoolihan	C63 Chair	X	X	X			X
Zhong Chen	SC1 Chair			X*	X*		
Ross Carlton	SC3 Vice-Chair		X		X		
Bob DeLisi	SC4 Chair	X	X	X	X	X	X
Ed Hare	SC5 Chair	X	X				X
Randy Long	SC6 Chair	X	X				
Jason Coder	SC7 Chair	X	X	X	X	X	X
Stephen Berger	SC8 Chair						
Janet O'Neil	Member			X	X		
Harry Hodes	Member						X

* The SC1 Chair was represented by Janet O'Neil.

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](#)

Subcommittee 2 (SC2) to consider the application of Harry Hodes for SC2 membership as an individual member. SC2 will vote to recommend Mr. Hodes' application for confirmation by the C63 Main Committee.

4. Display of the [Scope and Duties](#)

Scope: E3 Terminology, Definitions, and Best Practices

Subcommittee 2 (SC2) is responsible for developing and maintaining electromagnetic environmental effects (E3) definitions and terminology for C63® publications and harmonizing their usages with DoD and other federal government agencies, national, and international standardization bodies. SC2 is also responsible for developing best practices for stakeholder's application of C63® standards during product design, development, test, and installation to optimize electromagnetic compatibility (EMC).

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)**
- **SC2 Vice Chairman (Vacant)**
- **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 - Shellman (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: C63.34
SC7: C63.17, C63.27
SC8: C63.18, C63.19, C63.33

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: Chair

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

#	ACTION ITEM	Disposition
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.	11/08/2022
20210621-5	Mr. DeLisi to provide Mike Duncanson with the updated terms and definitions in draft ANSI C63.25.2 upon availability, for SC2 coordination.	11/08/2022
20220517-1	Mr. Duncanson to provide Jerry Ramie with the approved SC2 agenda from the 5/17/2022 meeting and the approved minutes from the 14 September 2021 meeting.	11/08/2022
20220517-2	Mr. Shellman to reach out to Randy Long to inform him of his attendance record and request he provide a an SC6 member to represent him if he is unable to attend the next meeting.	11/08/2022
20220517-3	Mr. Hoolihan to explore new language for C63® Procedures to address pertinent aspects of policy for SC Chair surrogates who attend SC2 meetings.	11/08/2022
20220517-4	Mr. Hodes to research, using IEC Electropedia or other sources, definitions for "reflected power," and "net power."	11/08/2022
20220517-5	Mr. Duncanson to reach out to Jerry Ramie for assistance in updating and maintaining the SC2 member website.	11/08/2022

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
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Consolidated Action Items from today's Meeting of SC2

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
20221108-1					

<u>Attachment 3</u>

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
Vacant	Vice Chair, SC2	n/a
Mr. Michael Duncanson	Secretary, SC2 (WG1/WG2)	michael.duncanson@validatek.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@outlook.com
Mr. Bob DeLisi	Chair, SC4	bob.delisi@ul.com
Mr. Ed Hare	Chair, SC5	W1RFI@arrl.org
Mr. Doug Kramer	Chair, SC6	dkramer2@apple.com
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
Mr. Harry Hodes	Member	hhhodes@yahoo.com