

Approved Meeting Minutes
ANSI-Accredited Standards Committee C63[®]
Electromagnetic Compatibility
SUBCOMMITTEE 2 – E3 Terminology Definitions and EMC Best Practices

Wednesday, 29 September 2020, 1300 to 1430
ANSI C63[®] WebEx

1. **Call to Order.** Mr. Chris Dilay, SC2 Vice-Chairman, called the meeting to order.
 - 1.1. **Opening Remarks:** Mr. Dilay welcomed everyone noting that he would be running the meeting in the absence of the Chair, Mr. Marcus Shellman, who was unable to attend.
 - 1.2. **Meeting Logistics Announcements:** He addressed meeting arrangements and for the WebEx.
 - 1.3. **Introductions:** The Secretary 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 not been met. It was determined that the meeting should proceed with any motions or votes taken deemed informal unless additional members join the meeting to satisfy quorum requirements.

2. **Review and Adoption of the Agenda.** Mr. Dilay presented the agenda, highlighting key areas of significance for the meeting. Motion to approve the agenda as written was passed by voice vote. See Attachment 2. The approved agenda will be provided to Jerry Ramie. (see Action Item 20200929 -1)
 - 2.1. **Approval of the Previous Minutes:** Mr. Dilay displayed the previously approved minutes of the SC2 meeting held on 24 June 2020 via WebEx. Mr. Hoolihan noted that a report in the June minutes that Mr. Stephen Berger should be removed from the roster as SC8 Chair was premature. Mr. Berger has recovered from his illness and resumed his role with SC8. Mr. Dilay made the immediate change to the SC2 roster in the agenda to reflect the update.
 - 2.2. **Review of the Patent Slides:** The C63[®] Patent Policy slides were not available for review. In their absence Mr. Hoolihan and Mr. Dilay discussed the patent rules and solicited information from attendees about any knowledge

of patent related issues. There were no objections to the patent policy, nor issues raised.

3. **Review of Subcommittee Membership.**

3.1. **Membership.** Mr. Dilay displayed the SC2 membership, inquiring as to whether the chair of SC3 still remains vacant in Don Heiman's absence. Mr. Hoolihan stated that Ross Carlton, ETS Lindgren has been voted in as Vice-chair of SC3. Mr. Dilay took the action to provide Jerry Ramie with the needed membership list changes. (See Action Item 20200929-2)

3.2. **Members at Risk.** The Vice-chair displayed the Member Attendance Log, which highlights members at risk. He noted that there are no members at risk at this time.

3.3. **Consideration of new members.** The Vice-chair addressed the consideration of new members for SC2 stating no new applications for membership have been received. No new members have been added to the SC2 roster at this time. He did note, however, that changes previously submitted for the update of the WG1 and WG2 areas of the C63[®] Website for C63.14 and C63.28 have not been implemented. He took an action to follow-up with Jerry Ramie. The SC2 membership list appears in attachment 3. (See Action Item 20200929-3)

4. **Approval of Membership, Scope and Duties.** The Vice-chair noted the SC2 Scope and Duties were approved at the 24 June meeting. No action is needed at this time.

4.1 **Election of Officers.** While no action is required at this time, Mr. Dilay noted that the election of all SC2 officers will be due at the December meeting.

5. **SC2 Status and Working Group Reports.**

5.1. **Working Group 1 Report.** Mr. Duncanson provided an update of WG1 activities since the last meeting and provided an update to ballot activities for draft ANSI C63.14-20XX, "American National Standard Dictionary of Electromagnetic Compatibility (EMC) including Electromagnetic Environmental Effects (E3)." He updated the subcommittee on the status of the MEC review, stating that after a 22 July SC2 submission of responses to the IEEE review, SC2 is still awaiting a response from the IEEE. He took an action at the urging of Mr. Hoolihan to reach out to the IEEE editor, Lisa Perry to expedite obtaining the document's status. (See Action Item 20200929-4)

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, in line with coordination efforts for the next update of .14, that SC2 has begun looking at drafting a new PINS. Mr. Hoolihan cautioned against creating the situation where the subcommittee has two active PINS on the same standard. Mr. Duncanson assured that this PINS is in the very preliminary stages and the current draft .14 will be published prior to establishing a new PINS. He reported on coordination with SC4 in the review of definitions in draft C63.30-20XX. Additionally, coordination is underway with SC5 on definitions from draft C63.24. Coordination is also anticipated with SC6 with definitions in draft C63.8. He concluded the report with a recap of draft .14 status and reiterated the publish date for C63.14, anticipated to be by the end of the calendar year.

5.2. **Working Group 2 Report.** Mr. Dilay provided a status update for draft ANSI C63.28-20XX, "Best Practice Methodologies, Processes, and Procedures for Electromagnetic Compatibility (EMC)." He displayed the "Scope" and the "Purpose" of the document noting that these have not changed with the current version of the draft. He showed the WG2 membership as it appears on the C63[®] website and highlighted some affiliation changes. The status of Harry Hodes' participation is still in question at present. Mr. Dilay reported Harry has determined that NASA will not be supporting his continued C63[®] participation. He may decide to stay on as an individual member. He recognized Karen Burnham as a new member whose participation has been valuable to the WG. He also recognized Ross Carleton, who has been participating, but has not yet confirmed his desire to be a regular WG member.

Mr. Dilay went on to provide the status of draft C63.28. He stated that the focus of recent efforts has been on current revision 1.38. He reported that the WG had undertaken a detailed CRM review for the entire document and dispositions for all comments are being incorporated into new revision 1.4, the focus of which was a clean-up of the verbiage in the document as opposed to creating new content. The new version should represent significant progress over the previous versions. He anticipated the next draft will be available for the next WG2 meeting scheduled for 16 October.

He stated the document currently consists of 11 clauses, 9 in progress with initial drafts that are included in the latest revision, and 2 that still require initial drafts or significant input prior to inclusion in the document. He displayed the table of contents of the standard and addressed the areas in the draft where assistance is still needed, focusing on the sections addressing "Product EMC Design Considerations," Test Instrumentation," and Annex B which addresses results of the SC3 International Standards Comparison Study and from whom additional comparison results were

expected by this time. He anticipates working closely with Ross Carleton to obtain the needed comparison studies.

Mr. Dilay concluded his report reiterating the need for volunteers to assist in the development of several sections and the need for subcommittees to provide inputs for each published standard as applicable to various sub-clauses of the document.

5.3. **ASC-C63® Subcommittees & EMC Standards Projects.** Mr. Dilay addressed the table in section 5.3, recently updated in accordance with comments from the last meeting and inquired of the need for any additional changes. Mr. Hoolihan wondered if C63.32 should be added to projects under SC8. Mr. Dilay took an action to reach out to SC8 for confirmation. Mr. Duncanson asked about the status of C63® standards page on the C63® website and whether it had been updated recently. He took an action to address the inquiry to Jerry Ramie. (See Action Items 20200929-5 and 6)

6. **Other Old Business.**

6.1 **Written Reports** – Mr. Dilay inquired as to whether there are plans to publish the C63® Newsletter in the near future. Mr. Hoolihan stated that’s a subject he intends to address at the October Steering Committee meeting. At present plans are to publish a Newsletter by the end of the calendar year.

6.2 **Coordination with SC2 for definitions** - Mr. Hare raised the issue of SC5 coordination with SC2 regarding draft C63.24. He noted confusion in the way some SCs interpret their responsibility to coordinate definitions. In the case of .24, he cited instances of definition wording slightly different from what is existing in .14 creating a variety of similar definitions where only the one established should be used. He urged SC2 to address .24 discrepancies in the ballot process, time permitting. Mr. Hoolihan agreed citing confusion about the responsibility to “coordinate,” versus gaining approval. He stated this is another topic he intends to address at the upcoming Steering Committee meeting.

7. **New Business.** None.

8. **C63® SC2 Website Status.** Mr. Dilay stated that the SC2 member website would be brought up to date following this meeting.

9. **Action Item Review.**

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

20200929 -1	Provide Jerry Ramie with the	Mr. Dilay		ASAP	
Action Item #	Subject SC2 agenda from today’s meeting.	Responsible Person(s)	Status	Delivery Date	Comments

20200929-2	Provide Jerry Ramie with SC2 membership list changes; to reinstate Stephen Berger as chair of SC8, and add Ross Carlton, ETS Lindgren, Vice-Chair of SC3, in Don Heirman's role representing SC3.	Mr. Dilay		ASAP	
20200929-3	Follow-up with Jerry Ramie about updates previously submitted for the update of the WG1 and WG2 areas of the C63® Website	Mr. Dilay		ASAP	
20200929-4	Reach out to Lisa Perry, the IEEE Editor to determine the ballot status of C63.14.	Mr. Duncanson		12/08/2020	
20200929-5	Reach out to SC8 to determine if C63.32 is a development project that should be listed in section 5.3 of the SC2 agenda.	Mr. Dilay		12/08/2020	
20200929-6	Reach out to Jerry Ramie to determine update status of the status of C63 standards page on the C63 Website.	Mr. Duncanson		12/08/2020	

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

AI #	<u>ACTION ITEM</u>	<u>Disposition</u>
20191119-4	Mr. Dilay to provide Jerry Ramie with SC2 WG2 membership list change to add Dave Schaefer to the roster.	CLOSED
20191119-5	Mr. Dilay to reach out to Rohde & Schwarz ANSI C63® members for assistance in development of the C63.28 clause addressing "test instrumentation."	OPEN
20200624-1	Mr. Shellman to provide Jerry Ramie with the approved SC2 agenda from today's meeting.	CLOSED
20200624-2	Mr. Shellman to provide Jerry Ramie with SC2 membership list changes to remove Stephen Berger as chair of SC8, Don Heirman as chair of SC3 and Harry Hodes from SC2 membership.	CLOSED
20200624-3	Mr. Duncanson to provide the proposed WG1 IEEE MEC review definitions resolutions to the full SC2 for review and concurrence.	CLOSED
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
20200624-5	Mr. Dilay to reach out to Harry Hodes to determine his status with C63® and SC2, WG2.	CLOSED
20200624-6	Mr. Dilay to reach out to SC3 to determine the availability of new International Standard Comparisons for input to the Annex A of C63.28.	CLOSED
20200624-7	Mr. Duncanson to revise section 5.3 of the SC2 agenda to address all the C63® active standards projects. Delete C63.25 and C63.11 from the table. Add SC2 and C63.14 and 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 08 December 2020 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 (29 September 2020)

ANSI C63[®] WebEx

NAME	TITLE	EMAIL
Chris Dilay	Vice Chair, SC2	chris.dilay@navy.mil
Michael Duncanson	Secretary, SC2	michael.duncanson@amentum.com
Dan Hoolihan	Chair, C63 [®]	danhoolihanemc@aol.com
Ed Hare	Chair, SC5	WIRFI@arrl.org
Randy Long	Chair, SC6	rlong@anab.org
Jason Coder	Chair, SC7	jason.coder@nist.gov

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

September 29, 2020; 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)
Chris Dilay	Vice Chair Subcommittee 2	Naval Information Warfare Center (NIWC), 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
Vacant	Chair Subcommittee 3	
Bob DeLisi	Chair Subcommittee 4	Underwriters Laboratories
Ed Hare	Chair Subcommittee 5	ARRL
Randy Long	Chair Subcommittee 6	ANSI-ASQ National Accreditation Board
Jason Coder	Chair Subcommittee 7	NIST
Vacant	Chair Subcommittee 8	
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	11/08/2017	05/02/2018	11/28/2018	05/01/2019	11/19/2019	06/24/2020
Marcus Shellman	SC2 Chair	x	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	x		x	
Vacant	SC3 Chair	x	x	x	x	x	
Bob DeLisi	SC4 Chair	x	x	x		x	x
Ed Hare	SC5 Chair	x	x	x	x	x	x
Randy Long	SC6 Chair	x		x	x	x	x
Jason Coder	SC7 Chair			x			x
Vacant	SC8 Chair		x	x			
Janet O'Neil	Member	x	x	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 June 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 (Not required at this time.)

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, C63.22, C63.23, C63.25.1, C63.25.2

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

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. **C63.15** has been turned over to SC3 for harmonization.

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 Meeting of SC2

#	<u>ACTION ITEM</u>	<u>Disposition</u>
20191119-4	Mr. Dilay to provide Jerry Ramie with SC2 WG2 membership list change to add Dave Shaefer to the roster.	09/29/2020
20191119-5	Mr. Dilay to reach out to Rohde & Schwarz ANSI C63® members for assistance in development of the C63.28 clause addressing “test instrumentation.”	09/29/2020
20200624-1	Mr. Shellman to provide Jerry Ramie with the approved SC2 agenda from today’s meeting.	ASAP
20200624-2	Mr. Shellman to provide Jerry Ramie with SC2 membership list changes to remove Stephen Berger as chair of SC8, Don Heirman as chair of SC4 and Harry Hodes from SC2 membership.	ASAP
20200624-3	Mr. Duncanson to provide the proposed WG1 IEEE MEC review definitions resolutions to the full SC2 for review and concurrence	09/29/2020
20200624-4	Mr. Duncanson to explore the placement of all IEEE / C63® definitions preparation criteria on the C63® website with the standards	09/29/2020

#	<u>ACTION ITEM</u>	<u>Disposition</u>
	development support materials.	
20200624-5	Mr. Dilay to reach out to Harry Hodes to determine his status with C63® and WG2.	09/29/2020
20200624-6	Mr. Dilay to reach out to SC3 to determine the availability of new International Standard Comparisons for input to the Annex A of C63.28.	09/29/2020
20200624-7	Mr. Duncanson to revise section 5.3 of the SC2 agenda to address all the C63® active standards projects. Delete C63.25 and C63.11 from the table. Add SC2 and C63.14 and C63.28.	09/29/2020

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
20200929-1					

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)	chris.dilay@navy.mil
Mr. Michael Duncanson	Secretary, SC2 (WG1/WG2)	michael.duncanson@amentum.com
Mr. Dan Hoolihan	Chair, C63 [®] (WG2)	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	WIRFI@arri.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
Mr. Victor Kuczynski	Member	vican@on.aibn.com
Ms. Janet O'Neil	Member	j.n.oneil@ieee.org