

Approved Meeting Minutes  
**ANSI-Accredited Standards Committee C63<sup>®</sup>**  
**Electromagnetic Compatibility**

**SUBCOMMITTEE 2 – E3 Terminology Definitions and EMC Best Practices**

**Tuesday, 09 May 2017, 1500 to 1700**  
**A2LA Headquarters, Frederick, MD**

1. **Call to Order.** Mr. Chris Dilay, SC2 Chairman, called the meeting to order.
  - 1.1. Opening Remarks: The chairman welcomed everyone to the meeting and recognized the SC2 officers.
  - 1.2. Meeting Logistics Announcements: The chairman addressed meeting arrangements for the afternoon sessions.
  - 1.3. Introductions: The chairman called for a round of introductions from meeting attendees. The attendee list appears in Attachment 1.
2. **Review and Adoption of Agenda.** The chairman presented the agenda and discussed last minute updates made prior to the meeting. The agenda was approved as written by voice vote. See Attachment 2.
3. **IEEE Patent Policy.** The C63<sup>®</sup> Patent Policy slides were presented as they appear on the C63<sup>®</sup> public website and reviewed as required.
4. **Membership Review.**
  - 4.1. The SC2 membership list was displayed as it appears on the C63<sup>®</sup> public website. He reiterated C63<sup>®</sup> policy that all subcommittee chairs are automatically members of SC2. He addressed members at risk and noted changes to the membership list with regard to several members determined to be at risk who after being contacted asked to be removed. Accordingly, the report to the main committee will reflect removal of Steve Koster, Dave Schaefer, and Steve Whitesell from the SC2 membership list. The updated membership list was approved by voice vote. See Attachment 3. Mr. Jerry Ramie will be notified of the changes for posting on the C63<sup>®</sup> public website. (see Action Item 20170509-1)
  - 4.2. The chairman addressed the consideration of new members for SC2 noting that membership, particularly with regard to the needs of WG2 is currently biased towards

DoD participation. He discussed the need for more industry oriented members to assist with the preparation of draft C63.28, where there is a shortfall of experience with commercial EMC standards and their product applications. In the course of discussion the recommendation was made that the C63® Main Committee should be tapped for potential new members. Mr. Dilay agreed and took an action to distribute a memorandum to C63® Main Committee members to solicit WG2 participation. (see Action Item 20170509-2)

5. **Review and Adoption of Minutes of Previous Meeting.** The chairman called for a review of the SC2 meeting minutes from the meeting held at the Hilton Orange County, Costa Mesa, CA. on 08 November 2016. Mr. Dilay stepped through the minutes highlighting significant areas of discussion. The minutes were approved by voice vote without changes. The minutes will be forwarded to Mr. Jerry Ramie for posting onto the ASC C63® public website and SC2 member webpage.

6. **Action Item Review.** Action items from the previous meeting were reviewed and resolved as shown below:

#	<b><u>ACTION ITEM</u></b>	<b><u>Disposition</u></b>
20161108-1	Mr. Dilay to provide Jerry Ramie with identified updates to the SC2 membership list posted on the C63® website.	Closed
20161108-2	Mr. Dilay to contact all identified SC2 members at risk to determine their intention to remain affiliated with SC2.	Closed
20161108-3	Mr. Dilay to contact Bob DeLisi to determine if ANSI C63.5-2006 definitions that are updated in draft C63.5-20XX should remain in draft ANSI C63.14 20XX.	Closed
20161108-4	Mr. Dilay to contact Sue Vogel to inform IEEE of the fact that the IEEE Xplore, with its option to view a standard's definitions, currently provides ANSI C63.14 2014 content for free to registered users.	Closed
20161108-5	SC Chairs to assist WG2 to identify the most basic commonly used EMC standards for inclusion in the draft C63.28 effort.	Closed
20161108-6	Mr. Dilay to contact Steve Whitesell to determine if he can provide a copy of DO 160G to WG2.	Closed
20161108-7	Mr. Ramie to update the SC2 membership list and other information on the C63® website upon receipt needed changes from Mr. Dilay.	Ongoing
20161108-8	C63® subcommittee chairs to coordinate with SC2 on development of their terms and definitions.	Ongoing

7. **Review of SC2 Title, Scope and Duties.** The chairman displayed the currently approved SC2 Title, Scope and Duties for the subcommittee noting that there have been no new changes to the Scope. Motions to approve the SC2 Scope and Duties, as written, were passed by voice vote.

## 8. **SC2 Status and Working Group Reports**

### 8.1. **Working Group 1 Report.**

8.1.1. Mr. Duncanson provided an update of WG1 activities since the last meeting, beginning with a review of the established SC2 rules for adding new terms and definitions to draft ANSI C63.14-20XX. He displayed the SC2 coordination process and went on to cite the rules for terms and definitions sourced from C63<sup>®</sup> standards, military standards, the treatment of acronyms, C63<sup>®</sup> developed definitions and inputs from international standards.

8.1.1.1. He provided an update status on the SC2 review of draft ANSI 63.5 20XX terms and definitions, initially reported at the last meeting. He reported that a follow-on review of 7 of the proposed definitions was conducted. These definitions essentially update existing definitions in C63.14-2014, attributed to the previous version of .5. He explained that because SC1 stated the desire to retain both definitions in .14, the follow-on review was necessary to ensure that the C63<sup>®</sup> rule to avoid overly duplicative definitions was not violated. He reported that this review determined that five of the seven proposed definitions use almost identical wording and have the same technical meaning as the existing definitions. For these cases WG1 determined that the new definition will replace the existing one in .14, with the rationale that the definition will continue to be consistent for users of standards that reference the .5-2006 version. SC2 members were in agreement with the resolution of the issue and the need to urge SC chairs to consult ANSI C63.14 when drafting their terms and definitions.

8.1.1.2. Mr. Duncanson also provided an update status of SC2 standards coordination and planning based on the schedule of potential 2017 balloting previously provided by Sue Vogel. He reported that as a result of subcommittee responses to WG1 inquiries, reviews have been initiated on the terms and definitions in the drafts of ANSI C63.4a – 20XX and ANSI C63.15– 20XX. Mr. Heirman noted that draft .15 is scheduled for balloting in June and .4a is scheduled for balloting in July necessitating a quick turn-around for WG1 review comments. Mr. Duncanson reported that of the standards on the potential balloting schedule for 2017, subcommittees drafting C63.25, 29, 30 and 31 have yet to respond to the WG1 inquiry into their draft terms and

definitions, noting that coordination attempts will continue. The chairman displayed the schedule for completion of draft ANSI C63.14-20XX, noting that there have been no changes since the last report; publication is anticipated for 2019 with August 2018 as the tentative cut-off date for the incorporation of new definitions to be considered.

- 8.1.2. The chairman displayed the schedule for completion of draft ANSI C63.14-20XX, noting that there have been no changes since the last report; publication is anticipated for 2019 with August 2018 as the tentative cut-off date for the incorporation of new definitions to be considered.
- 8.1.3. Mr. Dilay discussed the ongoing effort to coordinate with the other C63<sup>®</sup> subcommittees on developing and obtaining copyright approvals for their definitions where required.

## 8.2. **Working Group 2 Report: Best Practices Guide**

- 8.2.1. The chairman provided a status update for the draft ANSI C63.28-20XX development effort, stating that the JSC EPS guide will provide the basis for standards comparisons and noting the need for generalized commercial EMC criteria for the Best Practices effort. General contents were shown addressing a description of EMC requirements, the approach to choosing them, EMC design considerations, and standards for comparisons.
- 8.2.2. He stated that requirements will address military and commercial standards though he emphasized that the military side will focus on the NATO harmonized documents, AECTP 250 and 500 series standards which are widely in use. There was discussion about whether the document should address “cost” as an issue in the approach to choosing EMC requirements. Mr. Heirman was quick to point out that IEEE rules demand avoidance of discussing “cost” in standards, as an antitrust issue. It was concluded after discussion that .28 should avoid addressing the topic of project cost savings, even if only in relation to good EMC practices.
  - 8.2.2.1. Mr. Dilay presented a flow diagram that detailed the process for performing gap analyses and assessing risk based on the impact of differences between military and commercial EMC test procedures, limits and test set-up environments. He noted that the WG so far has determined how to handle risks associated with military use of commercial off the shelf (COTS) products, but has not yet determined how to handle analogous issues on the commercial side of EMC compliance.
  - 8.2.2.2. He also alluded to a WG2 action currently underway to poll DoD test laboratories in an effort to gain insight into the types of COTS products that cause the preponderance EMI problems in DoD systems. It is hoped that the results will establish trends in EMI issues versus commercial EMC

compliance standards and aid in targeting specific standards for comparison with MIL-STD-461G. Tailoring of requirements was another area discussed, where it was agreed that tailoring guidance should be provided and military versus commercial considerations need to be contrasted.

8.2.3. Mr. Dilay presented a PowerPoint strawman overview of the project which addressed the PINS, the project need, stakeholders, and the scope of the standard. HE also addressed EMC design considerations for the guide stating that plans are to treat EMC design as a high level subject in the draft with the intent to avoid any detailed guidance. During discussion it was agreed that .28 should not present design guidance; that a sufficient variety of texts on EMC design already exist and are readily available for guidance in the area. It was decided that references to widely recognized texts would be sufficient content to cover the area.

8.2.4. It was agreed that additional C63<sup>®</sup> industry participation is needed to support the proper treatment of these areas (Action Item 20170509-2).

9. **SC2 website maintenance.** Mr. Dilay provided a report on the status of the SC 2 public site, noting that the site is all up to date. Mr. Wojtaszek provided an update on the SC2 member's site with an overview member's area and archived documents.
10. **Old Business.** None identified.
11. **New Business.** None identified.
12. **Action Item Review.** Newly assigned actions appear below:

#	<b><u>ACTION ITEM</u></b>	<b><u>Disposition</u></b>
20170905-1	Mr. Dilay to provide Jerry Ramie with identified updates to the SC2 membership list posted on the C63 <sup>®</sup> website.	ASAP
20170905-2	Mr. Dilay to distribute a memorandum to C63 <sup>®</sup> Main Committee members to solicit WG2 participation.	ASAP
20170905-3	Mr. Ramie to update the SC2 membership list and other information on the C63 <sup>®</sup> website upon receipt needed changes from Mr. Dilay.	Ongoing
20170905-4	C63 <sup>®</sup> subcommittee chairs to coordinate with SC2 on development of their terms and definitions.	Ongoing

13. **C63<sup>®</sup> Newsletter Input.** Mr. Dilay stated that preparation of the newsletter input is pending, but would be provided to Mr. Zimmerman.

14. **Next Meeting.** The next SC2 meeting is scheduled for 6 – 10 November 2017 at ETS Lindgren, San Antonio, TX.

15. **Adjournment.** The SC2 meeting was successfully completed as scheduled. The chairman adjourned the meeting at 1700.

**Attachment 1**

**SC2 Meeting Attendance List (May 09, 2017)  
A2LA Headquarters, Frederick, MD**

<b>NAME</b>	<b>TITLE</b>	<b>EMAIL</b>
Chris Dilay	Chair, SC2	<a href="mailto:chris.dilay@navy.mil">chris.dilay@navy.mil</a>
Marcus Shellman	Vice Chair, SC2	<a href="mailto:marcus.shellman.civ@mail.mil">marcus.shellman.civ@mail.mil</a>
Michael Duncanson	Secretary, SC2	<a href="mailto:michael.duncanson@aecom.com">michael.duncanson@aecom.com</a>
Tomasz Wojtaszek	Web Coordinator, SC2	<a href="mailto:tomasz.wojtaszek@navy.mil">tomasz.wojtaszek@navy.mil</a>
Don Heirman	Chair, SC3	<a href="mailto:d.heirman@ieee.org">d.heirman@ieee.org</a>
Ed Hare	Chair, SC5	<a href="mailto:WIRFI@arri.org">WIRFI@arri.org</a>
Jerry Ramie	Secretary, C63 <sup>®</sup>	<a href="mailto:jramie@arctechnical.com">jramie@arctechnical.com</a>
Jeff Silberberg	Observer	<a href="mailto:jeffery.silberberg@fda.hhs.gov">jeffery.silberberg@fda.hhs.gov</a>

## Attachment 2

### ANSI Accredited Standards Committee C63® Electromagnetic Compatibility Subcommittee 2 – E3 Terminology Definitions

SC 2 Meeting Agenda for – 9 May 2017  
A2LA Headquarters, Frederick, MD

#### Tuesday, 1500-1700 PST

1. Call to order and opening Statement – Chair
  - 1.1 Opening remarks and announcements: (Chair)
  - 1.2 Meeting logistics announcements: (Host)
  - 1.3 Introductions: (Secretary)
2. Approval of the agenda: (Secretary)
3. Presentation of [patent slides](#): (Secretary)
4. Presentation of meeting attendance [fee slides](#): (Secretary)
5. Review of [Subcommittee Membership](#): (Chair)
  - 5.1 Review of Subcommittee 2 membership
  - 5.2 Review of Working Group 1 membership
  - 5.3 Review of Working Group 2 membership
  - 5.4 [Members at risk](#)
  - 5.5 Consideration of new members
6. Approval of [minutes](#) of previous SC2 meeting (Secretary)
7. Review action items of previous SC2 meeting (Secretary)  
(See [Attachment 1](#))
8. Review [SC Title, Scope, Duties](#)
9. SC2 Status and Working Group Reports
  - 9.1 Working Group 1: ANSI C63.14 Revision– Chair: Marcus Shellman
    - 9.1.1 [Current status](#): Review of new draft terms and definitions.
      - 9.1.1.1 Expected C63 Standards [2017 publications list](#)
    - 9.1.2 ANSI C63.14-2019 development [schedule](#)

**9.1.3 Coordination with other C63 subcommittees on terms/definitions and copyright approvals.**

**9.2 Working Group 2: ANSI C63.28 Draft Best Practices Guide – Chair: Chris Dilay**

**9.2.1 Current status**

**9.2.2 EMC Standards selection for comparison**

**9.2.3 [Strawman overview](#)**

**10. SC2 website maintenance**

**10.1 Public SC2 Web Content Manager (Jerry Ramie)**

**10.2 Member [SC2 Web](#) Content Manager (Tom Wojtaszek)**

**11. Old Business: (Chair)**

**12. New Business: (Chair)**

**13. Review action items from this meeting: (Secretary)**

**14. C63 Newsletter Input (Secretary)**

**15. Time and place of next meeting: (Chair)**

**15.1 Place: TBD, Date: TBD**

**16. Closing remarks and Adjournment: (Chair)**

Current SC2 Officers and web coordinator:

SC2 Chair: Chris Dilay, [chris.dilay@navy.mil](mailto:chris.dilay@navy.mil)

SC2 Vice Chair: Marcus Shellman, Jr., [marcus.shellman.civ@mail.mil](mailto:marcus.shellman.civ@mail.mil)

SC2 Secretary: Mike Duncanson, [michael.duncanson@aecom.com](mailto:michael.duncanson@aecom.com)

SC2 Web Coordinator: Tomasz Wojtaszek, [tomasz.wojtaszek@navy.mil](mailto:tomasz.wojtaszek@navy.mil)



### Attachment 3

#### SC2 Membership List

Chairman – Chris Dilay  
ASC C63<sup>®</sup> / SC2 Membership Roster

<b>NAME</b>	<b>TITLE</b>	<b>EMAIL</b>
Mr. Chris Dilay	Chair, SC2 (WG1/WG2)	<a href="mailto:chris.dilay@navy.mil">chris.dilay@navy.mil</a>
Mr. Marcus Shellman	Vice Chair, SC2 (WG1/WG2)	<a href="mailto:marcus.shellman.civ@mail.mil">marcus.shellman.civ@mail.mil</a>
Mr. Michael Duncanson	Secretary, SC2 (WG1/WG2)	<a href="mailto:michael.duncanson@acc.com">michael.duncanson@acc.com</a>
Mr. Tomasz Wojtaszek	Web Coordinator, SC2 (WG1/WG2)	<a href="mailto:tomasz.wojtaszek@navy.mil">tomasz.wojtaszek@navy.mil</a>
Mr. Dan Hoolihan	Chair, C63 <sup>®</sup> (WG2)	<a href="mailto:danhoolihanemc@aol.com">danhoolihanemc@aol.com</a>
Mr. Zhong Chen	Chair, SC1	<a href="mailto:zhong.chen@ets-lindgren.com">zhong.chen@ets-lindgren.com</a>
Mr. Don Heirman	Chair, SC3 (WG2)	<a href="mailto:d.heirman@ieee.org">d.heirman@ieee.org</a>
Mr. Art Wall	Chair, SC4	<a href="mailto:artwall43@gmail.com">artwall43@gmail.com</a>
Mr. Ed Hare	Chair, SC5	<a href="mailto:WIRFI@arrl.org">WIRFI@arrl.org</a>
Mr. Randy Long	Chair, SC6	<a href="mailto:rlong@anab.org">rlong@anab.org</a>
Mr. Vladimir Bazhanov	Chair, SC7	<a href="mailto:vladimir.bazhanov@ericsson.com">vladimir.bazhanov@ericsson.com</a>
Mr. Stephen Berger	Chair, SC8	<a href="mailto:stephen.berger@ieee.org">stephen.berger@ieee.org</a>
Mr. Harry Hodes	Member (WG1/2)	<a href="mailto:harry.hodes@baclcorp.com">harry.hodes@baclcorp.com</a>
Ms. Janet O'Neil	Member	<a href="mailto:j.n.oneil@ieee.org">j.n.oneil@ieee.org</a>
Mr. Bob Hofmann	Member	<a href="mailto:hrhofmann@att.net">hrhofmann@att.net</a>