Meeting Minutes

American National Standards Committee (ANSC) C63®

Electromagnetic Compatibility
SUBCOMMITTEE 2 – E3 Terminology Definitions and EMC Best Practices

Tuesday, 03 October 2023, 1030 - 1200 PDT

Google Inc.
Mountain View, CA 94043
ANSC C63® WebEx

1. **Call to Order.** Mr. Michael Duncanson, SC2 Secretary, called the meeting to order.

    1.1. **Opening Remarks:** Mr. Duncanson welcomed members to the meeting. He expressed Mr. Shellman's regrets at not being in attendance, explaining that the SC2 Chair's travel was cancelled at the last minute amid fears of a Gov't shutdown.

    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. Duncanson 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. The approved agenda appears as attachment 2.

    2.1. **Approval of the Previous Minutes:** Mr. Duncanson called for a review of the minutes of the previous meeting. He stepped through minutes of the SC2 meeting held on 10 May 2023 at A2LA, Frederick, MD, addressing areas of significance. A motion to approve the minutes of the May 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 20231003 - 1)

    2.2. **Review of the Patent Slides:** Mr. Duncanson 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. Duncanson displayed the SC2 membership as it appears on the C63® website, asking whether any changes were needed. It was noted that Nicholas Abbondante is now Chair of SC4. The identified change will be provided to Mr. Ramie for posting to the C63® website. (See Action Item 20231003 – 2)

3.2. **Members at Risk.** Mr. Duncanson displayed the member attendance log. He addressed members at risk noting that Harry Hodes, who was not in attendance, has missed three meetings and is currently at risk. He took an action to notify Mr. Hodes of his membership status. (see Action Item 20231003-3)

3.3. **Consideration of new members.** Mr. Duncanson noted that 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. Duncanson displayed the SC2 Scope and Duties, updates to which were approved by the C63® Main Committee on 12 May 2023.

4.1 **Election of Officers.** Mr. Duncanson noted the current SC2 officers are affirmed through December 2023 and a vacancy remains at the Vice-chair position. Mr. DeLisi stated that action would be required prior to the next series of C63® meetings to elect new officers. He recommended that an SC2 meeting or an email vote be arranged to ensure SC2 has a newly elected subcommittee chair by January 2024. He also expressed concern about the continued absence of a vice-chair for SC2. He took an action to contact Mr. Shellman to discuss. (see Action Item 20231003-4)

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. Regarding the status of draft C63.14, he reported that coordination with SC1 concerning nine definitions from draft C63.4 had been completed and all issues resolved. He noted that as a result, a total of thirty-six additional new definitions were added to draft .14. He also noted that the mutually accepted definitions involved here do not limit the SC1s ability to develop additional new definitions or modify any of the definitions addressed in .4, since SC2 coordination will take place again once .4 is ready for balloting. At that time any new or modified definitions will be added to the next update of .14 and be attributed to .4. He went on to report that ballot draft C63.14-20XX had been accordingly updated and submitted to the IEEE Secretariat for the required recirculation ballot. He learned from members in attendance that the recirculation ballot has been initiated and is well underway.

He continued the WG1 report with the SC2 coordination status with other subcommittees, presenting an overview of pre-ballot reviews conducted during 2023. He displayed draft standard reviews by version number and provided status, noting that in most cases more than one review took place to resolve specific issues. The reviews involved C63.4, C63.9, C63.16 and C63.26. Coordination is ongoing with respect to C63.26 and C63.16.

Mr. Duncanson concluded the report with a brief discussion on copyright release procedures, continuing a discussion initiated at the last meeting. WG1 recommends consideration of a change to C63 procedures, to have the IEEE Secretariat automatically include copyright release requests for

draft C63.14 when obtaining releases for definitions for use in other C63 standards. There was consensus that this would be a commonsense procedures addition. He took an action to provide recommended wording for the policy update. (see Action Item 20231003-5)

5.2.   **Working Group 2 Report.**   Mr. Duncanson reported that WG2 is remains inactive so that report is tabled at this time.

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

Mr. Duncanson displayed the active status of C63® standards projects as maintained on the SC2 Agenda and inquired of the group to identify any needed updates. While no discrepancies were identified, there was discussion and agreement that all standards related projects, including corrigenda, interpretations, etc. should be addressed in this section. The section will accordingly be updated. (see Action Item 20231003-6)

6. **Other Old Business**.

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

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

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

7. **New Business.** None.

8. **C63® SC2 Website Status.** Mr. Duncanson reported that updates to the SC2 Website have been initiated with the assistance from Jerry Ramie (Action Item 2022517-5). He anticipates having the site up to date prior to the next meeting.

9. **Action Item Review.**

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

Action Item #	Subject	Responsible Person(s)	Status	Delivery Date	Comments
20231003 - 1	Provide Mr. Ramie with the approved SC2 agenda from today's meeting and the approved minutes from the 05/10/2023 meeting.	Mr. Duncanson		05/15/2024	
20231003 – 2	Provide Mr. Ramie with corrections to the SC2 membership to show: Mr. Abbondante as the Chair of SC4.	Mr. Duncanson		05/15/2024	

20231003 - 3	Notify Mr. Hodes of his meeting attendance status.	Mr. Duncanson		05/15/2024	
20231003 - 4	Reach out to Mr. Shellman to ensure SC2 action for election of a Chair prior to the end of the current 3-year period, 31 December 2023.	Mr. DeLisi		ASAP	
20231003 - 5	Draft wording as discussed for the C63 Procedures to address IEEE Secretariat responsibilities to obtain copyright releases for C63 standards under development.	Mr. Shellman		ASAP	
20231003 - 6	Update paragraph 5.3 of the SC2 Agenda to include all SC standards related projects.	Mr. Duncanson		05/15/2024	

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)
2022517 - 5	Mr. Duncanson to reach out to Jerry Ramie for assistance in updating and maintaining the SC2 member website.	**CLOSED**
20230510-1	Mr. Duncanson to provide Jerry Ramie with the approved SC2 agenda from the 05/10/2023 meeting and the approved minutes from the 08 Nov 2022 meeting.	**CLOSED**
20230510-2	Mr. Duncanson to provide Jerry Ramie with corrections to the SC2 membership to show: Mr. DeLisi as Chair of C63; Mr. Braxton, Elite Electronic Engineering as Chair of SC5; and Mr. Kramer, Apple as the Chair of SC6.	**CLOSED**

9.3.   **C63® Newsletter Input.** Mr. Hoolihan had previously reported that the newsletter would be published once a year to be distributed at the IEEE Symposium, and that inputs would be gathered after the Spring meeting. Mr. Duncanson stated that SC2 input would be provided following the Spring meeting.

10. **Time and place of next meeting.** Mr. DeLisi stated the next series of C63® meetings will be held the week of May 12th, 2024. The venue for the meetings is TBD at this time.

11. **Adjournment.** The SC2 meeting was successfully completed as scheduled. The acting chairman adjourned the meeting at 1200 PDT.

Attachment 1

SC2 Meeting Attendance List (3 October 2023)
Google Headquarters and ANSC C63® WebEx

NAME	TITLE	EMAIL
Michael Duncanson	Secretary, SC2	michael.duncanson@validatek.com
Bob DeLisi	Chair, C63®	bob.delisi@ul.com
Andy Griffin	Chair, SC1	agriffin@CISCO.com
Nicholas Abbondante	Chair, SC4	Nicholas.Abbondante@Intertek.com
Tom Braxton	Chair, SC5	tbraxton@ieee.org
Doug Kramer	Chair, SC6	dkramer2@apple.com
Jason Coder	Chair, SC7	jason.coder@nist.gov
Janet O'Neil	Member	j.n.oneil@ieee.org
Dan Hoolihan	Guest	danhoolihanemc@aol.com
Jason Nixon	Guest	jason.nixon@ised-isde.gc.ca
David Chamberlain	Guest	david.chamberlain2@ised-isde.gc.ca
Victor Kuczynski	Guest	Victor@VICAN.ca
Steve Anderson	Guest	W1EMI@arrl.org
Jerry Ramie	Guest	jramie@arctechnical.com
Henry Benitez	Guest	h.benitez@IEEE.org
Wally Arceneaux	Guest	wally.arceneaux@rca.rohde-schwarz.com
Bill Graff	Guest	TCB Council
Randy Long	Guest	rlong@anab.org
Ken Gjerde	Guest	Starkey
Bo Li	Guest	theboli@google.com
Warwick Wong	Guest	warwickwong@google.com

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

October 3, 2023; 10:30 AM- 12:00 PM – PT

Google Inc.
Mountain View, CA 94043
ANSC 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)
Bob DeLisi	C63® Chair	Underwriters Laboratories
Andy Griffin	Chair Subcommittee 1	CISCO Systems
Ross Carlton	Chair Subcommittee 3	Gibbs & Cox
Bob DeLisi	Chair Subcommittee 4	Underwriters Laboratories
Tom Braxton	Chair Subcommittee 5	ARRL
Doug Kramer	Chair Subcommittee 6	Apple, Inc.
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	03/09/2021	06/21/2021	09/14/2021	05/17/2022	11/08/2022	05/10/2023
Marcus Shellman	SC2 Chair	X	X		X	X	X
Michael Duncanson	SC2 Secretary	X	X	X	X	X	X
Bob DeLisi	C63 Chair	X			X	X	X
Andy Griffin	SC1 Chair	X	X			X	X
Ross Carlton	SC3 Vice-Chair		X			X	X
Bob DeLisi	SC4 Chair	X	X	X	X	X	X
Tom Braxton	SC5 Chair				X	X	
Doug Kramer	SC6 Chair					X	X
Jason Coder	SC7 Chair	X	X	X	X	X	X
Stephen Berger	SC8 Chair						
Janet O'Neil	Member	X	X				X
Harry Hodes	Member				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**

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 WG1, C63.14 – Definitions - Duncanson (insert link to WG report) Verify accuracy of document status matrix content and report any errors to the ANSC-C63® Secretary.

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

5.2 WG2, 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 ANSC-C63® Secretary.

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

5.3 ANSC-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.	10/03/2023
20220517-5	Mr. Duncanson to reach out to Jerry Ramie for assistance in updating and maintaining the SC2 member website.	10/03/2023
20230510-1	Mr. Duncanson to provide Jerry Ramie with the approved SC2 agenda from the 05/10/2023 meeting and the approved minutes from the 08 Nov 2022 meeting.	10/03/2023
20230510-2	Mr. Duncanson to provide Jerry Ramie with corrections to the SC2 membership to show: Mr. DeLisi as Chair of C63; Mr. Braxton, Elite Electronic Engineering as Chair of SC5; and Mr. Kramer, Apple as the Chair of SC6.	10/03/2023

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
20231003-1					

Attachment 3

SC2 Membership List
Chairman – Marcus Shellman
ANSC C63® / SC2 Membership Roster

NAME	TITLE	EMAIL
Mr. Marcus Shellman	Chair, SC2 (WG1/WG2)	marcus.shellman.civ@mail.mil
Vacant	Vice Chair	n/a
Mr. Michael Duncanson	Secretary, SC2 (WG1/WG2)	michael.duncanson@validatek.com
Mr. Bob DeLisi	Chair, C63®	bob.delisi@ul.com
Mr. Andy Griffin	Chair, SC1	agriffin@CISCO.com
Mr. Ross Carlton	Chair, SC3	ross.carlton@outlook.com
Mr. Nicholas Abbondante	Chair, SC4	Nicholas.Abbondante@Intertek.com
Mr. Tom Braxton	Chair, SC5	tbraxton@ieee.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