# C63®

## ANSI-Accredited Standards Committee C63®
### Electromagnetic Compatibility

November 30, 2018 – 8:00 AM to 3:00 PM-MST
NIST, Boulder, CO

Chair: **Dan Hoolihan**     Vice-Chair: **Dan Sigouin**     Secretary: **Jerry Ramie**

### Approved Minutes

1. **Call to Order - Chair -** The meeting was called to order at 8:02AM-EDT.
   1.1.     **Introductions (roll call) - Secretary** (Revised: 11 November, 2018)

| MEMBER | PRIMARY | ALTERNATE |
|---|---|---|
| ACIL | | Vacant |
| Apple, Inc. | Chen, Jyun-cheng | O'Dwyer, Michael |
| ARRL – The National Assoc. for Amateur Radio | Hare, Ed | |
| Bay Area Compliance Laboratories Corp. | Hodes, Harry | |
| Bureau Veritas | | |
| CISCO Systems | Griffin, Andy | |
| Dell Inc. | | Vacant |
| Element Materials Technology | | |
| Ericsson AB | | |
| ETS – Lindgren | Chen, Zhong | Kramer, Doug |
| Federal Communications Commission | Jones, Steve | Vacant |
| Food and Drug Administration | Silberberg, Jeffrey L | |
| Google, LLC | Wong, Warwick | He, George |
| Hearing Industries Association | | Vacant |
| Honeywell | Antola, Michael | |
| Innovation, Science &  Economic Development Canada | Nixon, Jason | |
| Information Technology Industry Council | Hirvela, John | |
| IEEE – EMC Society | Norgard, John | Benitez, Henry |
| Keysight Technologies | | |
| Laird Technologies | | |
| Motorola Solutions, Inc. | Zakharia, Deanna | Ho, Sze Khian |
| National Institute of Standards & Technology | Coder, Jason | |
| Nokia Bell Labs | Moongilan, Dheena | Vacant |
| PCTEST Engineering Laboratory | | Ward, Dennis |

| | | |
|---|---|---|
| **Qualcomm Technologies, Inc.** | | |
| **Society of Automotive Engineers** | | |
| **SPAWAR - US Navy** | | |
| **TCB Council, Inc.** | **Graff, William** | |
| **TÜV SÜD America, Inc.** | **Elliott, William (Mac)** | |
| **UL-LLC** | **DeLisi, Bob** | |
| **US Department of Defense - Joint Spectrum Ctr.** | **Shellman, Marcus** | **Duncanson, Michael** |
| | | |
| **Individual Members:** | | |
| **INDIVIDUAL Member** | **Hoolihan, Daniel** | None |
| **INDIVIDUAL Member** | | None |
| **INDIVIDUAL Member** | | None |
| **INDIVIDUAL Member** | **Zimmerman, Dave** | None |
| **INDIVIDUAL Member** | **Berger, Stephen** | None |
| **INDIVIDUAL Member** | | None |
| **INDIVIDUAL Member** | **Sigouin, Dan** | None |
| **INDIVIDUAL Member** | | None |
| **INDIVIDUAL Member** | | None |
| **Emeritus Members:** | | |
| **MEMBER Emeritus** | **Mertel, Herbert** | None |
| **MEMBER Emeritus** | **Hofmann, H. R. (Bob)** | None |
| **MEMBER Emeritus** | **Wall, Art** | None |

**Observers:** Jerry Ramie, Jennifer Santulli, Gary Fenical, Ken Gjerde, Janet O'Neil, Randy Long, Mark Arthurs, Brad Moore, Amanda McDonald, Victor Kuczynski

**Quorum:** 31 organizations + 9 individual members = 40 total. A quorum is 50% +1 (rounding down); which is <u>21 or more members</u> in attendance. Quorum was achieved with **24** members attending the meeting.

## 2.  Approval of the consent Agenda
**2.1  Approval of agenda - Chair -** Mr. Hare moved, seconded by Mr. Hodes, to accept the Agenda as shown. The agenda was approved.
**2.2  Presentation of Patent slides - Chair -** The patent slides were shown and no patent issues were raised.
**2.3  Consideration of new members - Chair -** The Main Committee Membership has approved of **Mits Samoto, Google** and **Laird Technologies** as new Members of the Main Committee. **Art Wall** has become a MEMBER Emeritus.

## 3.  Chairman's Report – Hoolihan
**3.1  General**
**3.2  FCC Interactions - Petition to the FCC to adopt C63.4a (Nov - 2018) -** See Chairman's report.

### 3.3 Standards published - (none)

### 4. Vice-Chair's Report - Sigouin - (see Vice-Chair's report) A small ad-hoc group was formed after the last meeting to review and edit our Procedures. Some features of the draft were shown.

### 5. Secretary's Report – Ramie

**5.1 Minutes of the last Meeting** (20180504) **– Ramie** - Zimmerman moved, seconded by Hodes to approve the previous Minutes. The minutes were approved.

### 5.2 Disposition of Interpretation Requests since last meeting – Ramie

**NOTE – No interpretation requests** have been received in the last seven months.

| Date | Interpretations circulated or posted | Source | Result | Comments |
|---|---|---|---|---|
| | | | | |

### 5.3 Open Interpretation requests - Ramie (Interpretations Log 20180418) Open are in red:

| Date | Requestor | e-mail address | Project name | SC # | Rc'vd by Se | Sent to SC | Back fm SC |
|---|---|---|---|---|---|---|---|
| 5/7/2016 | Charles Wang | charles@champrotek.com | C63.4 (2014) Clause 4.5 Horn antenna aperture | SC1 | 5/7/2016 | 5/7/2016 | 6/11/2016 |
| | | | | | | 7/5/2016 | open |
| 8/29/2017 | Charles Wang | charles@champrotek.com | C63.4 (2014) 20170829_D3_NSA_vertical_3_meters | SC1 | 8/29/2017 | 8/29/2017 | open |
| 11/14/2017 | Alexander Kriz | Alexander.Kriz@seibersdorf-laboratories.at | C63.4 (2014) Annex N.1 antenna symmetry | SC1 | 11/14/2017 | 11/18/2017 | open |
| 12/22/2017 | Dave Schaefer | dschaefer@tuvam.com | C63.4 (2014) Clauses 5.5.1 & 8.2.4 sVSWR | SC1 | 12/22/2017 | 12/23/2017 | open |
| 3/7/2018 | Nate Potts | nate.potts@keysight.com | C63.4 (2014) Annex N vs. C63.5 re/ symmetry | SC1 | 3/7/2018 | 3/8/2018 | open |

### 5.4 Electronic Motions since last meeting - Ramie (electronic motions log)

| Date | Main Committee motion or action | Source | Result | Comments |
|---|---|---|---|---|
| 10/19/2018 | Balloted C63.19 (2018) Rev2 at Main, to initiate a formal ballot | S. Berger | closed 10/31 | Yes=22; No=1; Abstain=6 |

## 5.5 Membership Changes since last meeting - Ramie

| Date | Membership changes | Source | Result | Comments |
|---|---|---|---|---|
| 5/29/2018 | Removed Scott Ortiz from C63.29 roster | S. Ortiz | removed 5/29 | on C63.29 roster only |
| 5/29/2018 | Adddded Google and Laird Technologies to Main Committee | D. Hoolihan | added 5/29 | on Main, Public & Private rosters |
| 5/31/2018 | Moved Art Wall to Member Emeritus on the Main Committee | A. Wall | moved 5/31 | on Main, Public & Private rosters |
| 5/31/2018 | Added W. Graff & C. Harvey as Main/Alternate for TCB Council | W. Graff | added 5/31 | on Main, Public & Private rosters |
| 6/1/2018 | Added W. Graff & D. Zimmerman to SC4 roster | B. DeLisi | added 6/1 | on SC4 roster only |
| 6/2/2018 | Added Mits Samoto as new Individual Member | D. Hoolihan | added 6/2 | on Main, Public & Private rosters |
| 6/4/2018 | SC4 considered C63.30 Membership application for Todor Mitev | B. DeLisi | failed 7/2 | Yes = 0, No = 15, Abstain = 5 |
| 6/13/2018 | Replaced Beth Hackett w/ Brad Moore on SC8 & C63.8WG | A. Crumm | replaced 6/13 | on SC8, Public & Private rosters |
| 6/27/2018 | Removed S. Jones & W. Schaefer from C63.4WG | D. Heirman | removed 6/27 | on SC1 roster & WG webinar list |
| 6/29/2018 | Added Richard Kautz to C63.31 roster | A. Crumm | added 6/29 | on C63.31 roster only |
| 7/26/2018 | Balloted M. Antola application for C63.10 Membership in SC4 | B. DeLisi | closed 8/9 | Yes = 19; No = 0; Abstain = 0 |
| 8/8/2018 | Changed Fang Han affiliation on C63.30 roster | A. Crumm | changed 8/8 | to "Consultant" |
| 8/16/2018 | Removed Whitesell, Dickten and Waitt from SC1 roster | J. O'Neil | removed 8/16 | Missed three meetings |
| 8/16/2018 | Added Mike Antola to C63.4 WG roster | J. O'Neil | added 8/16 | Yes=16; No=0; Abstain=0 |
| 9/4/2018 | Balloted C. Harvey application for C63.30 Membership in SC4 | B. DeLisi | added 9/16 | Yes=20; No=0; Abstain=0 |
| 9/10/2018 | Removed Mark Klerer from C63.30 roster | A. Crumm | removed 9/14 | on C63.30 roster only |
| 9/17/2018 | Removed S. Whitesell from SC5, C63.24, SC8, C63.19 rosters | D. Hoolihan | removed 9/21 | from SC5, C63.24, SC8, C63.19 |
| 9/19/2018 | Removed W. Schaefer from SC3 roster | D. Heirman | removed 9/19 | Missed three meetings |
| 9/24/2018 | Balloted SC3 Membership application from E. Mendoza | D. Heirman | closed 10/8 | Yes=11, No =0, Abstain=0 |
| 9/25/2018 | Changed Richard Kautz e-mail & affiliation to "Consultant" | A. Crumm | changed 9/26 | C63.30 & .31 & Auto WPT rosters |
| 10/9/2018 | Balloted E. Mendoza application for SC3 Membership | B. DeLisi | closed 10/30 | Yes=29; No=0; Abstain=0 |
| 10/12/2018 | Changed John Becker e-mail & affiliation to "HIA Adviser" | J. Becker | changed 10/16 | on Public & Private rosters |
| 10/17/2018 | Balloted N. Altunyurt application for C63.30 membership | B. DeLisi | closed 10/27 | Yes=16, No =0, Abstain=0 |
| 10/17/2018 | Changed D. Schaefer contact info / Element Materials | D. Schaefer | changed 11/8 | C63.24, SC5, SC6,Main, Pub/Priv |
| 10/18/2018 | Removed D. Zimmerman from C63.24 roster | D. Heirman | removed 10/18 | on C63.24 roster only |
| 10/23/2018 | Balloted M. Terrien application for C63.26 membership | B. DeLisi | closed 11/2 | Yes=18; No=0; Abstain=0 |
| 10/23/2018 | Changed M. Elliott to Primary representative for TUV-SUD | M. Elliott | changed 10/25 | on Main, Public & Private rosters |
| 10/23/2018 | Added R. McGann as Alternate representative for TUV-SUD | M. Elliott | added 10/25 | on Main, Public & Private rosters |
| 10/23/2018 | Balloted M. Terrien application for SC4 Membership | B. DeLisi | closed 11/13 | 3 weeks |
| 10/31/2019 | Added E. Mendoza to SC3 roster | J. Ramie | added 10/31 | on SC3 roster only |
| 11/2/2018 | Changed J. Parisella affiliation to OSRAM | J. Ramie | changed 11/2 | on C63.29 roster only |
| 11/5/2018 | Added M. Terrien to C63.26 roster | J. Ramie | added 11/5 | on C63.26 roster only |
| 11/5/2018 | Removed M. Terrien from C63.24 / IEEE-473 roster | M. Terrien | removed 11/5 | from C63.24 roster only |
| 11/9/2018 | Added John Becker to SC8 roster | S.Berger | added 11/9 | on SC8 roster only |
| 11/14/2018 | Added M. Terrien to SC4 roster | J. Ramie | added 11/14 | Yes=14; No=0; Abstain=0 |

6. **[Secretariat Report](#) – IEEE – Jennifer Santulli** - <mark>AI-58:</mark> Jennifer to check if our members can have more than one interest category. (CL & MFG?)
   ## 6.1 - Status of C63® published standards
   ### 6.1.1  Fourth Anniversary standards
   ### 6.1.2  Eight-years or older standards

   ## 6.2 – Status of PINS and PINS-C ([currently posted list](#))

7. **Subcommittee reports** (Brief written reports to include actions needed by C63®, and items of particular interest during SC meetings).
   **Note**:  *Reports should be provided on the [C63 Power Point template](#) (protected) **and should include Scope, Duties, and Membership for 2018 for each Subcommittee. NOTE – EACH COMMITTEE REPORT WILL BE LIMITED TO A MAXIMUM OF <u>15 MINUTES</u>.***

   | 7.1. | **[SC1](#):  Measurement and Instrumentation - Chen** |
   |---|---|

   7.1.    **[SC1](#):  Measurement and Instrumentation - Chen**
   7.2.    **[SC2](#):  Definitions – Shellman**
   7.3.    **[SC3](#):  International Standardization – Heirman** - <mark>AI-59:</mark> Harry to forward the reviewed and approved <mark>Reviewer Action</mark> reports to SC2
   7.4.    **[SC4](#):  Wireless and ISM Equipment Measurements - DeLisi**
   7.5.    **[SC5](#):  Immunity testing – Hare**
   7.6.    **[SC6](#):  Laboratory Accreditation – Long**
   7.7.    **[SC7](#):  Unlicensed Personal Comm. Services – Bazhanov** (Mr. Berger)

**7.8.**    **SC8**:  Medical Equipment Testing – Berger

_____Break_____

## 8. New Business
**8.1.**    **Proficiency Testing** – Harry Hodes

## 9. Other Administrative Matters
**9.1.**    **Web Page** – Ramie
**9.1.1** new Generic Agendas for Subcommittees include a review of the Membership roster, a Quorum check, review of Membership Guidelines, Attendance Log and Members at Risk at each meeting. Spring meeting requires approval of SC Membership, review of all PINS content, the Status Matrix text and "Learn more" text for each Standard.
**9.1.2** SC4 Private Area password change - There was inadvertent disclosure of the SC4 private area password to a C63.30 Observer. The password was changed.
**9.2.**    **Administrative matters from the Steering Committee**  -
**C63.17 Re-affirmation**: The Steering Committee moved to re-affirm C63.17 at the May-2018 meeting. It was not forwarded to the Secretariat, which was an oversight. The delayed motion to re-affirm C63.17 was considered and carried unanimously by the Main Committee.

**Interpretation Requests**: The Interpretation Request Process for the next 12 months will be that an Interpretation Request comes to the Secretary (Jerry Ramie) who forwards it to the Subcommittee Chair who then decides to reply to it using the formal interpretation request or he informs the Secretary that the request will not be answered but the concerns will be addressed in the next edition of the subject standard.

## 10. Other Business
**10.1**    **Future Seminars and Workshops** – Heirman
**10.2**    **Newsletter** report – Zimmerman - Mr. Zimmerman wished to step down as Newsletter Editor, so he appreciates your prompt submittals so he can finish up with the next newsletter before the IEEE-EMC Symposium in New Orleans.
**10.3**    **Next meeting** – Hoolihan  - **4/29/19 to 5/3/19 – UL - RTP, North Carolina**

## 11. Old Business
**11.1**    **Action item review on items not covered elsewhere on Agenda –** (as time permits) **- Secretary**

### Consolidated Action Items from Main Committee Meeting 05/04/18[1]

| Action Item # | Subject | Responsible Person | Status | Delivery Date | Comments |
|---|---|---|---|---|---|
| AI-38: | Dan H. to solicit Standards Council Canada regarding membership. | Dan Hoolihan | Closed | 11/30/18 | |
| AI-39: | Mr. Hodes to provide contact info for SCC to Dan H. | Harry Hodes | Closed | 11/30/18 | Jerry to remind Harry |
| AI-52: | Hoolihan and Santulli will get a written answer regarding liability of third-party users of C63.25.1 and report on it. | Dan Hoolihan Jennifer Santulli | Closed | 11/30/18 | Any collective work by our Stds. org is copyrighted by IEEE |
| AI-53: | Don will report any movement of C63 material into a US National committee | Don Heirman | Open | 11/30/18 | |

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[1] Consolidated (re-numbered) action items are included here for reference, but are not a part of the minutes.

| AI-54: | Don & Jerry to add C63.25.1 and C63.25.2 to the **(SC3)** comparison tables. | Don Heirman Jerry Ramie | Closed | 11/30/18 | Forwarded to DNH; included in SC3 Agenda |
|---|---|---|---|---|---|
| AI-55: | Don to add a column to SC3-Table 2 to list which target committee the report is being sent to | Don Heirman | Open | 11/30/18 | |
| AI-56: | The current edition of C63.9 uses arbitrary waveforms in digital form. Mr. Hare and Mr. Berger are to work with IEEE and the C63 Chair to determine how best to distribute these waveform files | Ed Hare Stephen Berger Dan Hoolihan | Open | 11/30/18 | |
| AI-57: | Mr. Heirman and Mr. Hodes will draft the FCC petition text for review by Mr. Hoolihan and then to be circulated to the Main committee for electronic balloting | Dan Hoolihan Don Heirman Harry Hodes | Closed | 11/30/18 | |

AI-60: Jennifer to find out when a contributor submits photos, sketches, software, firmware or data, who owns that material when it's published in a C63 Std. (may or may not have been previously published)

AI-61: Bob DeLisi to provide to Jerry the test statements text that was originally on the site for antenna calibration below 1GHz.

AI-62: Bob DeLisi to formulate text for antenna calibration above 1GHz between C63.5 and CISPR 16-1-6

## 12. Adjournment - Hoolihan - The Chair thanked the Members for their participation and adjourned the meeting at 11:38AM-MST.

*************************************************** **End of Meeting** ***************************************************

### Consolidated Action Items from Main Committee Meeting 11/30/18[2]

| Action Item # | Subject | Responsible Person | Status | Delivery Date | Comments |
|---|---|---|---|---|---|
| AI-53: | Don will report any movement of C63 material into a US National committee | Don Heirman | Open | 5/3/19 | |
| AI-55: | Don to add a column to SC3-Table 2 to list which target committee the report is being sent to | Don Heirman | Open | 5/3/19 | |
| AI-56: | The current edition of C63.9 uses arbitrary waveforms in digital form. Mr. Hare and Mr. Berger are to work with IEEE and the C63 Chair to determine how best to distribute these waveform files | Ed Hare Stephen Berger Dan Hoolihan | Closed | 12/20/18 | Steve sent the waveforms to Ed some time ago and since then the WG appears to be taking the standard in a different direction and will not be using these waveforms.  So there doesn't seem to be any purpose to this action |

| AI-58: | Jennifer to check if our members can have more than one interest category. (CL & MFG?) | Jennifer Santulli | Open | 5/3/19 | |
|---|---|---|---|---|---|
| AI-59: | Harry to forward the reviewed and approved Reviewer Action reports to SC2 | Harry Hodes | | 5/3/19 | |
| AI-60: | Jennifer to find out when a contributor submits photos, sketches, software, firmware or data, who owns that material when it's published in a C63 Std. (may or may not have been previously published) | Jennifer Santulli | Open | 5/3/19 | |
| AI-61: | Bob DeLisi to provide to Jerry the test statements text that was originally on the site for antenna calibration below 1GHz. | Bob DeLisi | Open | 5/3/19 | |
| AI-62: | Bob DeLisi to formulate text for antenna calibration above 1GHz between C63.5 and CISPR 16-1-6 | Bob DeLisi | Closed | 5/3/19 | Provided 12/21/18 |

## Attachments from Main Committee Meeting 11/30/18[3]

| Item | Description | URL |
|---|---|---|
| 2.1 | Draft agenda | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/Main/20181130_Main_Agenda_2.doc |
| 2.2 | Patent slides | http://www.c63.org/documents/misc/patents/C63_Patent_Call_slideset_final_1.pdf |
| 3.0 | Chairman's Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/Main/20181130-%20DDH%20-%20Report%20-%20C63_PowerPoint.ppt |
| 4.0 | Vice Chair's Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/Main/Vice%20Chair%20report%20Nov%2030_2018_rev1.ppt |
| 5.1 | Approved previous Minutes | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/C63%20Past%20minutes/20180504_Main_Approved_Mins.pdf |
| 5.3 | Interpretation requests since last meeting | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/Main/Interpretations_log_20180418.xls |
| 5.4 | Electronic motions | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/Main/Electronic_motions_2018May_2018Nov.xls |
| 6.0 | Secretariat Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/Main/C63_November%202018%20Secretariat%20Update.ppt |
| 7.0 | Slide Template | http://www.c63.org/pw/c63/C63_PowerPoint_template.ppt |
| 7.1 | SC1 Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/SC1/SC1%20update%2020181130.ppt |
| 7.2 | SC2 Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/SC2/20181130%20-%20SC2_Report_to_Main_Committee.pptx |
| 7.3 | SC3 Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/SC3/C63_Subcommittee%203%20report%20to%20C63%20November%202018%20(1).ppt |
| 7.4 | SC4 Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/SC4/Main%20Committee%20Report%20-%20SC4%202018-11-29.pptx |
| 7.5 | SC5 Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/SC5/C63SC5Report201812130.ppt |
| 7.6 | SC6 Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/SC6/20181130%20SC6%20Main%20Report.ppt |
| 7.7 | SC7 Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/SC7/C63%20SC7%20-%202018%20Report%202%20-%20181129%20-%20v1.pptx |
| 7.8 | SC8 Report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/SC8/Main%20Committee%20Report%20-%20SC8%20-%20181128%20-%20v1.pptx |
| 8.1 | Proficiency Testing | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/Main/PT%20Program%20Status%20Presentation%20to%20ANSI%20C63.4%20SC6%20(11-30-18).pptx |
| 10.1 | Education & Training report | http://www.c63.org/documents/misc/minutes/2018_Nov/Main_Committee_attachments_2018_Nov/Main/Nov%202018%20C63%20eduation%20committee%20report.ppt |
| 10.2 | Newsletters page | http://www.c63.org/documents/c63/list_of_newsletters.htm |

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[3] Attachments are included here for reference, but are not a part of the Minutes