



# Accredited Standards Committee C63<sup>®</sup>

## Electromagnetic Compatibility

### Subcommittee 3: International Standardization

Chair: Don Heirman

Vice Chair: Vacant

Secretary: Jerry Ramie

September 19, 2018; 1:30 PM – 3:30 PM - EDT

Webinar

### Approved Minutes

1. **Call to Order: Chair** - The meeting was called to order at 1:31PM-EDT
  - 1.1 **Announcements: Chair's remarks** - We address harmonization with standards produced by International Standards Organizations in this Subcommittee. We meet four times per year. We will have an upcoming vacancy for the Vice Chair. We have indicated in the last three meetings which Standards have similarities with International Standards. Each Subcommittee Chair (or their representative in the table below) will assign someone to do the comparison between the C63 standard and the international one shown in table 1 below.
  - 1.2 **Meeting logistics announcements: Host** (none)
  - 1.3 **Introductions: Secretary – roll call** (record attending members with their affiliations and guests separately below) **Report any roster errors to the ASC-C63<sup>®</sup> Secretary**

### Subcommittee 3 Membership Roster (xxxx means not present)

Name	Role within Subcommittee 3	Affiliation
xxxx	Chair Subcommittee 8	TEM Consulting
<a href="#">Bazhanov, Vladimir</a>	Chair Subcommittee 7	VB Laboratory Services, LLC
<a href="#">DeLisi, Bob</a>	Chair Subcommittee 4	UL LLC
xxxx	Member (SC2)	DOD – SPAWAR
xxxx	Member CISPR/H Technical Advisor	CISCO Systems
xxxx	Chair Subcommittee 5	ARRL
<a href="#">Heirman, Don</a>	Chair Subcommittee 3; Past Chair CISPR; CISPR/A Deputy Technical Advisor	Don HEIRMAN Consultants
xxxx	Member	Bay Area Compliance Laboratories Corp.
xxxx	Chair ASC-C63 <sup>®</sup>	Hoolihan EMC Consulting
<a href="#">Klinger, Jeff</a>	Member (SC1) (SC6)	Compatible Electronics
<a href="#">Kramer, Doug</a>	Member (SC1 representative)	ETS-Lindgren
xxxxx	Chair Subcommittee 6	ANSI-ASQ National Accreditation Board (ANAB)
<a href="#">Popovici, Horia</a>	Member (SC1)	Innovation, Science and Economic Development Canada
xxxx	Member	Keysight Technologies
<a href="#">Samoto, Mits</a>	Member (SC1)	Liberty Labs Asia
xxxxx	Member, Vice Chair of Subcommittee 3	Schaefer Associates AI-91: Jerry to remove Werner from

	CISPR/A Technical Advisor	roster & WebEx list. <b>AI-92</b> . Jerry to add Travis Thul to SC3 roster & WebEx list.
<u>xxxx</u>	Chair Subcommittee 2	DOD – Joint Spectrum Center (JSC)
<b>Non-Voting Members</b>		
<a href="#">Arnett, Dave</a>	Liaison Member CISPR/I Technical Advisor	HP
<u>xxxx</u>	Liaison Member CISPR/D Technical Advisor	Elite Electronic Engineering
<a href="#">Bob Hofmann</a>	Emeritus Member	Hofmann EMC Engineering
<u>xxxx</u>	Liaison Member	FCC Laboratory
<u>xxxx</u>	Liaison Member CISPR/B Technical Advisor	Fish and Richardson
<a href="#">Cibulka, Michael</a>	Liaison Member TC77 & SC77B Technical Advisor	Rockwell Automation
<a href="#">Mendoza, Ernesto</a>	Liaison Member CISPR/F Technical Advisor	Philips Lighting Electronics NA

**Guests and Observers:** (non-voting) Jerry Ramie

**1.4 Quorum:** (50% of roster + 1) constitutes a quorum. (rounding down) (17 roster members / 2 = 8.5 + 1 = 9.5 (therefore 9 people are required for a quorum) **Was quorum achieved? (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** - The Agenda was approved by acclamation.

**2.1 Approval of the previous Minutes** - [Minutes of the previous meeting](#) were [approved](#) by acclamation.

**2.2 Review of the [patent slides](#)** - The patent slides were reviewed and no patent issues were raised.

**3. Review of [Subcommittee Membership](#),** - Report any errors to the Secretary (**AI-91** & **AI-92**)

**3.1 Consideration of new members?** [Application for C63® Subcommittee Membership](#)

**4. Comparison of C63 standards with international standards**

Don showed a template that the reviewers will use in making their comparisons. It gives three options or findings for summarizing the review. This [comparison template for 2018](#) was shown:



## *C63 Subcommittee 3 Standards Comparison Report*

**Reporter's Name**

**Date of Report**  
(file name should have the C63 standard in its name)

**General Topic of comparison**

**Email address:**

**C63 Standard being compared**

**Compared to this international standard (indicate date)**

**Findings**

**1. No comparisons found**

**Underline either 1, 2, or 3:**

**2. Limited comparison found (see below)**

**3. Virtually a duplicate of C63 standard (See below)**

**Comments for finding 2**

**Indicate the clauses which are identical, similar, or contradictory  
Identical**

**Similar**

**Contradictory**

**Comments for Finding 3**

**Is there a need for duplication and if so, should the international standards be used for C63 work?**

**If this is a preliminary report, what target date should be assigned for the complete comparison?**

**Is there any further investigation needed? If so what is it?**

## Additional Comments:

### The review process:

Reviewing Table 1 below and asking for the **SCs shown in column 2 to identify a person in their SC that will make the comparison between the C63 standards in column 1 and the international document(s) in column 4.** The **RA assignments** should be given to people who have a copy of the Int'l. Standard or can get a loaner copy with help from their SC Chair. Note that passing around copies of the documents shown in the 4<sup>th</sup> column is for this investigation and not for any other use. After concluding the comparison using the loaded documents, those standards should be deleted from the reviewer PC.

**Table 1: Comparisons**

Note: Doug Kraemer asked for all reviewer assignments for standards that SC1 is responsible for. He will then get SC1 reviewers to do the reviews Bob DeLis also asked for all assignments associated with SC 4 so he can similarly seek SC4 reviewers. Names of obvious reviewers are shown in column 4.

<b>C63<sup>®</sup> Document</b>	<b>SC #</b>	<b>Subject</b>	<b>International Document</b>
C63.2	SC1	Test Instrumentation	CISPR 16-1-1 ( <b>Reviewer Action 1 - Doug AI-93</b> ); Jerry to form an RA table separately
C63.4	SC1	Measurements	CISPR 16-2-X; <b>RA-2</b> ; CISPR 16-1-4 <b>RA-3</b> ; CISPR 32 <b>RA-4</b> Petit Doug needs a reviewer for this
C63.5	SC1	Antenna Calibration	CISPR 16-1-6 <b>RA-5</b> ; SAE ARP 958 <b>RA-6</b> ; CISPR 16-1-4 ( <b>RA-7</b> )
C63.9	SC5	Office Equipment Immunity	IEC 61000-4-39 ( <b>RA-8</b> ) Griffin
C63.10	SC4	Unlicensed Transmitters	ETSI Wireless requirements? (need SC4 member's help) Bob Delisi indicated that there are so many ETSI standards that might apply that this review will not be done.
C63.15	SC5	Immunity	IEC 61000-4-x; <b>RA-9</b> ; Heirman; CISPR 35 <b>RA-10</b> Pettit
C63.16	SC5	ESD	IEC 61000-4-2; <b>RA-11</b> ; Worley; ISO 10605; <b>RA-12</b> ; Worley, SAE J1113-xx <b>RA-13</b> Worley Craig Fanning will help form the proposal. <i>A moment of silence for our good friend and participant—Steve Whitesell--was observed.</i>
C63.23	SC1	Uncertainty	CISPR 16-4-2; <b>RA-14</b> ; CISPR 16-1-4 <b>RA-15</b>
C63.24 draft	SC5	Generic On-site Meas.	IEEE 473; <b>RA-16</b> ;(Heirman-Kiger)
C63.25	SC1	Test Site Validation	CISPR 16-1-4 (two freq. ranges under C63.25.x) <b>RA-17</b>
C63.26	SC4	Licensed Transmitters	ETSI wireless requirements mmWave possible comparison. <b>RA-18</b>

C63.27	SC7	Co-existence	IEC 62657-2 RA-19 Berger
C63.28 draft	SC2	Best Practices	No equivalent; RA-20 Shellman
C63.29 draft	SC4	Lighting products	CISPR 15; Runway lighting under IEC 61827 RA-21 Ernesto Mendoza
C63.30 draft	SC4	Wireless Power Transfer Products	Bob assigned Travis: Draft amendments to CISPR 11 (RA-22), CISPR 14-1 (RA-23), CISPR 32; (RA-24) update to CISPR 12 (RA-25)
C63.31 draft	SC4	ISM equipment (FCC MP-5)	CISPR 11; (RA-26) CISPR 14-1 induction cooking; (RA-27) DeLisi  CISPR/B/672/DC (4/14/17) RA-28 CISPR/B/700/DC (2/2/18) RA-29

To summarize what was in table 1, here are the assignments for the 29 Review Actions.

- RA-1 thru RA-7: Kramer (all SC1 content)
- RA-8: Griffin
- RA-9: Heirman
- RA-10: Pettit
- RA-11 thru 13: Worley
- RA-14 & 15: Kramer
- RA-16: Heirman / Kiger
- RA-17 Kramer
- RA-18: DeLisi
- RA-19: Berger
- RA-20: Shellman
- RA-21: Mendoza
- RA-22-25: Thul
- RA-26-29: DeLisi

#### Reviewer Actions from 9/19/18 Meeting of SC3

RA #	Task	Responsible party	Due Date	Status
RA-1	Compare C62.3 to CISPR 16-1-1	Doug Kramer	11/29/18	Open
RA-2	Compare C63.4 to CISPR 16-2-X	Doug Kramer	11/29/18	Open
RA-3	Compare C63.4 to CISPR 16-1-4	Doug Kramer	11/29/18	Open
RA-4	Compare C63.4 to CISPR 32	Ghery Petit	11/29/18	Open
RA-5	Compare C63.5 to CISPR 16-1-6	Doug Kramer	11/29/18	Open
RA-6	Compare C63.5 to SAE ARP 958	Doug Kramer	11/29/18	Open
RA-7	Compare C63.5 to CISPR 16-1-4	Doug Kramer	11/29/18	Open
RA-8	Compare C63.9 to IEC 61000-4-39	Andy Griffin	11/29/18	Open
RA-9	Compare C63.15 to IEC 61000-4-x	Don Heirman	11/29/18	Open
RA-10	Compare C63.15 to CISPR 35	Ghery Pettit	11/29/18	Open
RA-11	Compare C63.16 to IEC 61000-4-2	Rich Worley	11/29/18	Open
RA-12	Compare C63.16 to ISO 10605	Rich Worley	11/29/18	Open
RA-13	Compare C63.16 to SAE J1113-xx	Rich Worley	11/29/18	Open
RA-14	Compare C63.23 to CISPR 16-4-2	Doug Kramer	11/29/18	Open
RA-15	Compare C63.23 to CISPR 16-1-4	Doug Kramer	11/29/18	Open
RA-16	Compare C63.24 draft to IEEE 473	Don Heirman	11/29/18	Open

		Chad Kiger		
RA-17	Compare C63.25 to CISPR 16-1-4 (two freq. ranges under C63.25.x)	Doug Kramer	11/29/18	Open
RA-18	Compare C63.26 to ETSI wireless requirements mmWave possible	Bob DeLisi	11/29/18	Open
RA-19	Compare C63.27 to IEC 62657-2	Steve Berger	11/29/18	Open
RA-20	Compare C63.28 draft to "no equivalent"	Marcus Shellman	11/29/18	Open
RA-21	Compare C63.29 draft to CISPR 15; Runway lighting under IEC 61827	Ernesto Mendoza	11/29/18	Open
RA-22	Compare C63.30 draft to Draft amendments to CISPR 11	Travis Thul	11/29/18	Open
RA-23	Compare C63.30 draft to CISPR 14-1	Travis Thul	11/29/18	Open
RA-24	Compare C63.30 draft to CISPR 32	Travis Thul	11/29/18	Open
RA-25	Compare C63.30 draft to CISPR 12	Travis Thul	11/29/18	Open
RA-26	Compare C63.31 draft to CISPR 11	Bob DeLisi Derek Walton	11/29/18	Open
RA-27	Compare C63.31 draft to CISPR 14-1 induction cooking	Bob DeLisi Derek Walton	11/29/18	Open
RA-28	Compare C63.31 draft to CISPR/B/672/DC (4/14/17)	Bob DeLisi Derek Walton	11/29/18	Open
RA-29	Compare C63.31 draft to CISPR/B/700/DC (2/2/18)	Bob DeLisi Derek Walton	11/29/18	Open

The chair asked that the reviewer assignments and the completion of the actual comparisons have a target date of 11/29/18 which is the next SC 3 meeting, In the meantime, all completed reports should be sent to Jerry for filing and for keeping track of the RA progress

**5. Other Old Business: Chair - none**

**6. New Business: Chair** - The SC3 meeting in Boulder will be to review the result of the completed **RA items** only.

**7. C63.org website use and updates: Secretary** - We normally post documents to the [SC3 protected area](#). If any SC or WG needs help with this posting, a Technical Secretary is available to assist.

**8. Review of the Action Items: Secretary**

**8.1 Review of Action Items from this meeting:** The **Action Items** from this meeting were shown in agenda item 4 above. They were reviewed and agreed upon.

**8.2 Review of Action Items from previous meeting:**

**Consolidated Action Items from 5/3/18 Meeting of SC3**

AI #	Task	Responsible party	Due Date	Status
AI-18:	Review anything that can be moved between C63.4 and CISPR32.  Update Tolerance Table in CISPR 32 to take advantage of the work in the C63.4 working group. (Goal is to harmonize the table between C63.4 & CISPR 32)	Mark Arthurs	OPEN	
AI-20:	Look at modulation in C63.9 with potential for introduction into SC77B through the US National Committee.	Andy Griffin	OPEN	Unique test, possible in 61000-4-3? Modulation is not AM but more varied.

AI-21:	<p>Review anything that can be moved between C63.15 and CISPR 35.</p> <p>Still to determine if there is any input from C63.15 that will assist in doing immunity measurements in CISPR 35. The use of information on instrumentation suggestions in C63.15 might be helpful in selecting adequate signal sources for radiated, conducted, ESD, etc.</p> <p>Document provided to Dave by Don.</p>	Dave Arnett	Closed	Was reviewed and no movement between the documents was required.
AI-22:	<p>Develop a proposal for the US TAG for IEC/TC77B on adding new test techniques in C63.16 to update IEC 61000-4-2</p> <p>Provide a list of changes with reasoning. See below: Comments will be revised to show intended text for George Hedrichs (Chair, MT12)</p>	Rich Worley Mike Cibulka	OPEN	Whitesell didn't send replacement text for an annex
AI-26:	<p>Review CISPR 11, CISPR 14-1 &amp; CISPR-32 for consideration for use in C63.30.</p> <p><del>Travis to see what is in CISPR 11, 14-1 on WPT for use as reference or in the opposite direction what is in these CISPR documents that can be used in C63.30.</del></p> <p>Horia noted that they're looking at CISPR 11 for WPT with EVs. CISPR 14-1 for IPT. Test site validation is the sticky point.</p>	Travis Thul	OPEN	<p>on-going basis</p> <p>AI-80: Jerry to assure that Travis is on SC3 WebEx list</p>
AI-27:	<p>Review CISPR 11, 14-1 for consideration for use in C63.31.</p> <p>CISPR 11 totally addresses Industrial, Scientific, and Medical device emission tests, both radiated and conducted. Maybe Derek can list what is covered and not covered in CISPR 11 or in C63.31 so it is clear where we are and where the FCC MP-5 can be bolstered with the info from at least CISPR 11 and possibly 14-1 and 14-2 (if anything)</p> <p>Horia advocating for C63.4 test methods.</p>	Derek Walton	OPEN	AI-81: Jerry to assure Walton in on WebEx list for SC3
AI-36:	Supply note on progress of IEC 61000-4-3. What is happening between 1 & 6GHz? (immunity)	Andy Griffin	Next meeting	OPEN
AI-44:	Determine what information in ETSI standards might be helpful in the revision of C63.26. Also, what information in C63.26 might be presented to ETSI.	Steve Jones Bob DeLisi	Closed	
AI-54:	Check if older pre-heated fluorescents are still available, test method still needed? Ernesto showed a presentation.	Ernesto Mendoza	Closed	Not available any longer
AI-57:	Generate comparison table to summarize requirements from 1-6GHz. (emissions)	Andy Griffin	OPEN	
AI-58:	Form WG with Andy, Zhong & Nate to identify a single calibration requirement. (Std. Site method in ANSI, Section 5?)	Bob DeLisi	OPEN	re-insert on News page?
AI-79:	Inquire the applicability of IEC 61827 in the US	Horia Popovici Ernesto Mendoza	Closed	
AI-83:	Add Mr. Shellman to the SC3 Membership as the SC2 Chair.	Jerry Ramie	Closed	posted 5/17
AI-84:	Jerry to send a note to Zhong Chen to become a member or assign someone to attend. (Kramer or	Jerry Ramie	Closed	Note sent 5/17

	Hodes?)			
AI-85:	Jerry to change Randy Long affiliation to <b>ANSI-ASQ National Accreditation Board (ANAB)</b>	Jerry Ramie	Closed	posted 5/17
AI-86:	Jennifer to check that our patent slides are still appropriate.	Jennifer Santulli	Closed	New slides provided 5/17
AI-87:	Jerry to add red text above (under Liaison Members) to the SC3 landing page	Jerry Ramie	Closed	New text provided 5/17
AI-88:	Jerry to add text in red (above) to the C63.12 "Learn more" text to the Status Matrix page.	Jerry Ramie	Closed	posted 5/17
AI-89:	DeLisi to populate the C63.26 "International Document" content in Table 2 "Comparisons"	Bob DeLisi	Closed	
AI-90:	Mr. Hare to circulate parts of C63.16 into SC3, for referral in US-TAG for TC-77B	Ed Hare	OPEN	

**9. Time and place of next meeting: Chair - 11/29/18 @ 8:00AM (MST) in Boulder, CO**  
(set 9/19)

**10. Closing remarks and Adjournment: Chair -** We look forward to receiving your RA submission and the meeting was adjourned at 3:05PM-EDT.

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

**Consolidated Action Items from 9/19/18 Meeting of SC3**  
(not associated with the reviewer actions which are separate and shown above in clause 4)

AI #	Task	Responsible party	Due Date	Status
AI-18:	Review anything that can be moved between C63.4 and CISPR32.  Update Tolerance Table in CISPR 32 to take advantage of the work in the C63.4 working group. (Goal is to harmonize the table between C63.4 & CISPR 32)	Mark Arthurs	11/29/18	OPEN
AI-20:	Look at modulation in C63.9 with potential for introduction into SC77B through the US National Committee.	Andy Griffin	11/29/18	OPEN Unique test, possible in 61000-4-3? Modulation is not AM but more varied.
AI-22:	Develop a proposal for the US TAG for IEC/TC77B on adding new test techniques in C63.16 to update IEC 61000-4-2  Provide a list of changes with reasoning. See below: Comments will be revised to show intended text for George Hedrichs (Chair, MT12)	Rich Worley Mike Cibulka	11/29/18	OPEN Whitesell didn't send replacement text for an annex
AI-26:	Review CISPR 11, CISPR 14-1 & CISPR-32 for consideration for use in C63.30.  <del>Travis to see what is in CISPR 11, 14-1 on WPT for use as reference or in the opposite direction what is in these CISPR documents that can be used in C63.30.</del>  Horia noted that they're looking at CISPR 11 for WPT with EVs. CISPR 14-1 for IPT. Test site validation is the sticky point.	Travis Thul	11/29/18	OPEN on-going basis



<b>AI-27:</b>	Review CISPR 11, 14-1 for consideration for use in C63.31.  <a href="#">CISPR 11</a> totally addresses Industrial, Scientific, and Medical device emission tests, both radiated and conducted. Maybe Derek can list what is covered and not covered in CISPR 11 or in C63.31 so it is clear where we are and where the FCC MP-5 can be bolstered with the info from at least CISPR 11 and possibly 14-1 and 14-2 (if anything)  Horia advocating for C63.4 test methods.	Derek Walton	11/29/18	<b>OPEN</b>
<b>AI-36:</b>	Supply note on progress of IEC 61000-4-3. What is happening between 1 & 6GHz? (immunity)	Andy Griffin	11/29/18	<b>OPEN</b>
<b>AI-57:</b>	Generate comparison table to summarize requirements from 1-6GHz. (emissions)	Andy Griffin	11/29/18	<b>OPEN</b>
<b>AI-58:</b>	Form WG with Andy, Zhong & Nate to identify a single calibration requirement. (Std. Site method in ANSI, Section 5?)	Bob DeLisi	11/29/18	<b>OPEN</b> re-insert on News page?
<b>AI-90:</b>	Mr. Hare to circulate parts of C63.16 into SC3, for referral in US-TAG for TC-77B	Ed Hare	11/29/18	<b>OPEN</b>
<b>AI-91:</b>	Jerry to remove Werner from roster & WebEx list.	Jerry Ramie	11/29/18	<b>CLOSED</b> removed 9/19
<b>AI-92:</b>	Jerry to add Travis Thul to SC3 roster & WebEx list.	Jerry Ramie	11/29/18	<b>CLOSED</b> Added 9/19
<b>AI-93:</b>	Jerry to form an RA table separately	Jerry Ramie	11/29/18	<b>CLOSED</b> added 9/19