Accredited Standards Committee C63®

Electromagnetic Compatibility

Subcommittee 3: International Standardization

Chair: Don Heirman **Vice Chair: Harry Hodes** **Secretary: Jerry Ramie**

November 29, 2018; 8:00 AM – 10:00 AM - MST

NIST
Boulder, CO

Approved Meeting Minutes

1. Call to Order: Chair - The meeting was called to order at 8:00AM-MST

1.1 Announcements: Chair's remarks - We don't generate standards; however we do maintain C63.12 on limit/test level setting. Our prime focus is to look for ways to harmonize, if possible, our C63 Standards and International Standards from other SDOs on the same or similar topics.

1.2 Meeting logistics announcements: Host - Restroom and food in the lobby

1.3 Introductions: Secretary – roll call (attending members with their affiliations and guests are listed separately below) **Report any roster errors to the ASC-C63® Secretary** (SC3 membership roster from the website is shown below)

Subcommittee 3 Membership Roster **Shaded names** were not present.

Name	Role within Subcommittee 3	Affiliation
Berger, Stephen	Chair Subcommittee 8	TEM Consulting
Bazhanov, Vladimir	Chair Subcommittee 7	VB Laboratory Services, LLC
DeLisi, Bob	Chair Subcommittee 4	UL LLC
Dilay, Chris	Member	DOD – SPAWAR
Griffin, Andy	Member CISPR/H Technical Advisor	CISCO Systems
Hare, Ed	Chair Subcommittee 5	ARRL
Heirman, Don	Chair Subcommittee 3; Past Chair CISPR; CISPR/A Deputy Technical Advisor	Don HEIRMAN Consultants
Hodes, Harry	Vice Chair Subcommittee 3	Bay Area Compliance Laboratories Corp.
Hoolihan, Dan	Chair ASC-C63®	Hoolihan EMC Consulting
Klinger, Jeff	Member	Compatible Electronics
Kramer, Doug	Member	ETS-Lindgren
Long, Randy	Chair Subcommittee 6	ANSI-ASQ National Accreditation Board (ANAB)
Mendoza, Ernesto	Member CISPR/F Technical Advisor	Signify
Popovici, Horia	Member	Innovation, Science and Economic Development Canada
Potts, Nate	Member	Keysight Technologies
Samoto. Mits	Member	Liberty Labs Asia
Shellman, Marcus	Chair Subcommittee 2	DOD – Joint Spectrum Center (JSC)
Thul, Travis	Member	Minnesota State College Southeast

Non-Voting Members		
Arnett, Dave	Liaison Member CISPR/I Technical Advisor	HP
Fanning, Craig	Liaison Member CISPR/D Technical Advisor	Elite Electronic Engineering
Hofmann, H.R. (Bob)	Emeritus Member	Hofmann EMC Engineering
Jones, Steve	Liaison Member	FCC Laboratory
Mahn, Terry	Liaison Member CISPR/B Technical Advisor	Fish and Richardson
Cibulka, Michael	Liaison Member TC77 & SC77B Technical Advisor	Rockwell Automation

Guests and Observers: (non-voting) Mike Cibulka, Xiong Yufei, Dave Zimmerman, Henry Benitez, Rich Worley, Dan Sigouin, John Norgard, Ken Gjerde, Allen Crumm, Dheena Moongilan, Deanna Zakharia, Mac Elliott, Sze Khian Ho, Michael Duncanson, Marcus Shellman, Bill Graff, Victor Kuczynski, Steve Jones, Ross Carlton,

1.4 Quorum: (50% of roster + 1) constitutes a quorum. (rounding down) (18 roster members / 2 = 9 + 1 = 10 (therefore 10 people are required for a quorum) **Was quorum achieved? (Yes)** 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

3.1 Review of Membership Guidelines

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. (insert Member Attendance Log as below)

Member Attendance Log: Any errors in the log?

Full Name	9/7/16	11/7/16	5/10/17	8/21/2017	11/9/17	2/7/18	5/3/18	9/19/18
Berger, Stephen					x		x	
Bazhanov, Vladimir	x	x	x	x	x	x	x	x
DeLisi, Bob							x	x
Griffin, Andy		x		x	x		x	
Hare, Ed	a	x	x		x		x	
Heirman, Don	x	x	x	x	x	x	x	x
Hodes, Harry		x	x				x	
Hoolihan, Dan			x		x		x	
Klinger, Jeff		x	x	x	x		x	x
Kramer, Doug						x	x	x
Long, Randy		x			x		x	
Popovici, Horia				x	x	x	x	x
Potts, Nate			x	x	x	x	x	
Samoto, Mits		x	x					x
Thul, Travis								
Dilay, Chris			x		x		x	x
Arnett, Dave	x					a	x	x
Fanning, Craig	x	x	x	x	x	x	x	
Hofmann, H.R.			x		x	x	x	x
Mahn, Terry							x	
Cibulka, Michael		x	x	x	x	x	x	x
Mendoza, Ernesto			x	x		x	x	x
Ramie, Jerry	x	x	x	x	x	x	x	x

Any members at risk? These members are at risk: **None**

NOTE: Item 3.2 and item 4 below will be considered at the first face-to-face meeting in 2019.

3.2 ~~Consideration of new members?~~ Application for C63® Subcommittee Membership

3.2 ~~Approval of Membership~~ (Spring meeting only)

4. ~~Approval of~~ ~~Scope and Duties~~ (Spring meeting only)

4.1 ~~Election of Officers~~ – At spring meeting 2019

4.2 Appointment of Vice Chair - Harry Hodes - clause 6.2 of our operating procedures:

6.2 Chair and members of Subcommittees

The Chair of a Subcommittee shall be elected by the Subcommittee with a majority vote and confirmed by a majority vote of the Main Committee. The Vice Chair and Secretary shall be appointed by the Chair of the Subcommittee.

5. Current Status of C63 Standards - Chair

5.1 C63.12 - EMC Limit Setting - Heirman (no WG report)

Status Matrix Review Verify accuracy of document status matrix content and report any errors to the ASC-C63® Secretary. **Is this information correct? (Yes)**

C63.12-2015 Learn more	EMC Limit Setting	SC3	Heirman, Don	No active PINS	Published 1/29/2016 as an update of C63.12-2007. No further work scheduled on the document. WG disbanded.

C63.12: C63.12-2015 American National Standard for Electromagnetic Compatibility Limits--Recommended Practice
Contact: Heirman, Don (Working Group Chair)
Scope: This recommended practice presents a rationale for developing limits and recommends sets of limits and test levels that are representative of current practice. These limits may be adjusted in particular applications as circumstances dictate.
Status: Published 29 Jan 2016.
Purchase: IEEE Store. To purchase individual standards, go to the IEEE store and search on the standard number.

This is the only Standard that we maintain that contains limits and guidance on how to choose those limits.

In particular, there is a section that presents what margin is needed for EUT subsystems to gain an overall EUT desired margin. It is based on power dissipated by the subsystems. Here are the formulas from C63.12:

For **synchronously operated subsystems**, the margin required for a subsystem is obtained from Equation a):

$$M(\text{dB}) = 10\log_{10} PDR \qquad \text{a)}$$

where

PDR is the power dissipation ratio, the **power dissipated by the subsystem under test divided by the power dissipation of the entire system**

For the **nonsynchronous case** the margin required for a subsystem is obtained from Equation b):

$$M(\text{dB}) = 5\log_{10} PDR \qquad \text{b)}$$

with *PDR* as specified for the synchronous case.

5.2 Status of harmonization of other C63 Standards - Chair

The table below shows C63 documents and international standards on similar topics that are to be compared. The reviews to be made are shown by reviewer action number and highlighted in green. Also identified are the subcommittees responsible for each C63 standard (see column 2)

Table 1: **Comparisons of ASC-C63® Documents and International Documents**

C63® Document	SC #	Subject	International Document
C63.2	**SC1**	**Test Instrumentation**	**CISPR 16-1-1 (Reviewer Action 1 - Doug)**
C63.4	**SC1**	**Measurements**	**CISPR 16-2-X; RA-2; CISPR 16-1-4 RA-3; CISPR 32 RA-4 Petit** **Doug needs a reviewer for this**
C63.5	**SC1**	**Antenna Calibration**	**CISPR 16-1-6 RA-5; SAE ARP 958 RA-6; CISPR 16-1-4 (RA-7)**
C63.9	**SC5**	**Office Equipment Immunity**	**IEC 61000-4-39 (RA-8) 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; RA-9; Heirman; CISPR 35 RA-10 Pettit**
C63.16	**SC5**	**ESD**	**IEC 61000-4-2; RA-11; Worley; ISO 10605; RA-12; Worley, SAE J1113-xx RA-13 Worley** Craig Fanning will help form the proposal.
C63.23	**SC1**	**Uncertainty**	**CISPR 16-4-2; RA-14; CISPR 16-1-4 RA-15**
C63.24 draft	**SC5**	**Generic On-site Meas.**	**IEEE 473; RA-16;(Heirman-Kiger)**
C63.25.1	**SC1**	**Test Site Validation 1 GHz to 18 GHz)**	**CISPR 16-1-4 RA-17**
B63.25.2	**SC1**	**Test Site Validation 30 MHz to 1 GHz**	**CISPR 16-1-4 RA-17**
C63.26	**SC4**	**Licensed Transmitters**	**ETSI wireless requirements mmWave possible comparison. RA-18**
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**

These are the 29 **Review Actions**. The assignments are given to the Subcommittee chairs (or WG chairs) noted below to find subcommittee reviewers to do the comparisons in the above table.

Harry Hodes is assigned follow up on these Review Actions.

The "comparison report" form that reviewers should use is available here. Below is an example of a completed form for the comparison of C63.26 and various ETSI (European Telecommunications Standards Institute) Stds.

C63®

C63 Subcommittee 3 Standards Comparison Report

Reporter's Name: Bob DeLisi for RA-18

9/25/2018 (file name should have the C63 standard in its name)	**C63.26 to various ETSI Standards**	**Email address:bob.delisi@ul.com**

C63 Standard being compared: C63.26 to various ETSI Standards

Compared to this international standard (indicate date)

Findings

Underline either 1, 2, or 3:

1. **No comparisons found**
2. **Limited comparison found (see below)**
3. **Virtually a duplicate of C63 standard (See below)**

Comments for finding 2

Indicate the clauses which are <u>identical</u>, <u>similar</u>, or <u>contradictory</u>

<u>Identical</u>

Work in mmWave task group is striving to keep methods the same as what will be used in ETSI with regards to measurement of total radiated power. If it is discovered there are differences C63.26 will recommend information to be shared with ETSI. If ETSI is found to be deviating from C63.26 methods C63.26 WG will consider if adopting ETSI methods is appropriate for our standard.

<u>Similar</u>

Vehicular Radar - Vehicular Radar task group has revealed some shortcomings associated with the measurement guidance for FMCW Radars specified in ETSI EN 303 396 V1.1.1 (2016-12). In particular, the guidance relative to peak power measurements and the use of integration techniques in the performance or such peak power measurements. Measurement desensitization is a concern with respect to FMCW modulations similar to concerns with respect to pulse modulated radar applications as is described in a relevant Keysight application note (http://literature.cdn.keysight.com/litweb/pdf/5989-7575EN.pdf). Data taken by the task group members confirm that an FMCW desensitization factor is required to make accurate direct measurements of the peak power of FMCW modulation and, the band integration/channel power methodology is not suitable for peak power measurements for FMCW modulation schemes. ETSI 303 396 does not acknowledge

	these issues which C63.26 will address.
	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?	**This is a preliminary report. There is still on-going work in both the mmWave TG and the vehicular radar task group. Target date is sometime in 2019**.
Is there any further investigation needed? If so what is it?	**Yes, as noted above work is continuing on methods and procedures for both mmWave and vehicular radar**
Additional Comments:	

********** **End of sample report** **********

Harry offered the assigned reviewers limited access to his library of standards, so we may have it available to preform the comparisons in case other methods of getting a copy does not materialize. Contact Harry directly.

If you own the document, we can use the one you own under the agreement with the IEEE that it will be used by the group and then deleted.

AI-93A: Reviewers assigned by SC or WG chairs noted in Table 1 above to ask Harry Hodes for a "loaner" copy of the non-C63 standard that is on the same or similar topics needed for the comparison reviews.

A summary table of the **Reviewer Action** assignments above is shown below:

RA-1 thru RA-7: Kramer (all SC1 content)
RA-8: Griffin
RA-9: Heirman
RA-10: Pettit - AI-94: Jerry to add Ghery Pettit to the SC3 WebEx invitation list
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

Table 2 Reviewer Actions from 9/19/18 Meeting of SC3

Note that Doug Kraemer is shown as the responsible person in the third column. He indicated that the actual persons to do the comparisons will be discussed at the Subcommittee 1 meeting which is later in the week.

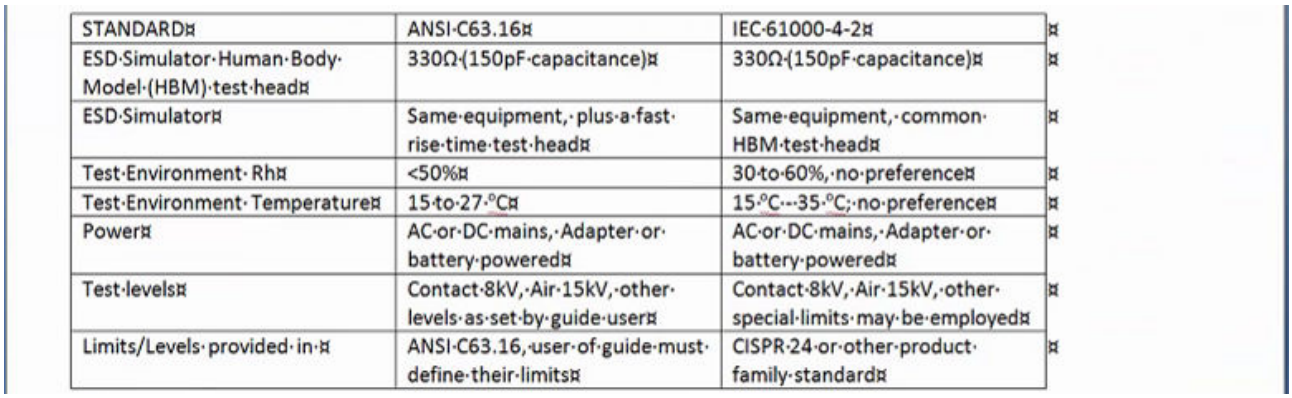
AI-95: Doug Kramer to send the list of persons responsible for comparison reviews for SC1 to the secretary to place in the action item list.

RA #	Task	Responsible person	Due Date	Status
RA-1	Compare C62.3 to CISPR 16-1-1	Doug Kramer	11/29/18	Input coming from SC1 after their meeting
RA-2	Compare C63.4 to CISPR 16-2-X	Doug Kramer	11/29/18	Input coming from SC1 after their meeting
RA-3	Compare C63.4 to CISPR 16-1-4	Doug Kramer	11/29/18	Input coming from SC1 after their meeting
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	Input coming from SC1 after their meeting
RA-6	Compare C63.5 to SAE ARP 958	Doug Kramer	11/29/18	Input coming from SC1 after their meeting
RA-7	Compare C63.5 to CISPR 16-1-4	Doug Kramer	11/29/18	Input coming from SC1 after their meeting
RA-8	Compare C63.9 to IEC 61000-4-39 & IEC 61000-4-3	Andy Griffin	11/29/18	C63.9 is under revision and it's part of the review to do the comparison
RA-9	Compare C63.15 to IEC 61000-4-x	Don Heirman	11/29/18	Subject to multiple people involved based on C63.15
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	See below:
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	Input coming from SC1 after their meeting
RA-15	Compare C63.23 to CISPR 16-1-4	Doug Kramer	11/29/18	Input coming from SC1 after their meeting
RA-16	Compare C63.24 draft to IEEE 473	Don Heirman Chad Kiger	11/29/18	See below:
RA-17	Compare C63.25 to CISPR 16-1-4 (two freq. ranges under C63.25.1 and C63.25.2)	Doug Kramer	11/29/18	Input coming from SC1 after their meeting
RA-18	Compare C63.26 to ETSI wireless requirements mmWave possible	Bob DeLisi	11/29/18	DeLisi contribution below:
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	No equivalents found yet..

				AI-96: Jerry will email the comparison form to all SC3 Members and all others listed in the RA table
RA-21	Compare C63.29 draft to CISPR 15; Runway lighting under IEC 61827	Ernesto Mendoza	11/29/18	Report in 90 days
RA-22	Compare C63.30 draft to Draft amendments to CISPR 11	Travis Thul	11/29/18	Below:
RA-23	Compare C63.30 draft to CISPR 14-1	Travis Thul	11/29/18	Not published
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	Below: (update in March)
RA-27	Compare C63.31 draft to CISPR 14-1 induction cooking	Bob DeLisi Derek Walton	11/29/18	Update in March
RA-28	Compare C63.31 draft to CISPR/B/672/DC (4/14/17)	Bob DeLisi Derek Walton	11/29/18	Open draft - likely to be removed
RA-29	Compare C63.31 draft to CISPR/B/700/DC (2/2/18)	Bob DeLisi Derek Walton	11/29/18	Open draft- likely to be removed

RA-11 Rich Worley's contribution:

AI-96 A The next step is for Richard to identify what is similar, different, or not considered per the categories in the report form and place that information into the form



STANDARD	ANSI C63.16	IEC 61000-4-2
ESD Simulator Human Body Model (HBM) test head	330Ω (150pF capacitance)	330Ω (150pF capacitance)
ESD Simulator	Same equipment, plus a fast rise time test head	Same equipment, common HBM test head
Test Environment Rh	<50%	30 to 60%, no preference
Test Environment Temperature	15 to 27 °C	15 °C - 35 °C; no preference
Power	AC or DC mains, Adapter or battery powered	AC or DC mains, Adapter or battery powered
Test levels	Contact 8kV, Air 15kV, other levels as set by guide user	Contact 8kV, Air 15kV, other special limits may be employed
Limits/Levels provided in	ANSI C63.16, user of guide must define their limits	CISPR 24 or other product family standard

STANDARD	SAE J1113/13	IEC 61000-4-2
Reference to earth	No, automotive on rubber tires is isolated from earth reference	Yes [NOTE: 61000-4-2 does contain a procedure for ungrounded equipment]
ESD Simulator Human Body Model (HBM) test head	Powered mode test 2kΩ (330pF capacitance); Packaging mode test 2kΩ (150pF capacitance) test to 25kV	330Ω (150pF capacitance) test to 15kV
ESD Simulator	Same equipment, different HBM test head	Same equipment, common HBM test head
Test Environment Rh	20 to 50%; 30% preferred	30 to 60%, no preference
Test Environment Temperature	23 °C ± 3 °C; 20 °C preferred	15 °C – 35 °C; no preference
Power	battery powered, only	AC or DC mains, Adapter or battery powered
Test levels	Contact 8kV, Air 25kV	Contact 8kV, Air 15kV other special levels may be applied
Limits/Levels provided in	SAE J1113-1 "Electromagnetic Compatibility Measurement Procedures and Limits for Vehicle Components (Except Aircraft) (60 Hz to [illegible] GHz)"	CISPR 24 or other product family standard

STANDARD	IS0 10605	IEC 61000-4-2
ESD Simulator Human Body Model (HBM) test head	Powered mode test 2kΩ (330pF capacitance); Packaging mode test 2kΩ (150pF capacitance) to to 25kV	330Ω (150pF capacitance) test to 15kV
ESD Simulator	Same equipment, different HBM test head	Same equipment, common HBM test head
Test Environment Rh	20 to 60%; 30% preferred	30 to 60%, no preference
Test Environment Temperature	25 +/- 10 °C; 20 °C preferred	15 °C – 35 °C; no preference
Power	battery powered, only	AC or DC mains, Adapter or battery powered
Test levels	Contact 8kV, Air 25kV	Contact 8kV, Air 15kV other special levels may be applied
Limits/Levels provided in	IS0 10605 Annex C	CISPR 24 or other product family standard

On a different subject, the Chair asked for an update on our submission to IEC - TC77B on submitting improvements to IEC 61000-4-2 on ESD measurements using new material in C63.16. Richard felt that we need a "champion" to help shepherd our submission to the IEC. Mr. Cibulka has a comment form with things that need to be added to the next IEC 61000-4-2, he will send the document over to Richard. He recently received a notification that IEC 61000-4-2 is accepting submissions until 1/18/19, so now is the time to submit our content. As such, Cibulka can be the “champion” with critical inputs from Richard.

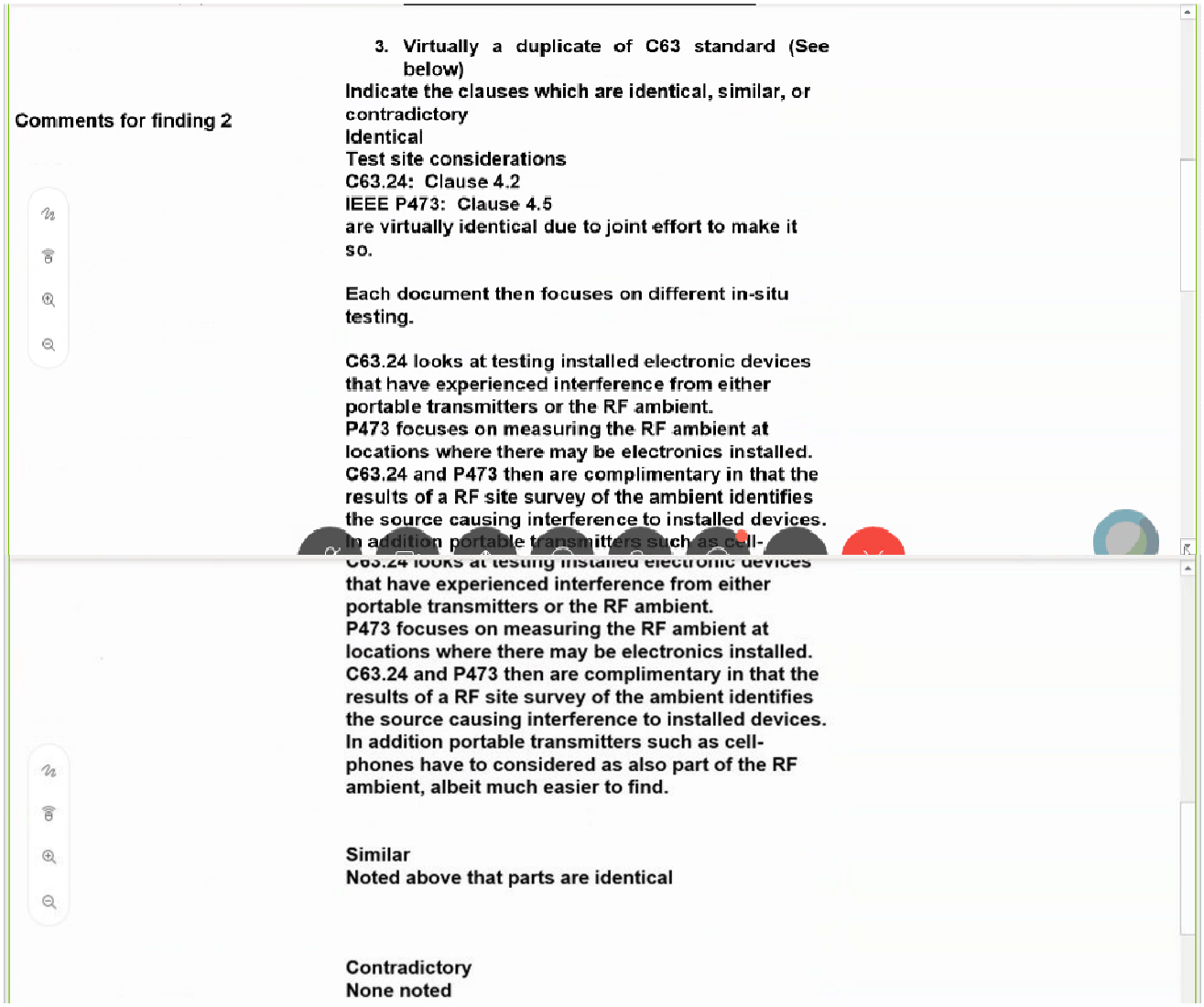
AI-97: Cibulka to send Worley the IEC SC77B proposed update list for the next edition of IEC 61000-4-2 to identify the C63.16 selected material that should be added to that list

AI-97A Richard to send Cibulka the additions to the SC77B update list from C63.16

AI-97B: Cibulka as Technical Advisor for the SC77B US TAG, to send to SC77B the C63.16 topics (identified in AI-97) that should be added to the SC77B update list before the SC77B 1/18/19 deadline

AI-98: Harry to forward DO160G section 25 and MIL-STD 461G to Richard Worley and Michael Cibulka. (e-mail addresses cc,ed)

Don Heirman's RA-16 contribution as another example on how to fill out the reviewer comment form



Comments for finding 2	3. Virtually a duplicate of C63 standard (See below) Indicate the clauses which are identical, similar, or contradictory Identical Test site considerations C63.24: Clause 4.2 IEEE P473: Clause 4.5 are virtually identical due to joint effort to make it so. Each document then focuses on different in-situ testing. C63.24 looks at testing installed electronic devices that have experienced interference from either portable transmitters or the RF ambient. P473 focuses on measuring the RF ambient at locations where there may be electronics installed. C63.24 and P473 then are complimentary in that the results of a RF site survey of the ambient identifies the source causing interference to installed devices. In addition portable transmitters such as cell-
	C63.24 looks at testing installed electronic devices that have experienced interference from either portable transmitters or the RF ambient. P473 focuses on measuring the RF ambient at locations where there may be electronics installed. C63.24 and P473 then are complimentary in that the results of a RF site survey of the ambient identifies the source causing interference to installed devices. In addition portable transmitters such as cell-phones have to considered as also part of the RF ambient, albeit much easier to find. Similar Noted above that parts are identical Contradictory None noted
	above, the rest of these documents are different as the applications are different.
If this is a preliminary report, what target date should be assigned for the complete comparison?	It is expected that both WGs will continue on their respective tasks and if other common areas appear, that text will appear in both documents.
Is there any further investigation needed? If so what is it?	Yes as both documents mature to see if there can be more common wording that can be duplicated

RA-18 submission from Bob DeLisi: See sample above for full submission for this RA

RA-22 submission from Travis Thul status stated in an email copied below.

I am uncertain I'll be able to complete formal review of the convergence of CISPR and .30. As we push ahead, we are working to ensure alignment where possible and I believe we are making a good amount of progress (our Vice Chair is Horia Popovici, who is intimately involved with CISPR, as well as ANSI, thus the reason for the positive outlook). With that said, I'm afraid I will not have a formal assessment to you by the time of the November review. It also may be worth noting that we're maintain consistency with other ANSI standards for non-WPT explicit testing (i.e. conducted, etc.).

RA-26 submission from Bob DeLisi status stated in an email copied below.

Thanks for then reminder. I'm doubting this will get done by this series of meetings as 1. C63.31 has not really progressed much in the area that CISPR 11 would be relevant (in situ) and 2. Derek was quite ill for a while and while now recovered is a bit behind. So this will need to get pushed to Spring 2019 meetings.

Don also submitted a report on RA-9 and RA-16 that will be contained in the SC website for this meeting

Don encourages more filled out reviewer forms submitted by the next meeting on S/C 3 which will be as noted in agenda item 10 below.

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 the PowerPoint template. Prior to the Main Committee meeting, the SC report and approved previous 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.

Harry as vice chair will present Don's report slide deck at the Main Committee meeting later in the week..

6.2 Coordination with SC2 for definitions - Before any Working Group draft can be submitted to the Subcommittee for approval, the document must be provided to the SC2 Chair for evaluation and coordination of the definitions used.

This does not affect S/C 3 as there are no active standards to be updated or new standards to be generated.

7. New Business: Chair - none

8. 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.

9. Review of the Action Items: Secretary

9.1 Review of Action Items from this meeting: The Action Items from this meeting were reviewed and appropriate action taken to close or to have them remain open. See the end of the minutes for the results.

9.2 Review of Action Items from previous 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 5.2)

AI #	Task	Responsible party	Due Date	Status
AI-18:	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	Andy Griffin	11/29/18	OPEN Unique test, possible

	Committee.			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 Check status on intro to 77B from TAG
AI-26:	Review CISPR 11, CISPR 14-1 & CISPR-32 for consideration for use in C63.30. ~~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.~~ ~~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
AI-27:	Review CISPR 11, 14-1 for consideration for use in C63.31. 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)~~ Horia advocating for C63.4 test methods.	Derek Walton Bob DeLisi	11/29/18	OPEN
AI-36:	Supply note on progress of IEC 61000-4-3. What is happening between 1 & 6GHz? (immunity)	Andy Griffin	11/29/18	OPEN CDV has failed, awaiting a new one
AI-57:	Generate comparison table to summarize requirements from 1-6GHz. (emissions)	Andy Griffin	11/29/18	OPEN
AI-58:	Form WG with Andy, Zhong & Nate to identify a single calibration requirement. (Std. Site method in ANSI, Section 5?)	Bob DeLisi Andy Griffin	11/29/18	OPEN
AI-90:	Mr. Hare to circulate parts of C63.16 into SC3, for referral in US-TAG for TC-77B	Ed Hare	11/29/18	CLOSED
AI-91:	Jerry to remove Werner from roster & WebEx list.	Jerry Ramie	11/29/18	CLOSED removed 9/19
AI-92:	Jerry to add Travis Thul to SC3 roster & WebEx list.	Jerry Ramie	11/29/18	CLOSED Added 9/19
AI-93:	Jerry to form an RA table separately	Jerry Ramie	11/29/18	CLOSED added 9/19

10. Time and place of next meeting: Chair - 14 February 2019; 1:30 to 3:30 pm ET

NOTE: change in date for this webinar

11. Closing remarks and Adjournment: Chair - We accomplished reviewing the comparison list and clarified the **Reviewer Actions** as well as showed several reviews already made. The meeting was adjourned at 9:58AM-MST.

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

Consolidated Action Items from 11/29/18 Meeting of SC3

(not associated with the Reviewer Actions which are separate and shown below)

AI #	Task	Responsible party	Due Date	Status
AI-18:	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	3/22/19	OPEN
AI-20:	Look at modulation in C63.9 with potential for introduction into SC77B through the US National Committee.	Andy Griffin	3/22/19	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	3/22/19	OPEN Check status on intro to 77B from TAG
AI-26:	Review CISPR 11, CISPR 14-1 & CISPR-32 for consideration for use in C63.30. ~~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.~~ ~~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	3/22/19	OPEN on-going basis
AI-27:	Review CISPR 11, 14-1 for consideration for use in C63.31. 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)~~ Horia advocating for C63.4 test methods.	Derek Walton Bob DeLisi	3/22/19	OPEN
AI-36:	Supply note on progress of IEC 61000-4-3. What is happening between 1 & 6GHz? (immunity)	Andy Griffin	3/22/19	OPEN CDV has failed, awaiting a new one
AI-57:	Generate comparison table to summarize requirements from 1-6 GHz. (emissions)	Andy Griffin	3/22/19	OPEN
AI-58:	Form WG with Andy, Zhong & Nate to identify a single calibration requirement. (Std. Site method in	Bob DeLisi Andy Griffin	3/22/19	OPEN

	ANSI, Section 5?)			
AI-93A	Ask Harry Hodes for a “loaner” copy of the non-C63 standard that is on the same or similar topics needed for the comparison reviews.	Reviewers assigned by SC or WG chairs noted in Table 1	1/30/19	
AI-94:	Add Ghery Pettit to the SC3 WebEx invitation list	Jerry Ramie	12/15/18	CLOSED added 11/29
AI-95:	Send the list of persons responsible for comparison reviews for SC1 to the secretary to place in the action item list.	Doug Kramer	1/15/19	OPEN
AI-96:	Email the comparison form to all SC3 Members and all others listed in the RA table	Jerry Ramie	12/15/18	CLOSED Sent 11/29
AI-96A	Identify what is similar, different, or not considered per the categories in the report form and place that information into the form	Richard Worley	1/30/19	
AI-97:	Send Worley the IEC SC77B proposed update list for the next edition of IEC 61000-4-2 to identify the C63.16 selected material that should be added to that list	Mike Cibulka	1/4/19	
AI-97A	Send Cibulka the additions to the SC77B update list from C63.16	Richard Worley	1/7/19	
AI-97B	Send to SC77B the C63.16 topics (identified in AI-97) that should be added to the SC77B update list before the SC77B 1/18/19 deadline	Cibulka as Technical Advisor for the SC77B US TAG	1/10/19	
AI-98:	Harry to forward DO160G section 25 and MIL-STD 461G to Richard Worley and Michael Cibulka. (e-mail addresses cc,ed)	Harry Hodes Rich Worley Mike Cibulka	1/30/19	OPEN

Reviewer Actions from 11/29/18 Meeting of SC3

(Far right column is the status reported at the 29 November meeting)

RA #	Task	Responsible party	Due Date	Status
RA-1	Compare C62.3 to CISPR 16-1-1	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-2	Compare C63.4 to CISPR 16-2-X	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-3	Compare C63.4 to CISPR 16-1-4	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-4	Compare C63.4 to CISPR 32	Ghery Petit	2/19/18	Open
RA-5	Compare C63.5 to CISPR 16-1-6	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-6	Compare C63.5 to SAE ARP 958	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-7	Compare C63.5 to CISPR 16-1-4	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-8	Compare C63.9 to IEC 61000-4-39 & IEC 61000-4-3	Andy Griffin	2/19/18	C63.9 is under

				revision and it's part of the review to do the comparison
RA-9	Compare C63.15 to IEC 61000-4-x	Don Heirman	2/19/18	Subject to multiple people involved based on C63.15
RA-10	Compare C63.15 to CISPR 35	Ghery Pettit	2/19/18	Open
RA-11	Compare C63.16 to IEC 61000-4-2	Rich Worley	2/19/18	See Minutes:
RA-12	Compare C63.16 to ISO 10605	Rich Worley	2/19/18	Open
RA-13	Compare C63.16 to SAE J1113-xx	Rich Worley	2/19/18	Open
RA-14	Compare C63.23 to CISPR 16-4-2	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-15	Compare C63.23 to CISPR 16-1-4	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-16	Compare C63.24 draft to IEEE 473	Don Heirman Chad Kiger	2/19/18	See Minutes:
RA-17	Compare C63.25 to CISPR 16-1-4 (two freq. ranges under C63.25.1 and C63.25.2)	Doug Kramer	2/19/18	Input coming from SC1 after their meeting
RA-18	Compare C63.26 to ETSI wireless requirements mmWave possible	Bob DeLisi	2/19/18	DeLisi contribution below:
RA-19	Compare C63.27 to IEC 62657-2	Steve Berger	2/19/18	Open
RA-20	Compare C63.28 draft to "no equivalent"	Marcus Shellman	2/19/18	No equivalents found yet..
RA-21	Compare C63.29 draft to CISPR 15; Runway lighting under IEC 61827	Ernesto Mendoza	2/19/18	Report in 90 days
RA-22	Compare C63.30 draft to Draft amendments to CISPR 11	Travis Thul	2/19/18	See Minutes
RA-23	Compare C63.30 draft to CISPR 14-1	Travis Thul	2/19/18	Not published
RA-24	Compare C63.30 draft to CISPR 32	Travis Thul	2/19/18	Open
RA-25	Compare C63.30 draft to CISPR 12	Travis Thul	2/19/18	Open
RA-26	Compare C63.31 draft to CISPR 11	Bob DeLisi Derek Walton	2/19/18	See Minutes: (update in March)
RA-27	Compare C63.31 draft to CISPR 14-1 induction cooking	Bob DeLisi Derek Walton	2/19/18	Update in March
RA-28	Compare C63.31 draft to CISPR/B/672/DC (4/14/17)	Bob DeLisi Derek Walton	2/19/18	Open draft - likely to be removed
RA-29	Compare C63.31 draft to CISPR/B/700/DC (2/2/18)	Bob DeLisi Derek Walton	2/19/18	Open draft- likely to be removed