

**APPROVED MINUTES**  
**ASC C63 SC1: Techniques and Development**  
**October 23, 2007**  
**Washington Labs, Gaithersburg, Maryland**

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Presiding Officer: Mike Windler

Date Prepared: October 23, 2007

**Members Present:**

Colin Brench  
Dennis Camell (Vice Chair)  
Tim Harrington  
Don Heirman  
Dan Hoolihan  
Bill Hurst  
Victor Kuczynski  
John Lichtig  
Janet O'Neil (Secretary)  
Ghery Pettit  
Ralph Showers  
Jeff Silberberg  
Bill Stumpf  
Mike Windler (Chair)

**Employer:**

Southwest Research Institute  
NIST  
FCC  
Don HEIRMAN Consultants  
Hoolihan EMC Consulting  
FCC  
Vican Electronics  
Lichtig EMC Consulting  
ETS-Lindgren  
Intel  
University of Pennsylvania  
FDA Center for Devices & Radiological Health  
DLS Electronic Systems  
Underwriters Laboratories Inc. (UL)

**Members Absent:**

Stephen Berger  
Jon Casamento  
H. R. Hofmann  
Greg Korytkowski  
Werner Schaefer

**Employer:**

TEM Consulting  
FDA Center for Devices & Radiological Health  
Hofmann EMC Consulting  
Quantum  
Cisco Systems, Inc.

**Guests:**

Poul Andersen  
Colin Brench  
Masud Attayi  
Dave Case  
Matthew Ceglia  
Zhong Chen  
Ed Hare  
Bob Jenkins  
Dheena Moongilan  
Steve Whitesell  
David Zimmerman

**Employer:**

SAE Representative  
Southwest Research  
RIM  
Cisco Systems  
IEEE  
ETS-Lindgren  
ARRL  
Welch Allyn  
Lucent  
VTech  
TUV Product Service

## **1.0 Call to Order—Chair**

Chair Mike Windler, called the meeting to order at 1:40 pm. A round of introductions was made. Mr. Windler thanked Washington Labs for their hospitality in hosting the meeting.

## **2.0 Approval of Consent Agenda**

The Chair presented the consent agenda, which included the agenda for today's meeting (see Attachment A) and the minutes from the last meeting (March 27, 2007) for approval. The agenda was amended to include item 2.3 "Review of ANSI Patent Policy." A presentation by Zhong Chen was added to agenda Item 4.5. It was moved and seconded to approve the consent agenda with these additions. The motion was approved. On the patent policy, Mr. Heirman noted that ANSI advised that if any working group discussion involves a patent, it must be brought to the attention of the parent committee.

## **3.0 Membership Review**

Secretary Janet O'Neil reviewed the attendance records to determine members at risk. (See Attachment B.) Only Werner Schaefer's membership is at risk. He has missed three meetings in a row; the secretary will contact him to determine his interest in remaining a member of C63™, S/C 1. Regarding new member requests, Nate Potts and Doug Parker of Liberty Labs have indicated an interest in joining S/C 1. Ms. O'Neil noted that she had received an SC 1 membership application and resume from both gentlemen. She circulated these documents to the committee. Don Heirman moved to approve the SC 1 membership application of Nate Potts. The motion was seconded and approved. Don Heirman moved to approve the SC 1 membership application of Doug Parker. The motion was seconded and approved. Note: During the meeting break, Masud Attayi of RIM advised that he had sent his resume and application to S/C 1 to Secretary O'Neil. Ms. O'Neil circulated these documents to the committee for voting upon. Don Heirman moved to approve the membership application of Masud Attayi. The motion was seconded and approved. The roster of S/C 1 members and S/C 1 working group members were distributed to the committee for review. The updated rosters are included in Attachment C. **ACTION ITEM: O'Neil** to advise the parent committee of the new SC 1 members Nate Potts and Doug Parker and also to notify them that their membership application to SC 1 was approved.

**ACTION ITEM: O'Neil** to contact Werner Schaefer to determine his level of interest in remaining a member of C63™, S/C 1.

## **4.0 Working Group Reports**

### **4.1 Project 1-1.1 C63.15 Immunity Measurements and Instrumentation**

Chair Windler removed this item from the agenda as this item has moved to the C63™ parent committee.

### **4.2 Project 1-8.1 C63.22 Automated Immunity and Emission Measurements - Canceled**

Chair Windler removed this item from the agenda as the project was dropped by the consensus body.

### **4.3 Project 1-8.3 C63.2 to Include CISPR 16-1**

Chair Windler removed this item from the agenda as this item has moved to the C63™ parent committee.

#### **4.4 Project 1-13.2 C63.4 Site Acceptability Above 1 GHz**

Chair Windler noted a new PINS has been issued. He showed this to the committee. See Attachment D. The wording of the PINS addresses site validation below and above 1 GHz. Old requirements will be removed with new requirements added. Ghery Pettit moved to approve the PINS presented. The motion was amended to substitute the word “remove” with “duplicate”. The motion as amended was seconded. The motion was tabled to work on the PINS title and present following the break. Following the break, the revised PINS was presented. Mr. Heirman moved to approve the PINS. The motion was seconded and approved. In reviewing the action items from the last meeting, Ghery Pettit’s action item due date was extended until December 31, 2007. Mike Windler offered to assist Mr. Pettit. This involves the work related to Mr. Pettit’s presentation at the March 2007 meeting on the time domain reflectometry (TDR) test conducted at the 3-meter chamber at Intel in Dupont, Washington. This work addresses ANSI C63.4 Draft Annex O. The new action item is:

**ACTION ITEM: Pettit and Windler** to perform both VSWR and TDR tests by December 31, 2007 and share results with the committee at the next meeting.

**ACTION ITEM: Camell** to confirm there is a PINS-C approved for this work and if so, that it is posted to the C63 website.

#### **4.5 Project 1-15.5 C63.23 Measurement Uncertainty**

In the absence of Working Group Chair Bob DeLisi, Mr. Windler presented his report. See Attachment E. The working group membership was confirmed. A new draft is being worked on. Note at the last meeting, the committee agreed that only the following documents should have an uncertainty component included: C63.4, C63.5, C63.10, C63.14 (definitions), C63.15, C63.16, C63.17, C63.18, C63.19, and C63.22. The focus is on ANSI C63 emissions testing, including product and site evaluations. They have removed immunity testing until a future date. They have also removed the references to harmonics and flicker requirements. What are missing from the document are emissions above 1GHz and emissions below 30MHz for E-Fields. Also, current text is already in C63.5; the decision to include it in C63.23 is under discussion. If kept, the section needs to expand to include other methods in C63.5. Mr. DeLisi will incorporate comments from the working group. They will also include more information on cable loss contributions due to heating effects. Chair Windler asked that the targeted completion date for this document is December 31, 2007. Mr. Heirman noted that once these standards related to measurement uncertainty are published, they should be considered as workshop topics for the USEMCSC for possible educational topics to cover.

**ACTION ITEM: DeLisi** to incorporate comments from working group into draft document of C63.23 and complete document by December 31, 2007.

#### **4.6 Project 1-15.6 C63.5 Antenna Calibration**

Working Group Chair Dennis Camell provided his report (See Attachment F.) This shows the action items that need to be addressed to move this work forward, including:

- Adding new text covering standard gain horns above 1 GHz
- Adding free space corrections for dipoles as does the VCCI
- Clarifying text on the use of free space antenna factors and near-free space antenna factors
- Adding limits to vertical vs. horizontal 1m ratio for hybrid antennas
- Adding minimum frequency resolution for calibrations

The group is working towards a revision to the document being completed in mid 2008. Dennis noted that the interaction between the IEC, VCCI and the C63.5 working group has improved recently and is more collaborative. Zhong Chen gave a presentation on the challenges presented by log antennas and site validation testing. (See Attachment G.) He noted correction factors have been included in ANSI C63.5 for two popular types of biconical antennas with 50 or 200 W baluns. For log antennas, site performance depends on the antenna patterns and physical lengths (phase center positions). These antenna parameters are different by models and manufacturers. Universal correction factors are not possible. He proposed the complex fit NSA, a theoretical model, as a solution to these challenges to complement the site comparison method. Mr. Heirman suggested ACIL could possibly help in this effort. Mr. Chen is looking for people who can provide antenna pairs that can be tested for this effort. Right now they have only tested antennas from Chase and EMCO.

**ACTION ITEM:** Camell to contact ACIL to assist with antenna testing to evaluate complex fit NSA.

#### **4.7 Project 1-15.7 C63.4 Fully Absorber Lined Room – Canceled**

Chair Windler removed this item from the agenda as the project was dropped by the consensus body.

#### **4.8 Project 1-15.9 Maintenance of Revision to C63.4**

In the absence of Working Group Chair Steve Berger, Don Heirman reviewed the list of the items to address in C63.4. Please see below for the items that have been “removed” from the list of previously submitted items from the last meeting minutes. Mr. Heirman moved to submit a new PINS to the parent committee to reflect the new work being undertaken by the working group. The motion was seconded and approved. Mike Windler will update the PINS and present it to the parent committee on Thursday, October 25. Future PINS work will include addressing GTEMs for measurements above 1 GHz and a reference to C63.10 (deleting clause 13), and removal of step-by-step emission procedures (annexes).

Below is the list of items/topics originally targeted to insert into C63.4-2003 by the first half of 2007. During the October meeting, the committee removed some of these topics as shown:

- a) Site validation and measurement procedures > 1 GHz **REMOVE**
- b) GTEM validation and measurement procedures for intentional radiators and for frequencies >1 GHz and harmonization with IEC 61000-4-20 and related TIA standards **REMOVE**
- c) Video display issues **REMOVE**
- d) Define cable loss as a function of temperature
- e) LISN calibration procedures
- f) Figure 2 (LISN impedance) equation
- g) TV signal peak-to-peak voltage reading for measurements
- h) Harmonize where possible test setups with 5<sup>th</sup> edition of CISPR 22 **REMOVE**
- i) Cite C63.5-2004 to replace 1988/1998
- j) Add requirement for taking into account pulse desensitization when making pulse measurements.

**This project is now in the main committee.**

#### **4.9 Project 1-15.10 C63.2 and C63.4 Use of Spectrum Analyzers for Emissions Testing**

In the absence of Working Group Chair Werner Schaefer, Mr. Windler presented his report. (See Attachment H.) His report includes an update to the working group roster. Mr. Schaefer submitted suggested text to address all outlined aspects to the working group members, the chair of C63 SC1, and the leader of project 1-15.9 (Stephen Berger) on March 25, 2007. It was suggested that the working group review the text and feedback be provided by April 30, 2007. No feedback was received. The text was then submitted to Stephen Berger for inclusion in C63.4. The text is now included in various parts of ANSI C63.4. The project itself now is complete but the publication and balloting will occur with the balloting on ANSI C63.4. Comment resolution and disposition should occur in parallel to the resolution of comments received on ANSI C63.4. For the time being, no further action is required since the project is now completely enveloped by the revision process of ANSI C63.4.

#### **4.10 Project 1-15.11 Measurement of Broadband Emissions Associated with Digital Technology - Canceled**

Chair Windler removed this item from the agenda as the project was dropped by the consensus body.

#### **4.11 Project 1-10.1 C63.10 Standard for Testing Unlicensed Wireless Devices**

Mr. Windler reported on the status of the project in the absence of Working Group Chair Art Wall. As noted at the last meeting, the first draft of this standard would address wireless testing of transmitting devices currently addressed by numerous existing standards and government regulations. The second edition will address various transmitters not addressed in other standards. If areas of wireless testing in this document are also found within C63.4, then eventually the plan will be to move this reference into C63.10, provided the FCC has accepted the testing called out in C63.10 at this point. The first edition was given to Windler and DeLisi for editing and review. SC 1 can expect an e-mail with this document for review and comment. The schedule is very aggressive, as Mr. Windler would like this to move to the parent committee for balloting by the end of this year.

**ACTION ITEM: Windler** to present the draft document to the parent committee to ballot by March 2008.

### **5.0 Web Site Management**

Dennis Camell, Vice-Chair, reported on the website. The Secretary was asked to send an e-mail to all S/C 1 committee members so they know the password. Chair Windler asked that input on the website be communicated to him so he can present it to the parent committee – who is responsible for the C63 website.

**ACTION ITEM: O'Neil** to send C63 website password and user code to SC 1 committee members.

**ACTION ITEM: Subcommittee 1** to submit comments on C63 website to Windler for passing along to parent committee.

### **6.0 Old Business**

#### **ESD (C63.16)**

Since the last meeting, the parent committee rejected the recommendation of SC 1 to remove this work to create an ESD guide from the SC 1 committee. The work was then assigned to S/C 5 and Ed Hare was tasked to write the PINS for this work.

**ACTION ITEM: Ed Hare** to draft a PINS for this work to be conducted in S/C 5.

## **7.0 Standards Development: Next Steps**

### **Revisions to ANSI C63.4**

Mr. Windler led a discussion on the next revisions to C63.4. Committee consensus was to:

- Remove site requirements (see above for info)
- Refer to the new Uncertainty Standard (C63.23)
- Remove transmitter requirements (assuming C63.10 is published)

## **8.0 Action Item Review**

Chair Mike Windler advised that the updated action item list would be distributed to the SC 1 members along with the draft minutes from this meeting. (See Attachment I for Action Items list.)

**ACTION ITEM: O'Neil** to distribute the updated consolidated action items and draft minutes from the October 23, 2007 meeting to the committee.

## **9.0 Time and Place of Next Meeting**

The next series of C63 meetings will take place for three days over March 17-April 4 at IEEE Headquarters in Piscataway, NJ. If anyone has any conflict with this timing, please let Chair Windler know. The exact dates will be finalized at the parent committee meeting on October 24, 2007. *NOTE: Subsequent to this meeting, the next meeting date for S/C 1 was confirmed as being on Wednesday, April 16, 2008.*

## **10.0 Adjourn**

With no further business, Chair Windler adjourned the meeting at 5:00 pm

Minutes submitted by:

Janet O'Neil  
Secretary, S/C 1

## **ATTACHMENTS**

Attachment A: Agenda for October 23, 2007 - SC 1 Meeting

Attachment B: Meeting Attendance List

Attachment C: SC 1 Membership Roster and Working Group Roster

Attachment D: Windler New PINS on C63.4 (Site Acceptability Above 1 GHz), Windler PINS on Site Requirements

Attachment E: DeLisi presentation on Project 1-15.5, C63.23

Attachment F: Camell presentation on Project 1-15.6, C63.5

Attachment G: Chen presentation on Complex Fit Normalized Site Attenuation

Attachment H: Schaefer presentation on Project 1-15.10, C63.2 and C63.4

Attachment I: Consolidated Actions Items list