

**APPROVED MINUTES**  
**ASC C63® SC1: Techniques and Development**  
**October 5, 2011**  
**Thompson Park**  
**Lincroft, NJ**

Presiding Officer: Dennis Camell

Date Prepared: October 5, 2011

**Members Present:**

Mark Arthurs  
Masud Attayi  
Colin Brench (Vice-Chair)  
Dennis Camell (Chair)  
Zhong Chen  
Andy Griffin  
Tim Harrington  
Don Heirman  
Harry Hodes  
H. R. Hofmann  
Dan Hoolihan  
Nick Hooper  
Steve Jones  
Victor Kuczynski  
Randy Long  
Janet O'Neil (Secretary)  
Ghery Pettit  
Dan Sigoion  
Jeff Silberberg  
Bill Stumpf  
Art Wall  
Steve Whitesell

**Employer:**

Sony  
RIM  
Amphenol-HSI  
NIST  
ETS-Lindgren  
Cisco  
FCC (via telecom)  
Don HEIRMAN Consultants  
Acme Testing Co./ACIL  
Hofmann EMC Engineering (via telecom)  
Hoolihan EMC Consulting  
Underwriters Laboratories Inc. (UL)  
FCC  
Vican Electronics  
L-A-B  
ETS-Lindgren  
Intel  
Industry Canada  
FDA Center for Devices & Radiological Health  
DLS Electronic Systems  
RCC Inc.  
VTech Communications

**Members Absent:**

Rick Lombardi  
Doug Parker  
Nate Potts  
Werner Schaefer  
Ralph Showers  
Don Umbdenstock

**Employer:**

Visteon  
Liberty Labs  
Liberty Labs  
Schaefer Associates  
University of Pennsylvania  
Tyco Retail Solutions

**Guests:**

Mac Elliott  
Adam Gouker  
Ed Hare  
Jeff Moser  
Dheena Moongilan  
David Zimmerman

**Employer:**

Motorola  
A2LA  
ARRL  
Underwriters Laboratories Inc. (UL)  
Alcatel-Lucent  
Spectrum EMC Consulting

## **1.0 Call to Order—Chair**

### **1.1 Opening Remarks and Announcements: Chair**

### **1.2 Meeting Logistics Announcements: Host**

### **1.3 Introductions: Secretary**

Chair Dennis Camell called the meeting to order at 8:30 am. A round of introductions was made. The Chair thanked Don Heirman and Jerry Ramie for the meeting arrangements.

## **2.0 Approval of the Meeting Agenda: Chair**

Dennis Camell presented the draft agenda for the October 5 meeting for review. (See Attachment A.) **Don Heirman moved to approve the agenda as presented. The motion was seconded and approved.**

## **3.0 Presentation of [patent slides](#): Chair**

Dennis Camell gave a presentation that reviewed the status of the meeting fees, ANSI policy related to Intellectual Property (IP), inappropriate topics for IEEE working group meetings and the working group meeting slide template. (See Attachment B.)

## **4.0 Presentation of [meeting attendance](#) fee slides: Chair**

Dennis Camell reviewed the meeting attendance fees and noted Dan Hoolihan, Vice-Chair of C63®, would contact individuals present who are required to pay a meeting attendance fee.

## **5.0 Approval of Minutes of Previous Meeting: Secretary**

Secretary Janet O’Neil presented the minutes of the May 4, 2011 meeting held in Cedar Park, Texas at ETS-Lindgren. Comments were received from Werner Schaefer and Don Heirman. Changes were made as follows:

1. Correct the company name/affiliation of Colin Brench to read Amphenol-HSI
2. In Section 7.0, under C63.5, first paragraph, remove the wording “to get away from the central reflection zone” and replace the word “positioning” with “portion of the ground plane.”
3. In Section 10.0, Review of Interpretation Requests, remove “Reference 8.3.2.2 of C63.4”

**Don Heirman moved to approve the May 4, 2011 meeting minutes as amended with these changes. The motion was seconded and approved.** See Attachment C for the approved minutes of the May 4, 2011 meeting.

## **6.0 Review of [Subcommittee Membership](#): Secretary**

**6.1 Review of membership – Members at risk.** Janet O’Neil advised that there were no members at risk. (See Attachment D for the updated membership tracking record.)

**6.2 Consideration of Members**—Ms. O’Neil advised there are four new SC 1 membership applications to review: from Dan Sigouin (Industry Canada), Steve Whitesell (independent consultant), Rick Lombardi (Visteon) and Andy Griffin (Cisco). Mr. Camell showed the membership applications and resumes of these gentlemen. Ms. O’Neil confirmed she had contacted all references shown on the applications. All references confirmed their support of these new member candidates. **It was moved to forward the membership application of Andy Griffin to the C63 parent committee. The motion was seconded and approved. It was moved to forward the membership application of Dan Sigouin to the C63 parent committee. The motion was seconded and approved. It was moved to forward the**

**membership application of Steve Whitesell to the C63 parent committee. The motion was seconded and approved. It was moved to forward the membership application of Rick Lombardi to the C63 parent committee. The motion was seconded and approved.**

The Chair reviewed the roster of working group members as shown on the C63 website. Some revisions were made. The updated roster of working group members and SC 1 membership roster with contact information is included in Attachment E.

**ACTION ITEM: All working group Chairs need to complete their rosters and indicate their officers (Vice-Chair and Secretary) and submit to Chair Camell prior to the next meeting (April 2012).**

## **7.0 Working Group Reports**

### **C63.2: EM Noise & Field Strength Instrumentation**

Working Group Chair: **Open**

Status: Current. No plans for further maintenance at this time.

### **C63.4: Emissions Measurements**

Working Group Chair: [Don Heirman](#)

Status: Current. Maintenance underway.

Don Heirman provided an update of his working group activity. See Attachment F. Mr. Heirman, Bill Hurst, Ghery Pettit, and Tim Harrington reviewed all the comments received from the last circulated draft. His report reviewed the comments received and their respective proposed resolutions. Several SC 1 members commented on Table 2 and the use of hybrid antennas for measurements in the frequency range of 30 MHz to 1 GHz. Following discussion, Don Heirman noted there would be presentations on this matter later during the meeting with an intended resolution based on further study. Other major comments received were reviewed in the presentation. The “mechanical translation stage” term was changed to XYZ positioner. Regarding the SVSWR method, there was a discussion should the positions noted in the CISPR procedure with discrete transmit antenna positions be retained. An option considered was to have a continuous movement of the transmit antenna positions. This deviated too much from that in the CISPR standard and hence was not accepted. The antenna aiming issue and how to define this generated much discussion. In summary, the working group will review all comments, make changes as recommended by the working group, and re-circulate the document to SC1. Mr. Heirman will use the “track changes” feature to identify the changes. He feels the document is about 95% complete; but would first want to send it to SC1 to review one last time before its being ready for parent committee ballot.

**The Chair moved to send the version of C63.4 - once the changes noted above had been made - to the parent committee for vote after a final review by SC1. The motion was seconded. Eight voted for the motion; six voted against the motion. The motion was approved. Dan Hoolihan moved to take a verbal vote per a roll call of members. The motion was seconded and approved.** As a result of the roll call vote, there were eight votes for the motion, five votes against the motion, and three abstaining votes. There were a total of 16 votes received of the 22 voting members; the Chair confirmed this constituted a quorum.

### **C63.5: Antenna Calibration**

Working Group Chair: [Dennis Camell](#)

Status: Current-2006. Next edition in progress

Working group Chair Dennis Camell provided his report. (See Attachment G.) The last working group meeting was held on Monday, October 3. The latest draft was reviewed and over 50 comments were received. The group agreed that additional text for time domain gating, with further explanation, may be necessary. The document should tie into C63.4 and C63.10 while making sure sections flow from one document to the other. A mention of 'reference site' needs to be clarified as well as a distinction drawn between SACS and CALTS. New topics discussed included having the S/N level be S+N/N and be set to -20 dB minimum. Standard gain horns require more description on use of either measured gain or calculated gain based on measured dimensions. A better definition is needed regarding using the same site for calibrations and product testing. However, it should be clear that different areas on a site can be used. The working group advised that reference antennas should be calculable dipoles only. CISPR copyright approval is required for the RAM uncertainty section. Mr. Camell provided a diagram to illustrate Product Testing Sites. This is included in Attachment G. A final draft for vote by SC1 is expected by November or December 2011.

### **C63.10: Unlicensed Wireless Devices Testing**

Working Group Chair: [Art Wall](#)

Status: Next edition in progress

Chair Art Wall presented his report. (See Attachment H.) **Mr. Wall moved to approve balloting the current document C63.10-20XX in December 2011. The motion was seconded and approved.**

**Mr. Wall moved to recommend permission to submit the pre-calibration method and survey to the FCC for their consideration. The motion was seconded and approved.**

The Wireless Working Group (WWG) met on October 3, 2011 in the afternoon and the morning of October 4, 2011. Attendance included 25 WWG members plus one observer and one call-in member. C63.10-20xx was edited in July and circulated in August for ballot approval and comment to SC-1. It was then circulated in August to the WWG for additional comments. A final draft of C63.10 (20xx) was discussed during the October WWG meetings. A request for permission to start balloting process was made. The WWG will now focus C63.26 – the compliance testing of licensed transmitters.

In the final review of C63.10-20xx, relatively few comments were received, which included, but were not limited to:

- a) 4.4.1 – Table 1 – antenna requirements – revised to agree with next text in C63.4-20xx
- b) 7.7 – new FCC procedure for DTS devices
- c) 7.15 – FM transmitters (clarified table-top and conducted RF power measurements)
- d) Clause 8 – test report (*deleted reference to 17025 and regulatory reporting requirements and retained only those items needed for documenting compliance test results*)
- e) Some ANNEXES need updating (e.g., A & B)

A ballot is expected by the end of the year. Further details are included in Attachment H.

### **C63.23: Measurement Uncertainty**

Working Group Chair: [Bob DiLisi](#)

Status: New Standard. Draft being written; Edition 1.0

In the absence of Working Group Chair, Bob DeLisi, Dennis Camell presented his report. (See Attachment I.) This provides an update on the Working Group roster.

**Dennis Camell moved to review the draft of this document recently circulated to SC1 and, pending acceptance by the committee, move the document forward to the parent committee for balloting. The motion was seconded and approved.**

**C63.25: Time Domain Applications for Test Site Validation**

Working Group Chair: Dennis Camell

Status: New Standard. Draft being written.

Chair Camell presented his report. (See Attachment J.) The committee has been reorganized since Mike Windler, the former chair of this committee, resigned. Mr. Windler forwarded all documentation from the working group to Mr. Camell. Don Heirman noted that this document would be referenced by each of the C63 standards. In other words, all site validation text from the other standards will be pulled from the C63 standards and replaced with a reference to the new C63.25 standard. It is expected that the document will be ready to ballot in the spring of 2012.

**C63.26: Licensed Transmitter Testing**

Working Group Chair: [Art Wall](#)

Status: New Standard. Draft being written.

Chair Art Wall presented his report. (See Attachment H.) The working group met in conjunction with the C63.10 working group as noted above. The document is still in the early stage of development.

**8.0 Old Business - Chair**

No old business was addressed.

**9.0 New Business - Chair**

Several presentations were given regarding the use of hybrid antennas for product testing and site validation.

Dennis Camell showed a presentation by Tim O'Shea and Greg Kiemel of Northwest EMC. (See Attachment K.) This provides a comparison of hybrid antennas with biconical and log periodic antennas from an EMC test lab perspective.

John Hirvela of Hewlett Packard presented "Evaluation of Biconical and Log Periodic Antennas in Place of Hybrid Antenna." (See Attachment L.) This supports the use of hybrid antennas for chamber measurements.

Mr. Hirvela also provided a presentation by the Industry Technology Industry (ITI) Council on the use of hybrid antennas. A survey of labs known to ITI members was conducted to see how many use hybrid (bilog) antennas for radiated emissions testing. The survey results showed 84% of the 30 labs surveyed used hybrid antennas. This documents that his company, as well as several others, prefer to use bicon and bilog antennas. The list of test labs/companies surveyed that use hybrid, bilog, and biconilog antennas are included in the report. (See Attachment M.)

John Fessler of Lexmark next gave a presentation via telecom on bicon and bilog antennas. (See Attachment N.) He noted the errors, although leaning slightly higher on the bicon antenna, if these antennas are well designed and properly used; they are fine to for these measurements.

Chair Camell summarized that there are many users of the types of antennas shown in these presentations.

Dan Hoolihan suggested using the words out of CISPR 22 for the Table in C63.4, i.e. see CISPR 22 - Par. 10.3: "Note - Other antennas may be used provided the results can be correlated with the balanced dipole antenna with an acceptable degree of accuracy." The maintenance team (headed by Don Heirman) said they would consider this suggestion.

Don Heirman noted that these presentations will be reviewed and addressed by the C63.4 maintenance working group.

#### **10.0 Review of Interpretation Requests: Chair**

Chair Camell reviewed the recent questions raised on various documents and relayed how they were addressed.

#### **11.0 [C63.org](#) Website Use and Updates: Web Content Manager ([Ed Hare](#))**

In the interest of time, this report was not given.

#### **12.0 Review of the Action Items from Previous Meetings: Secretary**

Secretary O'Neil 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 O for the Action Items list.)

**ACTION ITEM: O'Neil to distribute the updated consolidated action items and draft minutes from the October 5, 2011 meeting to the committee.**

**ACTION ITEM: O'Neil to send the password to the SC 1 committee so they can access the SC 1 "members only" section of the website. NOTE: This user and pass code is for access to the SC 1 page ONLY. Working groups under other SCs will have different user codes and passwords.**

#### **13.0 Standards Development - Next Steps: Chair**

Chair Camell reported that all standards are active and there is nothing new to report.

#### **14.0 Time and Place of Next Meeting: Chair**

The next series of C63® meetings will take place in New Jersey for four days over April 16-19, 2012. The SC 1 meeting date will be on Wednesday, April 18, 2012 at 8:00 am.

#### **15.0 Closing Remarks and Adjournment: Chair**

With no further business, Chair Camell adjourned the meeting at 11:00 am. He thanked everyone for coming to the meeting.

Minutes submitted by:



Janet O'Neil, Secretary, SC 1

ATTACHMENTS

- Attachment A: Agenda for October 5, 2011 SC 1 Meeting
- Attachment B: Patent Slides Required Meeting Template Slides for ASC C63®, IP Info
- Attachment C: Approved Minutes from May 4, 2011 SC 1 Meeting
- Attachment D: Meeting Attendance/Tracking List
- Attachment E: SC 1 Membership Roster and Working Group Roster
- Attachment F: Heirman Report on C63.4
- Attachment G: Camell Report on C63.5
- Attachment H: Wall Report on C63.10 and C63.26
- Attachment I: DeLisi Report on C63.23
- Attachment J: Camell Report on C63.25
- Attachment K: Northwest EMC Presentation on Hybrid Antennas
- Attachment L: Hirvela Presentation on Hybrid Antennas
- Attachment M: Industry Technology Industry (ITI) Council Presentation Hybrid Antennas
- Attachment N: Fessler Presentation on Hybrid Antennas
- Attachment O: Consolidated Action Items List