

**APPROVED MINUTES**  
**ASC C63 SC1: Techniques and Development**  
October 21, 2009

**The National Institute of Standards and Technology (NIST)**  
**Boulder, Colorado**

Presiding Officer: Dennis Camell

Date Prepared: October 21, 2009

**Members Present:**

Masud Attayi  
Colin Brench (Vice-Chair)  
Dennis Camell (Chair)  
Bob DeLisi  
Don Heirman  
Dan Hoolihan  
Bill Hurst  
Victor Kuczynski  
Janet O'Neil (Secretary)  
Doug Parker  
Ghery Pettit  
Nate Potts  
Werner Schaefer  
Jeff Silberberg  
Bill Stumpf  
Art Wall

**Employer:**

RIM  
Southwest Research Institute  
NIST  
Underwriters Laboratories Inc. (UL)  
Don HEIRMAN Consultants  
Hoolihan EMC Consulting  
FCC  
Vican Electronics  
ETS-Lindgren  
Liberty Labs  
Intel  
Liberty Labs  
Cisco Systems, Inc.  
FDA Center for Devices & Radiological Health  
DLS Electronic Systems  
RCC Inc.

**Members Absent:**

Mark Arthurs  
Stephen Berger  
Tim Harrington  
H. R. Hofmann  
Jon Lichtig  
Ralph Showers

**Employer:**

Sony  
TEM Consulting  
FCC  
Hofmann EMC Engineering  
Lichtig EMC Consulting  
University of Pennsylvania

**Guests:**

Poul Andersen  
Zhong Chen  
Dean Ghizzone  
Adam Gouker  
Ed Hare  
Dheena Moongilan  
Jerry Ramie  
David Zimmerman

**Employer:**

SAE Representative  
ETS-Lindgren  
Northwest EMC  
A2LA  
ARRL  
Alcatel-Lucent  
ARC  
TUV SUD America

## **1.0 Call to Order—Chair**

Chair Dennis Camell called the meeting to order at 2:15 pm. A round of introductions was made.

## **2.0 IP Review and Meeting Fees**

Mr. Camell showed a slide that reviewed the status of the meeting fees, ANSI policy related to Intellectual Property (IP), and the working group meeting slide template. (See Attachment A.)

## **3.0 Approval of April 22, 2009 Meeting Minutes and October 21, 2009 Meeting Agenda**

The Chair presented the consent agenda, which included the agenda for today's meeting (see Attachment B) and the minutes from the last meeting (April 22, 2009) for approval. **Don Heirman moved to approve the April 22, 2009 meeting minutes. The motion was seconded and approved.** See Attachment C for the approved minutes of the April 22, 2009 meeting. **The agenda for October 21, 2009 was presented. Dan Hoolihan moved to approve the agenda as presented. The motion was seconded and approved.**

## **4.0 Membership Review**

Secretary Janet O'Neil reviewed the attendance records to determine members at risk. (See Attachment D.) Steve Berger, Tim Harrington and John Lichtig are members who have not met the membership criteria of not missing three consecutive meetings. They will be dropped from membership in S/C 1 accordingly. Secretary O'Neil noted Art Wall and Mark Arthurs indicated an interest in joining S/C1. Their respective membership applications and resumes were circulated to the committee for review and approval. It was moved to approve the S/C 1 membership applications of Art Wall and Mark Arthurs. The motion was seconded and approved. The rosters 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 E. A motion to approve the membership roster as presented at the meeting. The motion was seconded and approved.

### **ACTION ITEMS:**

**Secretary O'Neil to advise Steve Berger, Tim Harrington and John Lichtig that their membership has been dropped in S/C 1.**

**Secretary O'Neil to add Art Wall and Mark Arthurs to the S/C 1 membership roster.**

## **5.0 Working Group Reports**

### **5.1 Project 1-13.2 C63.4 Site Requirements Above 1 GHz – Now C63.25**

Chair Camell noted that WG Chair Mike Windler is taking measurements at this time using the TDR method. For reference, the new standard C63.25 provides requirements for radiated emissions test sites including open area tests, semi-anechoic rooms below 1 GHz and partially absorber lined open area tests and semi-anechoic rooms above 1 GHz. C63.25 will copy the below 1 GHz requirements (performance and construction) from C63.4. The new standard will include by reference SVSWR and a new Time Domain method. The working group is developing a comparison annex between TDR and VSWR. WG members include Colin Brench, Dennis Camell, Don Heirman, Zhong Chen, Werner Schaefer, Dan Hoolihan and Bob Hofmann.

**ACTION ITEM: Camell to contact Mike Kipness at IEEE to check on status of PINS for C63.25 so it can be posted to the S/C 1 website.**

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

Working group chair Bob DeLisi presented his report. (See Attachment F.) The committee work is behind schedule. He expects to have the new draft ready for circulation by the end of this year. He noted the document has been reorganized and many terms and definitions have been moved to the informative annex.

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

Working group Chair Dennis Camell provided his report. (See Attachment G.) Due to multiple questions and concerns from SC1, the document has been sent back to the Working Group for additional work and creating a new PINS. The revised scope of work was presented. This includes rearranging sections to handle additional text as well as adding sections to address time domain, dipole corrections, and frequency step size. Some sections will be expanded, such as the reference antenna definition and SSM for above and below 1 GHz. Uncertainty calculations will be expanded. The new edition will include rewording for harmonization with IEC/CISPR, improved clarity, and fixing of typos. The new edition will also include a reference to the VCCI concerns. Mr. Camell showed the PINS that the WG revised during their meetings earlier in the week. (See Attachment H.) **Don Heirman moved to approve the new PINS and submit it to the parent committee. The motion was seconded and approved.**

**ACTION ITEM: Dennis Camell to send the VCCI the new edition of the C63.5 standard that shows the inclusion of the VCCI method.**

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

Don Heirman provided an update on site validation above 1 GHz. He spoke about items to be revisited, inclusion of time domain technique, and the reference to NSA and questioned if all these site validation methods should be included in one document. Camell requested that some of the text related to NSA be moved from C63.5 to C63.4.

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

Working group chair Art Wall, presented his report. (See Attachment I.) As a reminder, C63.10-2009 was published in September 2009. The PINS for C63.10 Edition 2 was approved by C63<sup>®</sup> and submitted to ANSI for balloting. The PINS for C63.26 for licensed transmitters was approved by ANSI in July 2009. For C63.10 Edition 2, work is progressing in the following Task Groups:

- Measurements above 1 GHz, including instrumentation requirements and procedures (Vitek)  
*(Note: There is a need to coordinate the activities of this Task Group with the activities of the SC1/WGs for Site Acceptability, Antenna Calibration and Measurement Uncertainty. It would be helpful to obtain a detail report of the activity and status of the work in each of these WGs. A meeting or conference call with these WG chairman may be useful.)*
- Broadband system measurements (Case)
- MIMO (Heckrotte)
- EIRP and ERP measurements (Case)
- Polar plots and antenna characteristics (Kramer)

- Multiple transmitters (Luksich)
- Antenna array testing (Arthurs)
- Measurements below 30 MHz (Hare)
- Maintenance of Edition 1 issues (Stumpf)

The committee is pursuing including measurement procedures above 1 GHz in the next edition, along with instrumentation considerations including sensitivity. The Chair emphasized coordination is needed between C63.10 and C63.25 on this topic.

Mr. Wall's committee initiated a new PINS for licensed wireless devices at the last S/C 1 meeting in April 2009. The scope of work covers only licensed devices as having both licensed and unlicensed devices in one standard was deemed too difficult. Therefore, the committee decided to separate the document into two – one for licensed wireless devices and one for unlicensed wireless devices.

Work is just beginning for C63.26 on licensed transmitters. A roadmap has been developed and key tasks identified. An effort is under way to expand the number of stake holders.

## **6.0 Web Site Management**

Chair Dennis Camell advised that all action items related to the C63 website from S/C 1 discussed at the last meeting have been addressed. Some S/C 1 members noted they were having trouble accessing the members only password protected areas of the C63 website. Secretary O'Neil relayed the password to the committee.

## **7.0 Old Business**

**ACTION ITEM: O'Neil to send password to subcommittee members whenever new agendas, minutes, etc. are distributed to the committee and posted to the website.**

## **8.0 New Business**

### **8.1 New Standard Matrix**

Ed Hare reported on the new standards matrix. This will show the status of each standard in an easy to read format.

### **8.2 Standards Intra-Relationships**

Regarding standards intra-relationships, Dennis Camell discussed the situation when a new standard is published that there is a lag for the harmonization with other standards. For example, when the new C63.4 was recently published, it referenced an older version of ANSI C63.5.

### **8.3 C63.5 PINS**

The new version of this PINS was presented and approved by SC1 to be sent to the parent committee.

**ACTION ITEM: Zhong Chen to write an explanation of reference site method to the measured GSCF method for publication in C63.5.**

## 9.0 Action Item Review

Chair Dennis Camell advised that the updated action item list would be distributed to the S/C 1 members along with the draft minutes from this meeting. (See Attachment J for the Action Items list.)

### **ACTION ITEM:**

**O'Neil to distribute the updated consolidated action items and draft minutes from the October 21, 2009 meeting to the committee.**

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

## 10.0 Time and Place of Next Meeting

The next series of C63 meetings will take place for four days over April 19-23, 2010. The S/C 1 meeting date will be on Wednesday, April 21, 2010 at 8:30 am.

## 11.0 Adjourn

With no further business, Chair Camell adjourned the meeting at 4:30 pm.

Minutes submitted by:



Janet O'Neil  
Secretary, S/C 1

## ATTACHMENTS

Attachment A: Required Meeting Template Slides for ASC C63®, Meeting Fees, IP Info

Attachment B: Agenda for October 21, 2009 S/C 1 Meeting

Attachment C: Approved Minutes from April 2009 Meeting

Attachment D: Meeting Attendance List

Attachment E: S/C 1 Membership Roster and Working Group Roster

Attachment F: DeLisi Report on C63.23

Attachment G: Camell Report on C63.5

Attachment H: PINS for C63.5

Attachment I: Wall Report on C63.10

Attachment J: Consolidated Action Items list