



Donald Heirman
Chair
d.heirman@ieee.org
732-741-7723

Thomas Fagan
Vice-Chair
tjfagan@ieee.org
520-794-0227

Monrad Monsen
Secretary
monrad.monsen@oracle.com
720-394-0398

18 March 2015
TC-2

IEEE EMC Technical Committee #2
EMC MEASUREMENTS

Meeting Minutes

Place: Santa Clara Convention Center, Santa Clara, California

Date: 18 March 2015

www.emcs.org/committees/tc02/index.html

1.0 Call to Order/Introductions

Meeting was opened by Chair, Don Heirman, at 7:00AM. All in attendance introduced themselves and signed roster.

<u>Name</u>	<u>Company</u>	<u>Member</u>
Ross Carlton	National Instruments	Y
Carl Hager	NSWC Dahlgren	Y
Tom Fagan	Raytheon Missile Systems	Y
Don Heirman	Don Heirman Consultants	Y
Robert Hofmann	Hofmann EMC	Y
Dave Inman	Parker-Chomerics	Y
Jeff Klinger	Compatible Electronics	Y
Adam LaCourse	Curtis Instruments	N
John Maas	IBM	Y
Don McPherson	SRC, Inc.	N
Monrad Monsen	Oracle	Y
Noel Sargent	NASA-KSC	N
Abtin Spantman	Danfoss Power Electronics	Y
Greg Tait	NSWC Dahlgren	Y

NOTE: Those attendees not presently members of the committee will be added to the membership list for one (1) year and will receive all TC-2 minutes as well as agendas. Members not present will also get meeting minutes. The policy of the TC-2 committee is that if a member does not attend the TC-2 committee meeting the following year, he/she is removed from the membership roll unless there is a communication with one of the officers indicating the circumstances for the non-attendance. The secretary will update the TC-2 membership list and post to the TC-2 web site (website address is www.emcs.org/committees/tc02/index.html) along with the draft meeting minutes by giving to Bruce Archambeault on bruce.arh@ieee.org.

2.0 Approval of 2014 Minutes

The members present approved the 2014 meeting minutes with minor changes. This will be posted on the TC2 website portion of the EMCS technical committee webpage.

3.0 Committee Membership Status

3.1 Election of officers

Terms of elected officers is for a two (2) years. Present officers were elected at Raleigh in 2014. Next election of officers will take place next year.

3.2 Removal of non-active participants from membership roster

Membership occurs on the first attendance at a TC-2 meeting, and membership is maintained by attending at least two (2) or more meetings in the last four (4) years.

All attendees will initial the sign-in roster. After the Dresden TC-2 meeting, those that have not attended a face-to-face TC-2 meeting since 2012 will no longer be a TC-2 member but will remain on the list for one additional year to receive meeting announcements. Those that have not attended a face-to-face TC-2 meeting since 2011 will be removed from the list.

4.0 Current Symposium Activity, March 2015

We had fewer papers this year in Santa Clara. Only 70-90 papers for the entire Santa Clara symposium this year, and 11 were for TC-2. The TC committee that reviews the paper should be listed on the Symposium final program. Dresden has a great participation for papers. For TC-2 alone, we have about 100 papers for Dresden (International EMC&SI Symposium). We have tough rejection criteria including format, proper English, and technical content. The committee encourages the quality to improve in the future.

SC1 Smart Grid had smaller attendance, but audience was fully engaged with good questions after the papers.

Paper authors identify which committee they believe their paper belongs. The committees are identified in the call for papers. Reviewers can recommend transferring the papers to another committee.

5.0 Standards

Don went thru the standards that TC-2 is working on.

http://www.ewh.ieee.org/soc/emcs/standards/sdecom/Standards_Matrix.html

IEEE Standards that are in review process or need to be placed in review process. These EMCS standards are

- 139 (Measurement of RF for ISM equipment on user's premises)
- 187 (TV/FM spurious emissions)
- 299 (Shielding effectiveness of enclosures)
- 299.1 (Shielding effectiveness of enclosures with dimensions between 0.1 & 2m)
- 377 (Land mobile spurious) ← Might be dropped since some content addressed in other standards.
- 473 (Site Survey)
- 475 (Field disturbance sensors)
- 1128 (Absorber performance) ← Current only goes to 5 GHz, so they are working to address up to 18GHz.
- 1140 (Near field LF emissions)
- 1302 (Gasket characterization) ← Working to add 18GHz to 40GHz.
- 1309 (Probes)
- 1560 (Filters in the range 100Hz to 10GHz) ← No activity.
- 1597.1 (Validation of computer modeling & simulation)
- 1642 (Intentional EMI) ← Published a month ago.
- 1688 (Module testing) ← Addresses testing at modular level to project system level performance.
- 1897 (Resolution of Power Line Gap Noise Reports)

Action item 15-1: May want a tutorial on testing at the point of installation of the product – in situ testing. (Don Heirman)

IEC 61967 & IEC 62132 IEC 62135 addresses ESD for IC chips.

Action item 15-2: Don asked TC2 committee to email him to volunteer, and he would get them connected with the committees. He can also assist people to be linked with measurement related standards committees outside of IEEE including Mil Stds. (All)

Action item 15-3: Don asked TC2 committee to email him what the “top two” standards are that they use. Don will use this information to get an idea of the most utilized standards. (All)

6.0 iNARTE

iNARTE which had merged with RAB/QSA is now a part of Exemplar Global. They still have an office in Milwaukee, Wisconsin. They changed questions to eliminate answers saying “All the above” or “None of the above”. No questions will be required in order to apply for iNarte certification in the future. Instead, the questions will come from experts in the field that Exemplar Global will train on question and answer writing.

Don Heirman, TC-2 chairman, will be the POC for Exemplar Global on iNarte questions. We have not seen iNARTE questions for two years now. Don believes the current test has old questions that were reviewed by an individual (maybe Bruce). Much work is needed to add and review questions for the future.

To check on iNARTE certification renewal status, call 888-722-2440. Possibly you can get information at Narte.org . They also have a booth in this symposium.

7.0 Future Symposium Activity

7.1 Future topics for IEEE conferences.

International Symposium will be in Dresden Germany on August 16-22, 2015. Topics already identified and papers already collected. Don briefed the topics and speakers planned for Dresden.

- Standards development including IEEE and CISPR (Don Heirman)
- Measurement instrumentation & calibration (Jens Medler)
- Tips on selecting a test lab (Dan Hoolihan)
- Measurement Uncertainty – CISPR 16-4-2 (Manfred Stecher)

For Ottawa, TC-2 brainstormed the below topics:

- ICES standards (like Dan Seguine)
- How to measure emissions from wind turbines and fuel cells for in situ measurement.
- How to plan for a qualification test. Obvious for a PC, but how to plan for an industrial product. Operation, performance degradation, etc. Performance degradation determined from specs and even lack of specs.
- Smart meters (smart grid) test methods and standards. Some standards are power utility unique internal standards.
- Lab qualification and accreditation process. Is there a way to impose monitoring on labs. Some users see labs with disparate measurements. For conducted, labs need isolation transformer to keep noise out. User should insist on a scan before product is turned on to ensure that there is no ambient noise. One user would prefer that there was some oversight of labs.
- Application opportunities of reverb chambers.

7.2 Technical Program responsibilities and chair reminders.

7.3 Paper review deadlines

To be a reviewer, send Don a note indicating your availability and your areas of expertise.

Action item 15-4: Send notice asking who will be attending Dresden, who can review papers, and if going – can you be a session chair. (Monrad Monsen)

7.4 Paper reviewers

Don Heirman had to depart meeting at this point to brief at another meeting. Tom took over chair to complete the meeting.

8.0 Set meeting and agenda for next meeting(s)

8.1 Dresden

8.2 Ottawa

Don might move meeting from Wednesday to another day during symposium due to conflicts.

9.0 Close of 2015 Meeting

The acting chairperson (Tom) thanked those in attendance and closed the meeting at 8:40 AM.

Monrad L. Monsen
Secretary IEEE EMC TC-2