



**IEEE Electromagnetic Compatibility Society
Technical Committee 4: EMI Control Annual Meeting**

Meeting Minutes - Final

Place: Long Beach Convention Center, Long Beach, CA

Date: Thursday, 2 August 2018 Monday, 30 July 2018

Time: 1200 – 1330 hrs.

Room: 103AB

Meeting Commence 12:05 PM

1. Welcome & Introductions

- a. Completed

2. Review of Draft Agenda

- a. Motion to approve and seconded

3. Review and approval of the August 9, 2017 meeting minutes

http://www.emcs.org/assets/documents/TC4%20Minutes%202017_08%20Draft.pdf

a. Review Action Items

- i. Mark Montrose reword charter for review and vote at next meeting
- ii. TC-4 secretary will continue to update the TC-4 web site - continuous
- iii. 4 standards in development
- iv. Start a study group Lead by Li, Huadong for categorization of materials

- b. Approve - Approved no objections

4. Review and approval of May 16, 2018 meeting minutes (Chair)

http://www.emcs.org/assets/documents/TC4_Minutes_2018_SIN-draft.pdf

a. Review Action Items

- i. Did not have quorum to approve the meeting minutes
- ii. Ross Carlton resigned from vice chair of TC4 due to time constraints
 - 1. Daryl Beetner interested in being the vice chair
- iii. Website updates are difficult to get the site updated
- iv. IEEE Recommended more TC4 members in Standards Reviews Committee
- v. Major discussion about 2 round review process for papers

- b. Approve – Approved no objections

5. Review of TC-4 Charter and Membership Criteria (Chair)

a. Current charter

This committee is concerned with design, analysis, and modeling techniques useful in suppressing interference or eliminating it at its source. Bonding, grounding, shielding, and filtering are within the jurisdiction of this committee. These activities span efforts at the system, subsystem, and unit levels.

b. Mark Montrose (MM) proposed charter

This committee is concerned with design, analysis and modeling for both printed circuit boards and systems to minimize the development of undesired RF energy to achieve EMC. Items within the scope of this committee include design techniques and implementation associated with component packaging, PCB layout, shielding, grounding, interconnects and filtering.

c. Reasoning

- i. This TC has a wider reaching spread than what is indicated by our charter
- ii. Expanding includes preventing interference methods that are not under any other groups considerations

d. Discussion

- i. Q: would this include using interference and modeling methods (ANSIS)?
 1. This is somewhat covered by the existing first line and are covered by other TC groups but need to be determined if the modeling is pertinent to interference suppression
 - ii. Q: Is grounding a good term to use in current applications? Yes
 1. Grounding is different than bonding
 - a. Grounding a pathway and electrical (referencing, RF return)
 - b. Bonding is mechanical
 - iii. Q: could we be more general by changing last line to: eliminating signal interference at the source?
 1. Could be but in MM opinion the wording is too vague
 - iv. Q: could get confusing with PCB layout committees
 1. This would be more like bonding that includes PCB layout as pertains to Signal integrity
 - v. Q: would the description on Circuit board layout be too narrow?
 1. In MM opinion it would be too narrow
 - vi. Q: "Printed circuit boards" in the first line could be taken as too tight?
- e. Move for a straight up and down vote - Seconded
1. Discussion: none
 2. Agree: 6
 3. Apposed: 7
 4. Motion does not carry
- f. Still some interest in the action, members are interested

- i. Please provide comments to Mark Montrose - OK to publish Mark email in the minutes
 1. PCB layout needs to be included - Comment
 2. Remove "RF" Energies from the descriptions - Comment
 3. Include susceptibility of a system - Comment
 4. Concerned that it dropped the word "Bonding" - Comment

6. Review of the Committee Membership

- a. Attendance list is being passed around
- b. Please update the status of reviewing papers
- c. For observers indicate with "O"
- d. Please update the Email addresses
- e. Please print neatly

7. Review of the Committee Website

- a. EMCS.org --> committee tab --> TC4
- b. Gives pertinent data: officers, minutes, agendas

8. Program of Work and Activities Discussion

- a. Per Tac - Revising Handbook to includes more areas of involvement to judge the involvement and impact of the Technical committees
 - i. Paper review - still the major contribution
 - ii. Technical sessions
 - iii. Special sessions
 - iv. Workshops
 - v. Would like more involvement in IEEE Standards Review Committee
 - vi. Technical reports – IEEE Letters on Electromagnetic Compatibility Practice and Application (LEMCPA)
 - vii. TAC participation – Mandatory

9. Summary of 2018 Activities (Chair)

- a. Singapore
 - i. Paper reviews Round 1 – 31 paper submitted
 1. 7 rejected
 2. 21 accepted with req. revisions
 3. 3 accepted with suggested revisions
 - ii. Paper review Final – 68% acceptance
 1. 10 rejected

2. 21 accepted
3. 11 Poster presentations
4. 10 Oral presentations
- iii. 2 Technical and Special sessions
- iv. 0 Tutorials and Workshops
- b. Long Beach, CA
 - i. Paper reviews Round 1- 14
 1. 3 rejected
 2. 8 accepted with mandatory changes
 3. 3 accepted with suggested changes
 - ii. Paper review Final – 78% acceptance
 1. 3 rejected
 2. 11 accepted
 3. 11 oral presentations
 - iii. 3 Technical Sessions
 - iv. 1 Tutorials and workshops
 - v. EMC-S TAC participation
- c. Standards
 - i. P2710 – Shielding of portable devices - Alistair Duffy (Chair)
 1. Meeting Wednesday afternoon
 - ii. P2715 - Planer Materials – Davy Pissoort (Chair)
 1. Round robin testing – Intermediate stage
 2. Monthly conference call - contact Davy Pissoort for invite to meeting (davy.pissoort@kuleuven.be)
 - iii. P2716 - Board level shielding – Davy Pissoort (Chair)
 1. Round robin testing - Beginning
 2. Monthly conference call - contact Davy Pissoort for invite to meeting (davy.pissoort@kuleuven.be)
 - iv. P1302 status – Davy Pissoort (Chair)
 1. Revision nearly finished
 2. Suggest writing an abstract for LEMCPA publication
 - v. P1128- RF absorber evaluation
 1. Paul Dixon (involved)- Meeting today
 - vi. Some interest in standard for cable shielding testing of
 1. Would like something like P1302 for cables
 2. Interest in "Best practice" document for cables
 3. There are some standards that are applicable from missile companies

- a. EX: NBSIR 87-3076
4. Measurement of shielding effectiveness of different cables by various methods
 - a. Transfer impedance
 - b. Reverberation chamber
 - c. Stir mode chamber
5. When to use which methods
6. Suggest the idea of a working group at the SD com meeting on Thursday - **Action Item for Davy Pissoort**
 - a. If approved then TC4 will try to pull members that are interested - John Kraemer
 - b. Li Huadong interested in chairing
 - c. John Kraemer interested in vice chair or involvement
7. Some overlap with TC2 about overlap - should find out at SDCom on Thursday

10. **Plans for July 2019 Symposium in New Orleans (Chair)**

- a. Paper reviews
- b. Workshop / Tutorials?
 - i. Ken Hillen will lead workshop on Shielding
 1. Karen support, John Kraemer support
 - ii. Would like to see a workshop or special session on cable characteristics and design
 1. May or may not be too specific for a special session in one opinion
 2. Could be useful for manufacturer and buyers
 - a. Inform buyers what to spec and why
 - b. Informs manufacturers what's important in the build
 3. May be need to narrow down to high speed? Or a certain type of cable
 4. Idea - Use a vector network analyzer and matching of the impedance of the lines
 5. **Li Huadong – Write proposal for cable design workshop (action item)**

11. **Election of Officers**

- a. All positions are up for nomination. Elections are held every other year. Typically, vice chair moves to Chair and secretary to Vice Chair. Since no vice chair ready to move to Chair, Kraemer agreed to remain as Chair for another term. Moved, approved, majority carried.

- b. Need to replace the vice chair
 - i. Daryl Beetner has volunteered for the vice chair position – Could not attend
 - c. Move to Nominate Daryl Beetner for vice chair - Seconded
 - d. Move to Nominate William Wantz for Vice Chair – Seconded
 - e. Move to nominate Karen for secretary - seconded
 - i. Vote for Daryl Beetner for vice chair
 - 1. 0 – Motion does not carry
 - ii. Vote for William Wantz for vice chair
 - 1. Majority - Carries
 - iii. Vote for Karen Burnham for Secretary
 - 1. Majority - Carries
 - iv. New positions apply at beginning of calendar year
12. **New business**
- a. Sponsorship - Due to financial difficulty it was suggested that we look for sponsors that are interested and what the vendors would want in return
 - i. Are any companies interested? Send John or Will an email by Thursday
 - ii. Reach out to ferrite – John Kraemer (Action item)**
 - iii. Bring up at exhibitors’ breakfast - Discuss with a rep from TAC – John Kraemer – Action Item**
 - b. Single round paper review
 - i. Submission process is difficult and burdensome with 2 round review
 - ii. New flow process presented
 - 1. Concern that the paper would get published without review after mandatory changes in LEMCPA
 - 2. Some papers are very good after the mandatory changes and would like to get full publish no option in current flow
 - 3. Concern about the severity of minor issues (such as images)
 - 4. Concern about the severity (language, translations, formatting)
 - 5. LEMCPA - is aimed at getting paper to industry if only things coming from the lower tier category not best information
 - 6. Could cause lower standards to keep the level of presentations needed for activity
 - iii. 2 Round review would be much easier if:
 - 1. Changes were tracked from previous submission
 - 2. Only comment on if the previous editor’s comments were addressed
 - 3. Improve software for reviewing (ex: ConFex)
 - a. Automatic reviewer assignment
 - b. Track changes



c. Revisit new charter rewrite:

i. **Mark Montrose Proposed Charter:**

This committee is concerned with design, analysis and modeling to minimize undesired electromagnetic energy to achieve EMC, both emissions and immunity. Items within the scope of this committee include design techniques and implementation associated with component packaging, PCB layout, shielding, bonding, grounding or referencing, interconnects and filtering.

ii. Motion to vote to send it to TAC- Seconded

1. Majority - Motion Carries

2. **Action Item - Inform TAC of rewrite of charter**

Meeting adjourned 1:47 pm. 23 Attendees.

Minutes submitted by: William Wantz, Secretary, TC-4 (William@spira-emi.com)