

Below are the Minutes / Agenda items based on our October meeting held today. This document was used several months ago to start and keep dialogs going as we move forward. We are definitely in "brain storming mode" as we think ahead to our 2017 Industry Session at APEC. We were also informed that ideas for the Roadmap, and Webinars are also welcome. New items are in BLUE:

We had a very small group. I would like to encourage everyone to please set aside the time to join us for our meetings. We really need your input to enhance the success of the committee. **Attendees: Ed Herbert, David Slupe, Thomas Gietzold, and Fred Weber. Our next meeting will be on November 16, at 11:00 CST.**

We spent time discussing the issue that some foil caps seem to resonate at 20kHz, and then loose there capacitvness (SP??) as frequencies increase (see C in Item 1 below).

Additional discussions continued regarding Caps in Embedded Circuits, Caps in Modules, and High Temperature Materials. In all of these cases we discussed how they may impact a capacitors capability at higher frequencies, mentioning that packaging may play a key factor. Also Glass as a dielectric was brought up (need to follow up with Penn State representatives Eugene Firman & Michael Flannigan) to learn more.

Ed Herbert reminded us that the PSMA Roadmap is looking for input, and that topics are needed for next years Webinar series.

Finally, Ed brought up his success at increasing committee membership by canvassing APEC and visiting all of the pertinent booths personally (in his case capacitor - several years ago, and more recently magnetics). We discussed possibly breaking up the responsibilities of performing this task next year by parcelling out sections of APEC to all of the attending committee members. We could create a promotional flyer that would define reasons to be on the committee, and when our on site meeting was going to be. We are looking forward to continuing this line of thought at next months meeting (See item 4).

Key Items

1) APEC 2017 Industry Session

We are looking ahead to our theme for the 2017 Industry Session for Capacitors at APEC. The intent is to come up with expected trend and/or hot issues that are just now presenting themselves and will be in full swing in 2017. Current ideas:

- A) Capacitors in Fuel Cell Systems (Threats - Benefits)
- B) High Temperature Products

C) High Frequency Caps (Caps that do not loose all of their capacitance as frequencies increase into the high 100,000s and beyond)

D) Is there a way to save (open) a cracking ceramic cap so that it does not short, and not increase impedance.

2) Standards, Testing, and Safety

The capacitor committee is actively starting to work with groups and organizations that are responsible for creating and monitoring the various qualification and safety standards. There is a PSMA committee that is solely responsible for tracking these documents, and notifying everyone of changes. Our intent is to be a voice in these organizations for the benefit of our committee membership and the industry as a whole. There was one report:

A) AECQ 200 - Passive Components Automotive Requirements / The AECQ Group has determined that this specification needs an update. There is a committee charged with this responsibility. Fred Weber is on this committee, but there has been no activity in the past 6 weeks. Fred has reached out to the committee to determine what the delay is. If anyone on the committee has specific changes they want made please Email Fred at Fred.Weber@FTWLLC.net. These change requests will presented in this part of the Agenda.

B) We have members active in other groups, but there was no report at this meeting.

C) Thomas of Utoss was requesting approval from his company to determine if he can share with us their capacitor requirements since they deal heavily in high temperature applications.

3) **New Technologies / New Trends**

As a committee its always imperative to keep our eye on new technologies and trends in our industry.

This could be wrapped back into item number 1 and the APEC Industry Session. Below are some talking points:

A) Super Caps in Super Computers

B) Glass Dielectrics

C) Switch Capacitor Technology

4) **Increasing Committee Size**

A) Talk to all of the capacitor exhibitors and let them know what we are doing.

B) Create a promotional flyer to help in the delivery of that explanation.

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Regards,

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