



## Minutes of P-2.1 Committee on Ceramic Dielectric Capacitors

Wednesday, 21 April, 2004      Hilton Tampa Westshore      Tampa, FL

**P-2.1 Committee's Scope: (approved 10/13/99):** All types of Ceramic Dielectric Capacitors

### Attendees:

<u>NAME</u>	<u>COMPANY</u>
Susan Barkal	Kemet
Jim Canner	Murata Electronics
Michael Cannon	TDK Corp
Terry D. Charles	Panasonic
Casey Crandall	Wright Capacitor, Inc.
Michael Griffith	KOA
Nick Holmberg	Intel Corporation
Max Kujiraoka	Taiyo Yuden
Laird Macomber	Cornell Dubilier
Karun Malhotra	Murata Electronics
Len Metzger	Panasonic Industrial Co.
Ian Murdock	ATC Corp
Brian Piscitelli	KOA Speer Electronics
Christine Pollock	Presidio Components
Chris Reynolds	AVX
Dave Ritchey	Yageo
Liwu Wang	AEM

### 1.0 Introductions

Chairman Michael Cannon called the meeting to order at 12:03pm. A quorum was present.

An attendance sheet was circulated and self-introductions were made.

<u>Member Organizations Present</u>	<u>Present at this meeting</u>	<u>Present at previous meeting?</u>	<u>Present at meeting prior to previous?</u>
AEM	Y	N	Y
ATC Corp	Y	Y	Y
AVX	Y	Y	Y
Cornell Dubilier	Y	Y	Y
Intel Corporation*	Y	n/a	n/a
Kemet	Y	Y	N
KOA Speer Electronics	Y	Y	N
Murata Electronics	Y	Y	N
Panasonic	Y	Y	Y
Presidio Components	Y	N	Y
Taiyo Yuden	Y	Y	N
TDK Corp	Y	Y	Y
Wright Capacitor, Inc.	Y	N	Y
Yageo	Y	Y	Y

\*Activated as member of committee

<u>Member Organizations Absent</u>	<u>Present at This Meeting?</u>	<u>Present at previous meeting?</u>	<u>Present at meeting prior to previous?</u>
DSCC	N	Y	N
IBM	N	Y	Y
KRFM America	N	Y	n/a
Vishay	N	N	Y

\* Indicates not used in determination of quorum due to record of non-attendance

<u>Other Organizations Present</u>
EIA/ECA

### 1.1 Circulate Membership Roster

The membership roster was circulated for sign-in and corrections.

### 1.2 Approval of Fall Meeting Minutes from San Antonio, TX.

There were some changes to the minutes as follows:

Section 1.4

ACH section page 3 – EIA 81 should change to EIA 481

The committee unanimously accepted the minutes with the noted corrections.

### **1.3 Review of Agenda for Present Meeting**

The committee unanimously accepted the Agenda as presented.

### **1.4 Correspondence & Review of Committee's Scope**

No Correspondence was received.

### **1.5 Report of task groups, committees, and DSCC efforts**

#### **1. DSCC**

No correspondence

#### **2. ACH - Dave Ritchey/Yageo**

Dave R. indicated that ACH will convene on tomorrow, April 22, at 8am. ACH is updating EIA 104 standard. The committee will review EIA 704, 726, and 747 during this session. EIA 783A needs to be issued as a standard.

#### **3. U-1**

We received notice that Keith Seamands/Visteon is stepping down as Chairman of the U1(Steering Committee). During the U1 meeting, it was uncontested that Michael Lauri/IBM should take over as newly elected Chairman.

During the U1 session, the following Technical papers were presented:

- 1) Global Exchange
- 2) UL addressing the China CCC mark

The ECA Fall Engineering Summit will be held in San Diego, October 4-7. The pending locations for the Spring 2005 meeting are New Orleans with Denver as an alternative. The committee agreed on Memphis, TN for the Fall 2005 meeting. It was suggested we invite the Soldering Technology Committee during this Fall 2005 meeting to provide updates on the industry with regards to the lead free issues.

### **2.0 Old Business**

#### **2.1 Status of balloting latest revision of EIA-595-A (SP-4622)**

From the minutes last time, Ed Mikoski advised us that this document was moving to ANSI. The Chairman will obtain an update for the P2.1 committee. Per Casey Crandell, there is a conflict with EIA-595 and EIA-469 with regards to external visual inspection. The Chairman indicated that when the document goes out for comments, we should be aware that the comments must be submitted to EIA.

#### **2.2 Status of EIA-469-D (PN-4621)**

The Chairman will follow-up on this specification titled “Destructive Physical Analysis”. During this session, the committee authorized that EIA-469-D proceed to SP ballot.

## **2.3 Status of EIA-198-F “Ceramic Dielectric Capacitors Classes I, II, III, & IV”**

### **2.3.1 Part II-Test Methods**

James Canner/Murata will update this document to add test conditions per test method 101 as called out in previous minutes.

### **2.3.2 Part III- Individual Specs.**

#### **2.3.2.1 Status of SMD High Voltage**

#### **2.3.2.2 Status of Leaded High Voltage**

The chairman will setup a conference call between the members to discuss topics 2.3.2.1 and 2.3.2.2. Karun M./Murata and Casey C./Wright will review the slash sheet and provide some response by end of May.

#### **2.3.2.3 Status of Reverse Geometry Low Inductance**

Nick H./INTEL recommended we add 0204 case size in our discussion. Chris R./AVX suggested we need to outline package requirements and pad layout. The Chairman will email the team members by end of April 2004 on the Low Inductance slash sheet. A conference call will be arranged upon schedule consideration of all members.

Team members consist of: Nick Holmberg/INTEL, Dave R./Yageo, Max Y./TY, Chris R/AVX, Michael C./TDK.

## **2.4 Status of IEC/EIA 521**

Per Susan B./Kemet, Dick Reynolds replacement is Travis Ashburn who is now in charge of completing this document and will participate at the next meeting. The Chairman will email the document for Susan B/Kemet to pass on to Travis Ashburn.

## **2.5 Status of ESL Capacitor test method**

During the working group meeting, Sanyo presented the work with JEITA on low ESL test methodology. The committee will make some key decision once JEITA has completed their document. The work of JEITA is for low frequency characterization for power type of applications, therefore with regards to PN 4563 titled “high frequency characterization of low inductance multilayer ceramic chip capacitor”, the committee needs to totally understand what most Japanese manufacturer are doing.

The Chairman will obtain INTEL methodology for the committee to review.

### **2.5.1 Update on JEITA activities**

Both TDK and Murata will verify what active roles their companies are participating in the JEITA ESL test methodology.

The committee concur that 2 separate documents should be established for low (based on Sanyo presentation) and high frequency ESL measurement techniques.

## **2.6 Report from Ceramic Capacitor Working Group (meeting 04/19/04, 10am-2pm)**

### **2.6.1 Low voltage component bulletin**

This issue was table for the next meeting.

#### **2.6.1.1 IEC comparison to EIA's historical approach**

This issue was table for the next meeting.

### **2.6.2 Tin whisker bulletin/position statement from EIA**

Murata has published a variety of papers on this issue. The soldering technology committees meeting discuss at length the concerns about this issue. It was recommended that anyone who can attend the Tin Whisker Workshop at the ECTC conference in Las Vegas held June 1, 2004. After the P2.1 meeting, there will be an open meeting for developing the Bulletin.

## **2.7 Status on Electro-static Discharge (ESD) teleconference**

In order to prioritize our efforts, the committee unanimously decided to table this issue until August 2004. AVX, TDK, Kemet, Murata, TY and Panasonic would like to participate in this teleconference.

## **2.8 Active projects document file tracking method.**

EIA provided a list of the existing projects for committee review. The Chairman will provide the listing of documents to all committee members prior to next meeting.

## **3.0 New Business**

### **3.1 Lead-free issues and production transition control discussion**

Chairman M. Cannon will check to determine if IPC has some type of mission statement on this issue.

### **3.2 Working Group status report and proposed agenda items for next meeting.**

Chairman M. Cannon will have an agenda prepared to discuss during the fall working group meeting.

## **4.0 Next Meeting**

The next meeting is scheduled to be held during the ECA Fall Engineering Summit October 4-7 Holiday Inn On-the-Bay, San Diego, CA.

### **5.0 Adjournment**

Meeting adjourned at 1.03pm.

This meeting was conducted in accordance with the EIA Legal Guidelines and the Manual of Organization and Procedures.

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**Michael Cannon**  
Chairman

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**Terry D. Charles**  
Secretary