

## Minutes of the Joint ECA Soldering Technology Committee (STC)

Tuesday, October 5, 2004

Holiday Inn on the Bay

San Diego, CA

**The scope of the Soldering Technology Committee (STC):** The STC encompasses soldering practices (soldering iron-mass reflow techniques) and associated soldering materials (solders, pastes and adhesives, and flux/cleaning agents). However, the Committee will focus on solderability test method development for printed through-hole (PTH) and surface mountable components. One of the major functions is to promote commonality and standardization of soldering test methodology within the EIA Sectors.

The meeting was called-to-order at 1:30 PM by Chairman Doug Romm.

Name	PI*		Organization	Telephone	Fax	Email
	V	T				

### Voting members

Doug Romm	M	P	Texas Instruments, Inc.	903.868.7388	903.868.6002	doug@ti.com
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Edward Li	A	P	AEM			eli@aem-usa.com
Dave Hillman	M	U	Rockwell Collins	319.295.1615	319.295.6060	ddhillma@rockwellcollins.com

### Absent voting members

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Kil-Won Moon	M	G	NIST	301-975-6148	301-975-4553	kwmoon@nist.gov

### Nonvoting members present

Ed Mikoski	S	G	EIA	703-907-7518	703-907-7501	Emikoski@eca.us.org
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\* PI = Participant identification: V = voting status; M = member; G = guest; S = staff; T = participant type; P = producer; U = user; G = general participant

## 1 Committee organization and procedures

### 1.1 Membership and attendance

Self-introductions were made and attendance was taken.

### 1.2 Approval of the Agenda

The Committee unanimously accepted the Agenda as presented.

### 1.3 Approval of the Minutes

The Committee unanimously accepted the Minutes of the last meeting as written.

## 2 Old business

### 2.1 Review/status of ANSI J/STD-001-C

Doug Romm commented that IPC/EIA J-STD-001D Proposed Standard Ballot for September 2004 has been released by IPC/EIA. The title of this document is "Requirements for Soldered Electrical and Electronic Assemblies". The document, comment list and comment form can be downloaded from: [http://files.ipc.org/J-STD-001D\\_Ballot.zip](http://files.ipc.org/J-STD-001D_Ballot.zip). Doug instructed STC members to download the document, review it, and provide inputs for their company.

## 3 New business

### 3.1 Review of ANSI J/STD-002-B

#### 3.1.1 J-STD-002B Status

Dave Hillman provided status of the DOE to evaluate Pb-free solderability tests parameters. Goal of the activity is to determine/develop/investigate a set of solderability test parameters for Pb-free soldering for inclusion into the J-STD-002C specification revision. Current schedule as follows:

#### *Completed Tasks*

Develop Plan: Feb 25, 2004  
Obtain specimens: Mar 30, 2004  
Pre-test conditioning: May 1, 2004  
Distribute Specimens: September 16, 2004  
Start Testing Specimens: September 20, 2004

#### *Scheduled Tasks*

Send in test data: December 22, 2004  
Analyze data: January 2005  
Group review of Data: February 2005  
Task Group Review: February 2005  
Vote on ballot/specification: March 2005  
Coordinate Working Draft with EIA/JEDEC/IEC: April 2005  
Specification Revision complete: June 2005

Details of the DOE will be forwarded to STC members as an attachment.

STC comments on this study included:

- There are 3 solderability test evaluation methods: Dip-and-Look, Wetting Balance Globule, and Wetting Balance Solder Bath.
- Goal is to get testing done by end of December so that Bill Russell (Raytheon) can perform the statistical analysis in January 2005.
- Solder alloy to be used is the NEMI SAC alloy.
- IPC meeting is during APEX which is the last week of February. Data review will happen at IPC meeting.
- STC should be able to review first ballot at next STC meeting (May 2005).
- Conference calls can be held with STC membership prior to next meeting to review data.

STC members also identified the following inputs needed during the update to J-STD-002:

- Inspection criteria and drawings for QFN, Exposed Pad, Face down termination, and BGA packages:
- Inspection criteria and drawings for face down terminations (passives): Sue Barkal provided a drawing for face down termination packages.

- Inspection criteria and drawings for C4/BGA packages: Chris Reynolds will work with committee members to gather this information (from last meeting).

### **3.2 Replacement for Steam Preconditioning**

The team discussed plans for a study to look at possible replacement for steam preconditioning. The team agreed that we will develop a test plan at the next meeting, after completion of major activity for update to J-STD-002.

### **3.3 Gauge R&R for wetting balance test**

The wetting balance test method is currently listed in ANSI/J-STD-002 under the section "Tests without Established Accept/Reject Criterion". Input from Dave Hillman was that the IPC committee discussed the options of either validating or removing the wetting balance method as an accepted method. The team agreed that we will develop a test plan at the next meeting, after completion of major activity for update to J-STD-002.

## **4 Next meeting**

The next meeting is scheduled to be held in conjunction with the ECA Spring 2005 Engineering Summit. ECA Engineering Summit will be held at the Chateau Sonesta Hotel in New Orleans week of May 16-19, 2005.

## **5 Adjournment**

The Committee moved, seconded, and unanimously agreed to adjourn at 5:00PM.

This meeting was conducted in accordance with the EIA legal guidelines and the EIA manual of organization and procedure.

*Doug Romm*

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STC Chairperson