

Minutes of the Joint ECA Soldering Technology Committee (STC)

Tuesday, April 20, 2004

Hilton Tampa Westshore

Tampa, FL

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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Absent voting members						
Jeff Cannis	M	P	Amkor Technology	480.821.2408	480.821.2389	jcann@amkor.com
Bill Russell	M	U	Raytheon	972.344.7544	972.344.8592	wrussell@raytheon.com
Dave Hillman	M	U	Rockwell Collins	319.295.1615	319.295.6060	ddhillma@rockwellcollins.com
Patrick Kyne	G	G	DSCC	614.692.0562	614.693.1644	Patrick.kyne@dla.mil
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Aihara						
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Stephen Todd	M	P	FCI Electronics	717.938.7942	717.938.7991	Toddse@bergelect.com
Maureen Williams	M	G	NIST	301-975-6170	301-975-4553	Maureen.Williams@nist.gov
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@ecaus.org

* 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

No update.

3 New business

3.1 Review of ANSI J/STD-002-B

3.1.1 J-STD-002B Status

The team reviewed the 002C/003B Task Group Designed Experiment for Pb-Free Solderability Test Parameters which was provided by Dave Hillman. The test plan includes a schedule as follows:

Develop plan:	Feb 25, 2004
Obtain specimens:	Mar 30, 2004
Pre-test conditioning:	May 1, 2004
Distribute specimens:	May 30, 2004
Start Testing Specimens:	June 1, 2004
Send in test data:	August 1, 2004
Analyze data:	October 2, 2004
Group review of data:	October 15, 2004
Vote on ballot/specification	November 15, 2004
Coordinate Working Draft with EIA/JEDEC/IEC:	November 2004
Specification Revision complete:	Jan/Feb 2005

The DOE to be used is a full factorial array, employing all combinations of the three factors all possible levels. Flux and solder type are 2 levels each (0.2%/0.5% and SAC/Sn63. Solder temperature will be 3 levels (235C/245C/255C). Responses will be wetting balance data and visual examination after solderability test exposure and board level soldering.

STC comments on this study included:

- Doug Romm asked if the SMT test method should also be included in the study. Doug will communicate with Dave Hillman on this possibility.
- Also, team members indicating their ability to support testing:
 - Steve Olster of Mini-Systems is willing to perform Dip-and-Look testing
 - Chris Reynolds of AVX is able to perform Dip-and-Look testing and Wetting Balance

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

- Inspection criteria and drawings for QFN/BGA packages: Doug Romm will work with committee members to gather this information.
- Inspection criteria and drawings for face down terminations (passives): Sue Barkal will work with committee members to gather this information.
- Inspection criteria and drawings for C4/BGA packages: Chris Reynolds will work with committee members to gather this information.
- Inspection criteria and drawings for passives: Mike Griffith will work with committee members to gather this information.

Also, team members indicating their ability to support testing:

- Steve Olster of Mini-Systems is willing to perform Dip-and-Look testing
- Chris Reynolds of AVX is able to perform Dip-and-Look testing and Wetting Balance

3.2 JEDEC B102 Status

The team reviewed details of EIA/JESD22-B102-D which is dated January 2004. This document is the updated version of B102 which now includes lead-free solders and parameters.

3.3 Shelf Life Study

Doug Romm reviewed TI work on shelf life simulations. Barney Martin described NEDA desire to move from 12 month shelf life requirement out to 24 or 36 month. The team expressed interest in performing shelf life evaluations of components in order to be able to increase the shelf life limits. Doug Romm will forward a TI paper on shelf life evaluations using a Class II MFG environment as simulation. Mike Griffith will lead the team to define future work in this area.

4 Next meeting

The next meeting is planned for Fall 2004 in conjunction with the ECA Fall Engineering Summit in San Diego, CA. The ECA Summit is scheduled for week of October 4-7, 2004.

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

STC Chairperson