

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

Tuesday, September 25, 2007

Holiday Inn

San Antonio, TX

**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 STC Committee Chairman, Doug Romm

Name	PI	T	Organization	Telephone	E-mail	F07	S07	F06	S06
<b>Attendees</b>									
Doug Romm	M	P	Texas Instruments, Inc	903.868.7388	<a href="mailto:doug@ti.com">doug@ti.com</a>	Y	Y	Y	Y
Carl Lindquist	M	P	SOC America, Inc	908.218.8899	<a href="mailto:fuseman@attglobal.net">fuseman@attglobal.net</a>	Y	Y	N	Y
Jayson Young	M	P	KEMET	864.967.6859	<a href="mailto:jaysonyoung@kemet.com">jaysonyoung@kemet.com</a>	Y	Y	Y	Y
Joe Biernacki	M	P	Stackpole	915.790.2449	<a href="mailto:jbiernacki@seielect.com">jbiernacki@seielect.com</a>	Y	Y	Y	N
Mike Lauri	M	U	IBM	845.892.0442	<a href="mailto:laurim@us.ibm.com">laurim@us.ibm.com</a>	Y	Y	Y	Y
Mary Carter-Berrios	M	P	Kemet Electronics	864.228.4006	<a href="mailto:marycarterberrios@kemet.com">marycarterberrios@kemet.com</a>	Y	Y	Y	Y
Laird Macomber	M	P	Cornell Dubilier	864.843.2277	<a href="mailto:lmacomber@cde.com">lmacomber@cde.com</a>	Y	Y	Y	Y
Steven Kummerl	M	P	Texas Instruments, Inc	214.480.1509	<a href="mailto:s-kummerl2@ti.com">s-kummerl2@ti.com</a>	Y	N	N	N
Bill Russell	M	U	Raytheon	972.205.6188	<a href="mailto:wrussell@raytheon.com">wrussell@raytheon.com</a>	Y	N	Y	N
Ted Coler	M	P	Vishay	402.563.6417	<a href="mailto:ted.coler@vishay.com">ted.coler@vishay.com</a>	Y	N	Y	Y
Jim Masui	M	P	Murate Electronics	770-436-1300	<a href="mailto:jmasui@murata.com">jmasui@murata.com</a>	Y	N	N	N
Dave Richardson	M	P	Vishay	770.887.2021	<a href="mailto:dave.richardson@vishay.com">dave.richardson@vishay.com</a>	Y	N	Y	Y
<b>Absent</b>									
Ron Cambron	G	P	Bourns, Inc	480.820.8662	<a href="mailto:ron.cambron@bourns.com">ron.cambron@bourns.com</a>	N	Y	N	N
Wil Cantrell	G	P	Bourns, Inc	951.781.5558	<a href="mailto:wil.cantrell@bourns.com">wil.cantrell@bourns.com</a>	N	Y	N	N
Liwu Wang	M	P	AEM	858.481.0210	<a href="mailto:lwang@aem-usa.com">lwang@aem-usa.com</a>	N	Y	N	N
Chris Reynolds	M	P	AVX	843.444.2868	<a href="mailto:creynolds@avxus.com">creynolds@avxus.com</a>	N	Y	Y	Y
Michael Cannon	M	P	TDK	847.390.4317	<a href="mailto:mcannon@tdktca.com">mcannon@tdktca.com</a>	N	Y	N	Y
Michael Griffith	M	P	KOA	814.362.5536	<a href="mailto:mgriffith@koaspeer.com">mgriffith@koaspeer.com</a>	N	Y	N	N
Jack McCullen	G	P	Intel	480.554.5354	<a href="mailto:Jack.t.mccullen@intel.com">Jack.t.mccullen@intel.com</a>	N	Y	N	Y
Dave Hillman	M	U	Rockwell-Collins	319.295.1615	<a href="mailto:ddhillma@rockwellcollins.com">ddhillma@rockwellcollins.com</a>	N	N	N	Y
Tom Motoki	M	P	Murata Electronics	770.433.7613	<a href="mailto:tmotoki@murata.com">tmotoki@murata.com</a>	N	N	Y	N
Karun Malhotra	G	P	Murata Electronics		<a href="mailto:kmalhotra@murata.co.jp">kmalhotra@murata.co.jp</a>	N	N	Y	Y
Chris Cleet	S	G	EIA	703.907.7573	<a href="mailto:ccelet@eia.org">ccelet@eia.org</a>	N	N	Y	N
Len Metzger	M	P	Panasonic	201.348.5244	<a href="mailto:metzgerl@us.panasonic.com">metzgerl@us.panasonic.com</a>	N	N	Y	N
Stephen Olster	M	P	Mini-Systems, Inc	508.695.0203	<a href="mailto:solster@mini-systemsinc.com">solster@mini-systemsinc.com</a>	N	N	Y	Y
Dave Toomey	M	P	Vishay	207.490.7212	<a href="mailto:dave.toomey@vishay.com">dave.toomey@vishay.com</a>	N	N	Y	N
Jerry Kolbe	M	P	Murata Electronics	814.238.8437	<a href="mailto:jkolbe@murata.com">jkolbe@murata.com</a>	N	N	Y	N
Arnold Offner	M	P	Phoenix Circuit	717.948.3469	<a href="mailto:aoffner@phoenixcon.com">aoffner@phoenixcon.com</a>	N	N	N	Y
Jack Crawford	G	G	IPC	847.597.2893	<a href="mailto:crawja@ipc.org">crawja@ipc.org</a>	N	N	N	Y
<b>Nonvoting Members Present</b>									
Ralph Justus	S	G	ECA	703.907.8023	<a href="mailto:rjustus@ecaus.org">rjustus@ecaus.org</a>	Y	N	N	N
Ed Mikoski	S	G	EIA	703.907.7436	<a href="mailto:emikoski@ecaus.org">emikoski@ecaus.org</a>	Y	Y	Y	Y

\* PI = Participant identification: V = voting status; M = member; G = guest; S = staff; T = participant type; P = producer; U = user; G = general participant

## 1) Introductions and Roster modifications

**2) April meeting minutes approval** – The committee approved the minutes from the April 2007 STC meeting in San Diego, CA.

## 2 Old business

**April meeting minutes approval** – The committee approved the minutes from the April 2007 STC meeting in San Diego, CA.

## 3 New business

**3.1 Revision to IPC/EIA J-STD-002B** – The committee reviewed the latest status of J-STD-002 revision C.

### 3.1.1 J-STD-002C Status

#### Latest Status:

- No Vote Resolution ballot went out on Tuesday Sept 4. Close date is Sept 20, 2007.
- No Vote Resolution was sent out to STC by Ralph Justus and Cecelia.
- Committee reviewed the “No Vote Resolution”. Only includes “technical comments” that were accepted.
- Next step is to review votes. Any “no votes” cannot hold up process.
- J-STD-002 C was expected to be out by end of October.

#### JEDEC Status:

- JEDEC originally agreed to rescind B102 when J-STD-002C is published.
- At this time JEDEC will continue to publish JEDEC B102.
- J-STD-002C will be published as a Joint ECA/IPC standard. The reason is that more time will be required to resolve differences. Main issues are test temperatures and conditioning. JEDEC wants lower test temperatures and inclusion of conditioning methods other than steam. We (ECA/IPC) will work to address differences between J-STD-002C and B102.

### 3.2 Possible replacements for steam pre-conditioning

Committee members have agreed that an area for future work is the replacement of steam pre-conditioning. Investigation of industry data and other pre-condition methods in use will be needed. A DOE has been designed.

#### Status on pathfinder:

- Wetting balance work is done (Girard O'Brien). Everything passed, but differences can be seen between the different aging conditions used.
- Dip-and-Look testing is complete (Susan Holt, Robison). Results show everything passing.
- Board mount has been performed (Dave Hillman, Rockwell-Collins). Initial observations are everything passed. Further inspection to be performed.
- Russ Winslow (Winslow Automation) is also performing dip-and-look using a robotic process. Results pending.
- Mike Paddick (Boeing) is performing Auger analysis to look at surface species created during aging. Results pending.
- Status: We believe that moving to the full DOE is good. We need more volunteers to do testing because of the work needed for the full DOE.

#### Background on pathfinder:

1. What is the purpose of the “pathfinder”? Pathfinder = mini plan → Preevaluate the overall investigation of the DOE to make sure we do not commit the time and resources without knowing if there are any problems. “Look ahead” test.
2. What will the pathfinder tell us? It will confirm that we are not overstressing or understressing the parts.
3. For set of conditions “8 hrs, 72C/85RH” where does this come from? This is the conditioning that J-STD-003 committee developed to replace steam conditioning for circuit boards. Some members of

IPC 5-23a/b wanted this to be included. The reason that the 003 committee is ahead is that the component world is much more complex. The committees did not want to hold up J-STD-002C revision for addition of a new conditioning method.

### **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. Team needs to discuss plans/timing for future work.

### **4 Next meeting**

The next meeting is scheduled to be held in conjunction with the ECA Spring 2008 ECA Engineering Summit. ECA Engineering Summit will be held at the Brown Hotel in Louisville, Kentucky week of March 31 – April 3, 2008.

### **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