



North America Metrics TC Chapter Meeting Summary and Minutes



NA Standards Fall 2015 Meetings
Wednesday, November 4, 2015, 1400 – 1700 Pacific Time
SEMI HQ in San Jose, California

TC Chapter Announcements

Next NA TC Chapter Meeting
NA Standards Spring Meetings
Wednesday, April 6, 2015; 1400 – 1700 Pacific Time
SEMI Headquarters in San Jose, California

Table 1 Meeting Attendees

Italics indicate virtual participants

Cochairs: David Bouldin (Fab Consulting), Mark Frankfurth (ASML/Cymer)

SEMI Staff: Laura Nguyen, James Amano

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
BayTech-Resor	Moore	Chris	SEMI	Amano	James
<i>Fab Consulting</i>	<i>Bouldin</i>	<i>David</i>	SEMI	Nguyen	Laura
Tokyo Electron	Mashiro	Supika			

Table 2 Leadership Changes

<i>Group</i>	<i>Previous Leader</i>	<i>New Leader</i>
None		

Table 3 Ballot Results

Passed ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

Failed ballots and line items were returned to the originating task forces for rework and rebaloting.

<i>Document #</i>	<i>Document Title</i>	<i>TC Chapter Action</i>
None		

Table 4 Authorized Activities

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
None			

Note: SNARFs and TFOFs are available for review on the SEMI Web site at:

<http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF>



Table 5 Authorized Ballots

#	When	SC/TF/WG	Details
5819A	Cycle 1 or 2, 2016	NA Metrics TC Chapter	Reapproval of SEMI E114-0302E (Reapproved 0309) - <i>Test Method for RF Cable Assemblies Used in Semiconductor Processing Equipment RF Power Delivery System</i>
5820A	Cycle 1 or 2, 2016	NA Metrics TC Chapter	Reapproval of SEMI E115-0302E (Reapproved 0309) - <i>Test Method for Determining the Load Impedance and Efficiency of Matching Networks Used in Semiconductor Processing Equipment RF Power Delivery Systems</i>

Table 6 New Action Items

Item #	Assigned to	Details
2015Nov#01	David Bouldin	Email Vladimir Kraz for key EMC TF members and request read-only file access to E33 for them. Completed. CLOSED.

Table 7 Previous Meeting Actions Items

Item #	Assigned to	Details	Status
None			

1 Welcome, Reminders, and Introductions

David Bouldin, TC Chapter cochair, called the meeting to order at 2:14 PM. After welcoming all attendees, a round of introductions followed. The SEMI meeting reminders on membership requirements, antitrust, patentable technology, and meeting guidelines were then presented and explained.

Attachment: 01, SEMI Standards Required Meeting Elements

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting held July 15 in conjunction with the SEMICON West 2015 meetings.

Motion: Accept the minutes of the previous meeting as written.

By / 2nd: Chris Moore (BayTech-Resor) / Supika Mashiro (Tokyo Electron)

Discussion: None

Vote: 2-0 in favor. Motion passed.

Attachment: 02, NA Metrics Minutes 2015 West SF

3 Liaison Reports

3.1 Europe (EU) TC Chapter

Laura Nguyen presented the Europe TC Chapter report. The key items were as follows:

- Leadership
 - Cochairs: Alfred Honold (InReCon), Lothar Pfitzner (FhG IISB)
- Meeting Information
 - Last Meeting: Oct 7, 2015 – SEMICON Europa, Dresden, Germany
 - Next Meeting: Oct 25-27, 2016 - SEMICON Europa, Grenoble, France
- New Activity
 - No new ballots.
 - Conducting Five-Year Reviews of Standards:
 - SEMI E104-0303 (Reapproved 0211) - *Specification for Integration and Guideline for Calibration of Low-pressure Particle Monitor*
 - SEMI E141-0705 (Reapproved 0211) - *Guide for Specification of Ellipsometer Equipment for Use in Integrated Metrology*
- Staff Contact: James Amano (jamodel@semi.org)
- Staff Contact: Kevin Nguyen (knguyen@semi.org)

Attachment: 03, Europe Metrics Liaison Report 2015

3.2 Japan Metrics TC Chapter

Supika Mashiro reported that the Japan Regional Standards Committee was considering disbanding their Metrics TC Chapter, but in order for that to take place members are needed to be present to make the motion.

3.3 Technical Editors Board

David Bouldin reported that the board meets via email. Shannon provided David with a copy of the proposed revision to the *Style Manual* and provided feedback to align with the latest *Regulations* and *Procedure Manual*. Waiting for comments at this time.

3.4 Technical Architects Board

David Bouldin reported this board is inactive.

3.5 ESDA Liaison Report

David Bouldin reported that Arnold Steinman usually provides a report, but did not receive one before the fall meeting. The report was provided at a later date. The key items are as followed:

- ESDA and JEDEC are collaborating to release joint device test standards. They released an updated HBM document (JS-001) and a CDM document (JS-002), which are now available on both the ESDA and JEDEC Web



sites. Will start working to harmonize JESD-625 (static control program) with ANSI/ESD S20.20. Collaboration with JEITA being investigated.

- Web site - www.esda.org –
 - Information and free download of ANSI ESD S20.20 (static control program), ANSI ESD S541 (packaging) documents.
 - ESDA Glossary of Terms – online and searchable on the Web site.
 - ESD Technology Roadmap for device ESD sensitivity has been updated and is available on the Web site.
 - Device Test standards (referenced in SEMI Documents) are available as a free download.
- An international version of ANSI/ESD S20.20 was issued by the IEC - IEC 61340-5-1. The IEC document is being harmonized to the 2015 release of S20.20.
- ESDA has started an activity with the Automotive Electronics Council (AEC) to harmonize device testing documents with the ESDA and JEDEC.
- ESD Standards meetings to be held April 10-19, 2016 in Anaheim CA. Check the ESDA Web site for more information.

Attachment: 04, ESDA Liaison Report Fall 2015

3.6 SEMI Staff Report

Laura Nguyen presented the SEMI Staff Metrics report. The key items were as follows:

- 2015/2016 Global Calendar of Events
 - SEMICON Japan (December 16-18, 2015, Tokyo, Japan)
 - European 3D Summit (Jan 18-20, 2016, Grenoble, France)
 - SEMICON Korea (January 27-29, 2016, Seoul, Korea)
 - ISS Europe (March 6-8, 2016, Nice, France)
 - Solarcon China/SEMICON China (March 15-17, 2016)
 - Advanced Semiconductor Manufacturing Conference [ASMC] (May 16-19, 2016, Saratoga Spring, New York, USA)
 - SEMICON West (July 12-14, 2016, San Francisco, California, USA)
 - SEMICON Taiwan (September 7-9, 2016, Taipei, Taiwan)
 - SEMICON Europa (October 25-27, 2016, Grenoble, France)
- Upcoming North America Standards Meetings (2015/2016)
 - 2016:
 - NA Standards Spring 2016 Meetings (April 4-7, SEMI HQ, San Jose, California)
 - SEMICON West (July 11-14, 2016, San Francisco, California)
 - NA Standards Fall 2016 Meetings (November 7-10, 2016 [tentative] SEMI HQ, San Jose, California)
- Letter Ballot Critical Dates for 2015 & 2016
 - 2015
 - Cycle 8: ballot submission due: October 16/Voting Period: October 23 – November 23
 - Cycle 9: ballot submission due: November 16/Voting Period: December 1 – December 31



- 2016
 - Cycle 1: ballot submission due: January 4/Voting Period: January 12-February 12
 - Cycle 2: ballot submission due: February 2/Voting Period: February 16-March 17

- Standards Publications Report

<i>Cycle</i>	<i>New</i>	<i>Revised</i>	<i>Reapproved</i>	<i>Withdrawn</i>
<i>March 2015</i>	4	0	0	0
<i>April 2015</i>	3	9	8	0
<i>May 2015</i>	3	8	2	0
<i>June 2015</i>	2	13	5	1

- Total in portfolio – 949 (includes 113 Inactive Standards)

- New Requirements/Process Reminders for TC Chapter Meetings

- Standards Document Development Project Period
 - Project period shall not exceed three years (*Regulations ¶ 8.3.2*).
 - SNARF approval to TC Chapter approval
 - If Document development activity is found to be continuing, but cannot completed within the project period, TC Chapter may grant one-year extension at a time, as many times as necessary.
- SNARF Review Period
 - A submitted SNARF for a new, or for a major revision to an existing, Standard or Safety Guideline is made available to all members of a TC Chapter’s parent global technical committee for two weeks for their review and comment. (*Regulations ¶ 8.2.1*).
 - If the SNARF is submitted at a TC Chapter meeting, the TC Chapter can review and approve, but the SNARF will need to be distributed for two weeks and then approved via GCS.
- New SNARF & TFOF forms *{embedded in Staff Report, see Attachment 04 of these minutes}*
- Procedures for Correcting Nonconforming Titles of Published Standards Document (*Procedure Manual Appendix 4*)
 - Some Standards qualify for a special procedure where a line-item change can be used to correct the titles. Otherwise, the corrective action will likely require a major revision.
 - None for NA Metrics TC Chapter
- Metrics Standards needing Five-Year Review
 - SEMI E161-0611 *Guide for Identification and Classification of Training Tiers*
 - Will revisit in the spring meeting for reapproval
- SNARF 3 Year Status
 - Doc. 5596, New Standard: *Guide for Semiconductor Manufacturing Facilities Electromagnetic Compatibility (EMC)*
 - SNARF was approved on 4/29/2013
 - TF is actively working on this Document, may need 1-year extension in the spring meeting

- Staff Contact: Laura Nguyen (Ingyuen@semi.org)



Attachment: 05, SEMI Standards Staff Report

4 Ballot Review

<i>Document #</i>	<i>Document Title</i>	<i>TC Chapter Action</i>
None		

5 Task Force Reports

5.1 Wait Time Waste (WTW) Metrics and Methods Task Force

This TF is currently inactive. Possibly looking into requesting to disband this TF.

5.2 Equipment Training and Documentation Task Force

SEMI E161 is up for 5-year review and the TF will revisit by the spring meeting.

5.3 EMC Task Force

Vladimir Kraz was not present at the meeting, but provided a task force summary presentation for Laura to review. The key items were as followed:

- Industry update
 - EMC: IEEE EMC Meeting in Dresden, Germany, August 16-20,2015
 - ESD: ESD Symposium and Standards, September 24-30, Reno, NV
- Summary of the Meetings
 - 6 attendees (all on line)
 - Discussion of the Document - good progress
 - We discussed directions of the Document (all in agreement)
 - Recommendations on including more details and illustrations
 - Some TF members will share their experience with mitigating EMI with the group
 - Will target next year as an aggressive release date
 - Need to resolve how to share our previous Document (E33) with the group where some current task force members did not participate in E33development activity
- Email contents provided by Vladimir from TF meeting
 - The team discussed updated Document, which is still in progress. Overall, the direction of the Document is on track. More details on methodology and tools are suggested.
 - Discussion:
 - Alan: need detailed recommendations on measurements of emission inside the tool - currently there are no industry documents or guidance
 - Patsawat: need add illustrations/drawings on measurements and mitigation. Patsawat offered help with the drawings once the conceptual drawings are done.
 - Humberto: need to assure that the Document is very practical when it comes to methodology of measurements and mitigation. Need to add recommended levels of emission. Humberto will provide for discussion his data on measurements and mitigation



of EMI in his environment which will be distributed soon. Patsawat will contribute his data. Other members are encouraged to do the same.

Action Item: 2015Nov#01, David Bouldin to email Vladimir Kraz for key EMC TF members and request read-only file access to E33 for them.

Attachment: 06, EMC Task Force Meeting Summary

5.4 ESD/ESC Task Force

This TF is currently inactive.

5.5 Equipment RAMP Metrics Task Force

David Bouldin provided a Metrics Webinar Overview PowerPoint describing the status of the webinars completed/released, ones planned, benefits, lessons learned, and recommendations.

Attachment: 07, Metrics Webinars Presentation

6 Old Business

6.1 Standards due for Five-Year Review

Doc. 5819 and Doc. 5820 were past due for five-year review and balloted for reapproval with editorial changes. These Documents were adjudicated in the spring meeting 2015 and failed. David had an action item to set up a TF to do five-year reviews, but there was no interest to form the TF. As result of this, David would like to resubmit Doc. 5819 and Doc. 5820 for reapproval “as is”.

Motion: To send Doc. 5819 and 5820 for five-year reapproval ballots “as is” to go out for Cycle 1 or 2, 2016.

By / 2nd: Chris Moore (BayTech-Resor) / Supika Mashiro (Tokyo Electron)

Discussion: Supika recommends to send the reapproval ballots “as is” and later submit a Publication Improvement Proposal (PIP) form to make necessary editorial changes. Chris recommends using a line-item ballot after after reapproval “as is”. David’s response to Chris is that line item ballots need a task force to work on them.

Vote: 2-0 in favor. Motion passed.

6.2 SNARFs for Three-Year Document Development Period Review

None

7 New Business

7.1 New SNARFs & TFOFs

None

7.2 Authorizations for Ballot Submission

{See Table 5 of these minutes for a list of new ballot submission that the TC Chapter has approved to go out for Cycle 1 or 2, 2016.}

7.3 Other New Business

None



8 Action Item Review

8.1 Open Action Items

There were no open action items to be reviewed at this time.

8.2 New Action Items

Laura Nguyen (SEMI) reviewed the new action items. These can be found in the New Action Items table at the beginning of these minutes.

9 Next Meeting and Adjournment

The next meeting of the NA TC Chapter of the Metrics Global Technical Committee is scheduled for April 6, 2016 during the NA Spring 2016 meetings.

The tentative schedule(s) are provided below:

Tuesday, April 5 (**Tentative**)

- EMC Task Force (TBD)

Wednesday, April 6 (**Tentative**)

- Equipment Training and Documentation Task Force (TBD)
- Equipment RAMP Metrics Task Force (0900 – 1200 Pacific Time)
- Metrics Global TC Chapter (1400 – 1700 Pacific Time)

The full meetings schedule and details, when available, will be posted at the SEMI Standards Calendar of Events: <http://www.semi.org/en/Standards/CalendarEvents>.

Having no further business, a motion was made to adjourn the NA TC Chapter meeting of the Metrics Global Technical Committee on November 4, 2015 in conjunction with the NA Standards Fall 2015 Meetings. Adjournment was at 3:04 PM.

Respectfully submitted by:

Laura Nguyen
Standards Project Coordinator
SEMI North America
Phone: +1.408.942.7019
Email: lnguyen@semi.org

Minutes approved by:

David Bouldin (Fab Consulting)	January 12, 2016
Mark Frankfurth (ASML/Cymer)	<Date approved>

Table 8 Index of Available Attachments #1

#	Title	#	Title
1	SEMI Standards Required Meeting Elements	5	SEMI Standards Staff Report
2	NA Metrics West 2015 meeting minutes	6	EMC Task Force Meeting Summary
3	Europe Liaison Report	7	Metrics Webinars Overview Presentation
4	ESDA Liaison Report Fall 2015		



#1 Due to file size and delivery issues, attachments must be downloaded separately. A .zip file containing all attachments for these minutes is available at www.semi.org. For additional information or to obtain individual attachments, please contact Laura Nguyen at the contact information above.