



North America Physical Interfaces & Carriers TC Chapter Meeting Summary and Minutes



NA Standards Fall 2015 Meetings
Wednesday, November 4, 2015, 0900 – 1200 Pacific Time
Intel (Robert Noyce Building) in Santa Clara, California

TC Chapter Announcements

Next NA TC Chapter Meeting

NA Standards Spring Meetings

Tentative: Wednesday, April 6, 2015; 0900 – 1200 Pacific Time

Tentative: SEMI Headquarters in San Jose, California or Intel (Robert Noyce Building) in Santa Clara, California

Table 1 Meeting Attendees

Italics indicate virtual participants

Cochairs: Matt Fuller (Entegris), Stefan Radloff (Intel)

SEMI Staff: Laura Nguyen, Paul Trio

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
Acteon	Komatsu	Shoji	KLA-Tencor	Johanson	Eric
Consultant	Crockett	Alan	Miraial	Nagashima	Tsuyoshi
Daifuku	Yamagata	Kenji	Muratec	Yamamoto	Makoto
Entegris	Fuller	Matt	Shin-Etsu Polymer	Hiroyuki	Shida
Intel	Radloff	Stefan	U.A. Associates	Hartsough	Larry
Intel	Goldstein	Mike			
Intel	Jung	Melvin	SEMI	Nguyen	Laura
Intel	Quinn	Tom	SEMI	Trio	Paul

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

#	Type	SC/TF/WG	Details
5950	SNARF	Global Pic Maintenance TF	Reapproval of SEMI E1-1110 Specification for Open Plastic and Metal Wafer Carriers
5965	SNARF	Global Pic Maintenance TF	Reapproval of SEMI E15-0698E2 (Reapproved 0310) Specification for Tool Load Port
5954	SNARF	Global Pic Maintenance TF	Reapproval of SEMI E15.1-0305 (Reapproved 1110) Specification for 300 mm Tool Load Port
5956	SNARF	Global Pic Maintenance TF	Line Item Revision to SEMI E57-0600 (Reapproved 1110) Mechanical Specification for Kinematic Couplings Used to Align and Support 300 mm Wafer Carriers with Title Change to: Specification for Kinematic Couplings Used to Align and Support 300 mm Wafer Carriers
5955	SNARF	Global Pic Maintenance TF	Line Item Revision to SEMI E63-1104 (Reapproved 1110) Mechanical Specification for 300 mm Box Opener/Loader to Tool Standard (BOLTS-M) Interface with Title Change to: Specification for 300 mm Box Opener/Loader to Tool Standard Mechanical (BOLTS-M) Interface
5951	SNARF	Global Pic Maintenance TF	Reapproval of SEMI E100-1104 (Reapproved 0710) Specification for a Reticle SMIF Pod (RSP) Used to Transport and Store 6 Inch or 230 mm Reticles
5952	SNARF	Global Pic Maintenance TF	Reapproval of SEMI E117-1104 (Reapproved 0710) Specification for Reticle Load Port
5953	SNARF	Global Pic Maintenance TF	Reapproval of SEMI E131-0304 (Reapproved 0310) Specification for the Physical Interface of an Integrated Measurement Module (IMM) into 300 mm Tools Using Bolts-M

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
5950	Cycle 9 - 2015	Global Pic Maintenance TF	Reapproval of SEMI E1-1110 Specification for Open Plastic and Metal Wafer Carriers
5965	Cycle 9 - 2015	Global Pic Maintenance TF	Reapproval of SEMI E15-0698E2 (Reapproved 0310) Specification for Tool Load Port
5954	Cycle 9 - 2015	Global Pic Maintenance TF	Reapproval of SEMI E15.1-0305 (Reapproved 1110) Specification for 300 mm Tool Load Port
5956	Cycle 9 - 2015	Global Pic Maintenance TF	Line Item Revision to SEMI E57-0600 (Reapproved 1110) Mechanical Specification for Kinematic Couplings Used to Align and Support 300 mm Wafer Carriers with Title Change to: Specification for Kinematic Couplings Used to Align and Support 300 mm Wafer Carriers
5955	Cycle 9 - 2015	Global Pic Maintenance TF	Line Item Revision to SEMI E63-1104 (Reapproved 1110) Mechanical Specification for 300 mm Box Opener/Loader to Tool Standard (BOLTS-M) Interface with Title Change to: Specification for 300 mm Box Opener/Loader to Tool Standard Mechanical (BOLTS-M) Interface
5951	Cycle 9 - 2015	Global Pic Maintenance TF	Reapproval of SEMI E100-1104 (Reapproved 0710) Specification for a Reticle SMIF Pod (RSP) Used to Transport and Store 6 Inch or 230 mm Reticles
5952	Cycle 9 - 2015	Global Pic Maintenance TF	Reapproval of SEMI E117-1104 (Reapproved 0710) Specification for Reticle Load Port
5953	Cycle 9 - 2015	Global Pic Maintenance TF	Reapproval of SEMI E131-0304 (Reapproved 0310) Specification for the Physical Interface of an Integrated Measurement Module (IMM) into 300 mm Tools Using Bolts-M



Table 6 New Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
2015Nov#01	Laura Nguyen	Contact EUV TF if it is okay for the TC Chapter to sunset this task force. Send email to Long He and John Zimmerman. COMPLETE.
2015Nov#02	Stefan Radloff, Laura Nguyen	Follow-up with Chie Yanagisawa on English translation of Assembly and Packaging slides discussing backend alignment issues with introducing backside fiducial mark on notchless wafers. COMPLETE.
2015Nov#03	Laura Nguyen	Verify with Shannon that E84 activity will not go into inactive. COMPLETE.
2015Nov#04	Laura Nguyen	Contact Jan Rothe when he would like to hold the SMIF meeting for the NA Standards Spring meeting. COMPLETE.
2015Nov#05	Jan Rothe	Follow up on next steps for Doc 5869. ON-GOING.

Table 7 Previous Meeting Actions Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>	<i>Status</i>
None			

1 Welcome, Reminders, and Introductions

Matt Fuller, committee cochair, called the meeting to order at 9:05 AM. 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 committee 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:** Makoto Yamamoto (Muratec) / Kenji Yamagata (Daifuku)
- Discussion:** None
- Vote:** 8-0 in favor. Motion passed.

Attachment: 02, NA PIC Minutes 2015 West SF DRAFT1

3 Liaison Reports

3.1 *Japan Physical Interfaces & Carriers Committee*

Kenji Yamagata presented the Japan PIC liaison report. The key items were as follows:

- Leadership and Structure Change – Koji Oyama stepped down from co-chair from the International Reticle SMIF Pod and Load Port Interoperability TF
- Leadership
 - TC Chapter Cochairs
 - Tsuyoshi Nagashima (Miraial)
 - Tsutomu Okabe (TDK)
 - Kenji Yamagata (DAIFUKU)
 - Technical Architect



- Shoji Komatsu (Acteon)

- Next Meeting: Japan Winter 2015 Meetings Wednesday December 16 in conjunction with SEMICON Japan 2015
- Document Review Summary (Japan Standards Winter 2014 Meetings)

Cycle 7-2014		
Doc #	Description	TC Chapter Action
5524	Revisions to SEMI E156-0710, "Mechanical Specification for 450 mm AMHS Stocker to Transport Interface", with title change to "Mechanical Interface Specification for 450 mm AMHS Stocker to Transport Equipment"	Failed and returned to the task force
5777	Reapproval of SEMI E92-0302E, "Specification for 300 mm Light Weight and Compact Box Opener/Loader to Tool-Interoperability Standard (Bolts/Light)"	Passed as balloted Superclean

- Document Review Summary (Japan Standards Spring 2015 Meetings)
 - None
- Document Review Summary (Japan Standards Summer 2015 Meetings)

Cycle 5-2015		
Doc #	Description	TC Chapter Action
5524A	Revisions to SEMI E156-0710, " <i>Mechanical Specification for 450 mm AMHS Stocker to Transport Interface</i> ", with title change to " <i>Specification for Mechanical Interfaces between 450 mm AMHS Stocker and Transport Equipment</i> "	Passed as balloted Superclean
5869	Line Item Revision to SEMI E84-1109, " <i>Specification for Enhanced Carrier Handoff Parallel I/O Interface</i> "	--
Line Item 1	Add to § R1-2.2 of RELATED INFORMATION 1	Failed and returned to the task force

* Ballot #5869 submission was approved at the NA PIC TC Chapter meeting on April 1, 2015. As SEMI E84 was originated from Japan region, however, the decision should have been made by JA PIC TC Chapter with additional GCS Agreement per P.M. 2.7.1.2.3.1. Accordingly, the Japan PIC TC Chapter made a decision to authorize this ballot submission at the Japan PIC TC Chapter meeting on April 15, 2015.

- Approved SNARFs
 - #5928: SNARF for Reapproval to SEMI E23-1104, Specification for Cassette Transfer Parallel I/O Interface
 - Approved at the PIC Japan TC Chapter meeting on July 30.
 - Approved at the withdrawal of #5928 SNARF at the PIC Japan TC Chapter meeting on Sept. 30
 - During the preparation for Ballot, it was found that SEMI E23-1104 had no "Requirement" section even though the document was a "Specification". For this reason, the ballot would fail even if submitted.
 - Ballot submission was also approved at the PIC Japan TC Chapter meeting on July 30, however, it should be invalid due to withdrawal of the SNARF.



• Authorized Ballots (Japan Spring 2015 Meetings)

#	When	SC/TF/WG	Details
5869	Cycle 5, 2015	Global PIC Maintenance Task Force	Line Item Revision to SEMI E84-1109, “ <i>Specification for Enhanced Carrier Handoff Parallel/I/O Interface</i> ”

• Ballots to be reviewed at the Japan Standards Winter 2015 Meetings

#	When	SC/TF/WG	Details
None			

Japan Task Force Updates

• 450 mm AMHS Task Force

#	Title	Update
5524A	Revision to SEMI E156-0710, “ <i>Mechanical Specification for 450 mm AMHS Stocker to Transport Interface</i> ”, with title change to “ <i>Specification for Mechanical Interfaces between 450 mm AMHS Stocker and Transport Equipment</i> ”	<ul style="list-style-type: none"> → Reviewed and passed as balloted at PIC Japan TC Chapter meeting on July 30, 2015 → Passed A&R review in August 2015

Fiducial Mark Interoperability Task Force

#	Title	Issue	Update
T7	SEMI T7-0303 (Reapproved 0709), “ <i>Specification for Back Surface Marking of Double-Side Polished Wafers with a Two-Dimensional Matrix Code Symbol</i> ”	Traceability Japan TC Chapter assigned following up activity for T7 to Fiducial Mark Interoperability TF → Section 2.1(T7 adoption of nonsilicon materials) → Figure 3: small modification → M20 coordinate system (based on Negative to 5752 [withdrawn])	<ul style="list-style-type: none"> → TF decided to delete all position specifications from SEMI T7 because position specifications are also described on SEMI M1 and other related Silicon Standard. → SNARF was approved by GCS. (SNARF 5890) → Document 5890 submitted for Cycle 7. → To be adjudicated at the next JA TC Chapter meeting of Traceability TC in conjunction with SEMICON JAPAN 2015.
<i>Other Updates</i>			
<ul style="list-style-type: none"> → Silicon: Developing new Standard for 450mm Development Wafer with fiducial Mark → Assembly and Packaging: Discussing backend alignment issues with introducing fiducial mark wafer. 			

- Global PIC Standards Maintenance Task Force (JA Side)

#	Title	Update
5777	Reapproval of SEMI E92-0302 ^E , “Specification for 300 mm Light Weight and Compact Box Opener/Loader to Tool-Interoperability Standard (Bolts/Light)”	<ul style="list-style-type: none"> → Passed as balloted at the Japan TC Chapter meeting on Dec. 4, 2014 and also passed at A&R in Feb., 2015. → Published as SEMI E92-0302E (Reapproved 0615)
5869	Line Item Revision to SEMI E84-1109 “Specification for Enhanced Carrier Handoff Parallel I/O Interface”	<ul style="list-style-type: none"> → #5869 ballot submission was approved at the NA PIC TC Chapter meeting on April 1, 2015. As SEMI E84 was originated from Japan region, however, the decision should have been made by JA PIC TC Chapter with additional GCS Agreement per P.M. 2.7.1.2.3.1. Accordingly, the Japan PIC TC Chapter made a decision to authorize this ballot submission at the Japan PIC TC Chapter meeting on April 15, 2015. → Failed at the Japan TC Chapter meeting on July 30, 2015 → To be discussed at NA Standards Fall 2015 Meetings in November. → Action Item: 2015Nov#05, Jan Rothe to follow up on next steps for Doc 5869.

- International 450 mm Physical Interfaces & Carriers Task Force (JA Side)

Other Updates
<ul style="list-style-type: none"> → Issues related to a door closing have been raised from G450C. <ul style="list-style-type: none"> ○ ITG started the tests → To move KC chapter in SEMI M80 to SEMI E154 (Lord Port) <ul style="list-style-type: none"> ○ Waiting for the next major revision for discussion ○ Re-vote and volunteers

- International Process Module Physical Interface (IPPI) Task Force (JA Side)

Other Updates
<ul style="list-style-type: none"> → The Document worked by this task force was published. → The disbandment of IPPI TF was approved, with pending the EU TC Chapter’s agreement, at the Japan TC Chapter meeting on April 15, 2015.

- International Reticle SMIF Pod and Load Port Interoperability Task Force (JA Side)

Other Updates
<ul style="list-style-type: none"> → The Japan TC Chapter was addressed that the task force leader of Europe region, Jan Rothe (GlobalFoundries), asked for a new leader from Japan region. → Koji Ohyama stepped down for the leader of Japan region and the North America leader also stepped down. No TC Member was nominated as the task force leader from Dainichi Shoji, which Koji Ohyama used to belong to. → Kenji Yamagata reported to Jan Rothe that there was no volunteer as the TF leader of Japan region.

- SEMI E84 Study Group

<i>Other Updates</i>
<ul style="list-style-type: none"> → The scope of this study group <ul style="list-style-type: none"> ○ To understand current issues of SEMI E84 and the study group will be held with Information & Control Japan TC Chapter. → Leadership <ul style="list-style-type: none"> ○ Mitsuhiro Matsuda (Hitachi Kokusai Electric) → Approved at Japan TC Chapter meeting on July 30, 2015 <ul style="list-style-type: none"> ○ The SG meeting was held on September 29, 2015 @SEMI Japan office → Discharged at Japan TC Chapter meeting on September 30, 2015 <ul style="list-style-type: none"> ○ Meeting Date/Time: September 29, 2015 13:30-16:00 ○ Attendees: 10 ○ Discussion <ul style="list-style-type: none"> ▪ There are some conflicts in SEMI E84 Main Document and its Appendix. <ul style="list-style-type: none"> • When Appendix was added, requirements were added. • It might be the lack of understanding E84 concept, or modifications made by only seeing the E84 implementation. ▪ So, there exist some variations of E84 implementation. (Based on selection of appendix and related Information) <ul style="list-style-type: none"> • Supplier made some variations, and give one of them according to the customer operation. ▪ It shall be returned to the original concept of E84. However it introduce confusion to industry because some variations already exist. ▪ Therefore, modifying E84 is not proper. ▪ Whitepaper for attention of this issues may be better to have, but it requires volunteers.

- Staff Contact: Chie Yanagisawa (cyanagisawa@semi.org)

Attachment: 03, Japan PIC Liaison Report Fall 2015

3.2 Europe Equipment Automation Committee (Information & Control, Metrics, Physical Interfaces & Carriers)

Paul Trio presented the Europe PIC liaison report. The key items were as follows:

- Leadership
 - TC Chapter Cochairs
 - Alfred Hornold (InReCon)
 - Frank Petzoid (Trustsec)
 - International Recticle SMIF Pod & Loadport Interoperability TF
 - Jan Rothe (Global Foundries)
- Last Meeting: October 7, 2015 in conjunction with SEMICON Europa 2015
- Next Meeting: October 25-27 in conjunction with SEMICON Europa 2015
- International Recticle SMIF Pods and Load Ports Interoperability Task Force
 - Leader: Jan Rothe (GlobalFoundries)
 - Drafting doc. 5941, Revisions to E111-1213, Add new Related Information Documenting Purge Locations for Recticle SMIF Pod Purging and E19-1213, E112-1213, and E117-1104 (Reapproved 0710), Add references to the new E111 Related Information section



- Document is in Google site. Feedback being sought.
- Revision of E84 TF
 - Effort to renew SEMI E84-1109, Specification for Enhanced Carrier Handoff Parallel I/O Interface will not be pursued by the Europe
 - E84 will be allowed to go inactive unless renewed by another region
- Staff Contact: Kevin Nguyen (knguyen@semi.org), James Amano (jamano@semi.org)

Attachment: 04, Europe PIC Liaison Report Fall 2015

3.3 SEMI Staff Report

Laura Nguyen presented the SEMI Staff PIC 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

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

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

- New Requirements/Process Reminders for TC Chapter Meetings

- o 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 be completed within the project period, TC Chapter may grant one-year extension at a time, as many times as necessary.
- o 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.
- o New SNARF & TFOF forms *{embedded in Staff Report, see Attachment 03 of these minutes}*
- o 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.
 - List of PIC Standards in Staff Report *{see Attachment 04 of these minutes}*
- o PIC Standards needing Five-Year Review *{embedded in Staff Report, see Attachment 04 of these minutes}*
- o Standards Document Development Project Period Review (≤ 3 years from SNARF to approval)

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

Attachment: 05, SEMI Standards Staff Report

4 Ballot Review

Document #	Document Title	TC Chapter Action
None		

5 Task Force Reports

5.1 Joint International 450 mm Physical Interfaces & Carriers Task Force (450 mm IPIC TF) / International Process Module Physical Interface Task Force (IPPI TF)

Shoji Komatsu presented the report. The key items were as follows:

- Reviewed test report and input from Interoperability Test Group (ITG)
 - Test Report on Loadport
 - There are differences in the door closing capabilities (bottom clamping forces and door rigidities). These differences may affect the carrier door closing performances with the combination of carrier models and wafer conditions
 - G450c input
 - MAC Door Expansion may cause vacuum loss in some load port designs.
 - Potential causes of door vacuum error: Edge of wafer shape/thin film, MAC door expansion, insufficient rigidity of LP door, suction pad margin
 - Some LPs have a lead-in interference (clamp)
 - Inputs to SEMI PIC
 - No specific changes needed on standards. However, no tests have been done with processed wafers.
 - ITG would like to ensure the industry is aware of the causes of issues that have occurred. (shared learnings)
- KC pin STD (next ballot item)
 - Discussion on whether to move to KC pin section from Carrier(E158, E159) STD to LP (E154) STD or to a separate
 - Waiting for the next major revision for discussion, re-vote and volunteers.
 - Cleanups to the Requirements section as M80 (450FOSB).
 - Before 2019 (5 years review) IPIC-TF or PIC SM-TF
- AUX for 450mm – SNARF
 - To be discussed at SEMICON Japan 2015
- The International Process Module Physical Interface Task Force (IPPI TF) has no report.

Attachment: 06, 450 mm IPIC Task Force Report

5.2 Global PIC Maintenance Task Force

Larry Hartsough presented the report. The key items were as follows:

- 5- Year Review
 - Reapprovals:
 - Line Item Revisions (title correction)
- Continuing work on E72 revision (5817)
 - Will incorporate several inputs on ballot
- E84 (1109) due for 5-Year Review, currently being revised under Japan PIC Maintenance TF (SNARF # 5869)

Motion: Approve a request for SEMI E1, E15, E15.1, E57, E63, E100, E117, E131 to go out for Cycle 9, 2015.

By / 2nd: Larry Hartsough (U.A. Associates) / Alan Crockett (consultant)

Discussion: None.

Vote: 9-0 in favor. Motion passed.

Attachment: 07, Global PIC Maintenance Task Force Report

5.3 *International / NA 450 mm Shipping Box TF*

Thomas Quinn presented the report. The key items were as follows:

- Continuing review of Shipping System Ballot (5069B)
 - Review if need to move Overview to after Referenced Documents section. Refer to style manual.
 - 6.1.6 was revised with “shall” contradicts the second sentence that it will be agreed upon between customer and supplier. Commercial issue not belonging in the Standard. There is also a grammatical error.
 - 6.5.7.1 use the term “Outer width, depth, height...”
 - A1-1.1.1 add “should be” before sealed.
 - R2-1 use “450mm Wafer Shipping system” instead of “FOSB, package, and logistics”. Also correct “shall” and “must” to “should”. Also a recommendation that R2_1.1 include “It is important that...” this will increase the strength of the statement.
- Action items:
 - Discuss 6.1.6 at JA TF on November 25 with Mashiro-san.
 - Next meeting: SEMICON Japan, December 16
 - Proposed Agenda Topics: Shipping System Ballot Draft review.

Attachment: 08, International / NA 450 mm Shipping Box Task Force Report

5.4 *International Reticle SMIF Pod and Load Port Interoperability TF*

Stefan Radloff (Intel) presented the report for Jan Rothe (GLOBALFOUNDRIES). The key items were as follows:

- No meeting held at NA Fall meetings. TF continuing work on Doc. 5941, E111 revision to add new Related Information Documenting Purge Locations for Reticle SMIF Pod Purging
 - Includes revisions to E19, E112, and E117 to add references to the new E111 Related Information section

5.5 *EUV Reticle Handling Task Force*

No report received.

Action Item: 2015Nov#01, Laura Nguyen to contact EUV TF if it is okay for the TC Chapter to sunset. Send email to Long He and John Zimmerman.

5.6 *450 mm Automated Test Die Prep Task Force*

Stefan Radloff reported that the NA 450 ATDP TF is inactive. Most of the activities are being driven from Japan, under the Packaging Committee. The Japan TF is discussing 450 mm notchless wafers and their impact on test standards.

Action Item: 2015Nov#02, Stefan Radloff and Laura Nguyen to follow-up with Chie Yanagisawa on English translation of Assembly and Packaging slides discussing backend alignment issues with introducing backside fiducial mark on notchless wafers.



6 Old Business

6.1 Status update on action items generated from the previous meetings:

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>	<i>Status</i>
2015July#01	David Bouldin	Follow-up with Chie Yanagisawa on English translation of Assembly and Packaging slides discussing backend alignment issues with introducing backside fiducial mark on notchless wafers.	Completed. Closed.
2015July#02	David Bouldin	Send the list of PIC Standards needing their five-year reviews to Larry Hartsough and Shoji Komatsu, coleaders of the Global PIC Maintenance Task Force.	Completed. Closed.
2015July#03	David Bouldin	Send a copy of the Negatives from the Reject vote submitted by Eric Sklar (SafetyGuru) on prior failed E72 Reapproval ballot 5711 to Alan Crockett.	Completed. Closed.
2015July#04	David Bouldin	Send an editable Word version of E72 to Alan Crockett.	Completed. Closed.
2015July#05	Alan Crockett	Prepare an initial revision draft for E72 to address Eric Sklar's Negatives.	Completed. Closed.
2015July#06	James Amano	Investigate possibility of holding all of the PIC Fall meetings on a single day and provide the cochairs with options.	Completed. Closed.

6.2 Documents Due for 5-Year Review

The PIC Standards due for five-year review were discussed during the Global PIC Maintenance TF report { *see section 5.2 of these minutes and Attachment 07 of these minutes* }.

6.3 SNARFs Past Three Year Document Development Period

Per *Regulations* § 8.3.2, the Standard Document Development Project Period shall not exceed three years. The SNARF becomes invalid and the Document development activity defined by the SNARF must be discontinued after this period. The EXCEPTION for *Regulations* § 8.3.2 enables the TC Chapter to grant a one-year extension at a time if Document development activity is found to be continuing. No North America PIC ones are past due.

6.4 Published Standards with Nonconforming Titles

The PIC Standards that have nonconforming titles were discussed during the Global PIC Maintenance TF report { *see section 5.2 of these minutes and Attachment 07 of these minutes* }.

7 New Business

7.1 New SNARFs & TFOFs

7.1.1 { *See Table 5 of these minutes for a list of new activities that the TC Chapter has approved.* }

7.2 Authorizations for Ballot Submission

7.2.1 { *See Table 5 of these minutes for a list of new ballot submission that the TC Chapter has approved to go out for Cycle 9, 2015.* }

7.2.2 Other New Business

7.2.3 { *See section 3.1 and 3.2 of these minutes for information on the status of SEMI E84.* }

Motion: SNARF reapproval request for SEMI E84 to go out for Cycle 9, 2015.

By / 2nd: Larry Hartsough (U.A. Associates) / Alan Crockett (consultant)

Discussion: Larry withdrew his motion.

Action Item: 2015Nov#03, Laura Nguyen to verify with Shannon that E84 activity will not go into inactive.



8 Action Item Review

8.1 Open Action Items

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

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 NA PIC TC Chapter meeting is scheduled for April 6, 2016 in conjunction with Spring NA Standards Meetings. It is reported that IPIC will not be a joint meeting and the SMIF meeting will be determined at a later time.

Action Item: 2015Nov#04, Laura Nguyen to contact Jan Rothe when he would like to hold the SMIF meeting for the NA Standards Spring meeting

The tentative schedule(s) and location(s) are provided below:

Spring NA Standards Meetings

April 4-7, 2016

Location (**Tentative**)

SEMI Headquarters	or	Intel (Robert Noyce Building)
3081 Zanker Road		2200 Mission College Blvd
San Jose, CA 95134		Santa Clara, CA 95054
U.S.A.		U.S.A.

Tuesday, April 5 (**Tentative**)

- International Reticle SMIF Pod and Load Port Interoperability TF (TBD)
- Global PIC Maintenance TF (2:00 PM to 3:00 PM)
- International 450 mm PIC TF (3:00 PM to 4:00 PM)
- NA 450mm Shipping Box TF (4:00 PM to 5:00 PM)
- International Process Module Physical Interface TFs (TBD)

Wednesday, April 6 (**Tentative**)

- Physical Interfaces and Carriers TC Chapter (9:00 AM to 12:00 PM)

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 PIC Committee meeting on November 3, 2015 in conjunction with the NA Standards Fall 2015 Meetings. Adjournment was at 11:00 AM.

Respectfully submitted by:

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Minutes approved by:

Matt Fuller (Entegris)	February 4, 2016
Stefan Radloff (Intel)	<Date approved>

Table 8 Index of Available Attachments #1

#	<i>Title</i>	#	<i>Title</i>
1	SEMI Standards Required Meeting Elements	6	450 mm IPIC Task Force Report
2	NA PIC West 2015 meeting minutes	7	Global PIC Maintenance Task Force Report
3	Japan PIC Liaison Report	8	International / NA 450 mm Shipping Box Task Force Report
4	Europe PIC Liaison Report	9	
5	SEMI Standards Staff Report	10	

#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.