



# Physical Interfaces & Carriers North America TC Chapter

## Meeting Summary and Minutes

NA Standards Spring Meeting 2022

Wednesday, March 30, 2022, 09:30 – 11:30 Pacific

SEMI Headquarters, Milpitas, California, and via Official Virtual TC Chapter Meeting (OVTCCM)

### TC Chapter Announcements

*Next TC Chapter Meeting*

SEMICON West Hybrid Standards Meetings 2022

Wednesday, July 13, 2022, 10:00 – 12:00 Noon Pacific

Moscone Center, San Francisco, California, and via OVTCCM

### Table 1 Meeting Attendees

*Italics indicate virtual participants*

**Co-Chairs:** Matt Fuller (Entegris), Melvin Jung (Intel)

**SEMI Staff:** Laura Nguyen

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
<i>Acteon NEXT Corporation</i>	<i>Komatsu</i>	<i>Shoji</i>	Tokyo Electron Limited	Hayashi	Haruna
<i>Brooks Automation</i>	<i>Babbs</i>	<i>Daniel</i>	Tokyo Electron Limited	Mashiro	Supika
Entegris	Fuller	Matthew	<i>Thermo Fisher Scientific</i>	<i>Young</i>	<i>Richard</i>
<i>Intel</i>	<i>Jung</i>	<i>Melvin</i>	UA Associates	Hartsough	Larry
<i>Intel</i>	<i>Patil</i>	<i>Deepak</i>			
Intel	Radloff	Stefan	SEMI	Nguyen	Laura

### Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
SEMI E72 Revision Task Force [ <i>New</i> ]	--	Supika Mashiro (TEL)

### Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
None	SEMI E72 Revision Task Force [ <i>New</i> ]

### Table 4 Ballot Results

None

### Table 5 Activities Approved by the GCS between meetings of the TC Chapter

None



**Table 6 Authorized Activities**

Listing of all revised or new SNARF(s) approved by the Originating TC Chapter.

#	Type	SC/TF/WG	Details
--	TFOF	SEMI E72 Revision TF	SEMI E72 Revision Task Force <i>[New]</i>
6918	SNARF	Global PIC Maintenance TF	Line-Item Revision to SEMI E63-0616, Specification for 300 mm Box Opener/Loader to Tool Standard (BOLTS-M) Interface
6919	SNARF	SEMI E72 Revision TF	Revision to SEMI E72-1016, Specification and Guide for Equipment Footprint, Height, and Weight

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

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

**Table 7 Authorized Ballots**

Listing of documents authorized by the Originating TC Chapter for Letter Ballot.

#	When	TF	Details
6918	Cycle 4 or 5-2022	Global PIC Maintenance TF	Line-Item Revision to SEMI E63-0616, Specification for 300 mm Box Opener/Loader to Tool Standard (BOLTS-M) Interface

**Table 8 SNARF(s) Granted a One-Year Extension**

None

**Table 9 SNARF(s) Abolished**

None

**Table 10 Standard(s) to receive Inactive Status**

None

**Table 11 New Action Items**

Item #	Assigned to	Details
2022Mar#01	Larry Hartsough	Larry to check Five-Year docs for “must”, “shall”, and other PM related items.
2022Mar#02	Laura Nguyen	Laura to check internally to share top formatting examples to TF leaders.
2022Mar#03	Stefan Radloff	Prepare another SNARF for LoadPort, possibly by West.
2022Mar#04	Laura Nguyen	Send Larry and Supika and MS Word files for their SNARF docs. <a href="#">Completed</a>

**Table 12 Previous Meeting Action Items**

Item #	Assigned to	Details
2017April#04	Laura Nguyen	To identify which documents under the global task force, belong to which committees. <a href="#">Ongoing. Unsure how this should be done.</a>
2021Dec#01	Larry Hartsough	To create a SNARF for SEMI E63 revision. <a href="#">Completed.</a>

**1 Welcome, Reminders, and Introductions**

Matt Fuller (Entegris) called the meeting to order at 09:32. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

**Attachment:** SEMI Standards Required Meetings Elements (File name: Required Element Nov 2020 Rev1)

## 2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

**Motion:** To accept the previous meeting minutes as written.  
**By / 2<sup>nd</sup>:** By: Larry Hartsough / U.A. Associates  
 Second: Supika Mashiro / Tokyo Electron Ltd.  
**Discussion:** None.  
**Vote:** 7-0 in favor. Motion passed.

**Attachment:** [2021Dec] PIC NA TC Chapter Meeting Minutes FINAL

## 3 Liaison Reports

### 3.1 Physical Interfaces & Carriers Japan TC Chapter

Laura Nguyen (SEMI HQ) reported for the Physical Interfaces & Carriers Japan TC Chapter. Of note:

#### Meeting Information

- Last meeting
  - December 17, 2021(Official Virtual TC Chapter Meeting/ SEMI Japan Office (Hybrid))
- Next Meeting:
  - May 27,2022 (Official Virtual TC Chapter Meeting/ SEMI Japan Office (Hybrid))

Organization Chart (*See attachment*)

Ballot Results (None)

Authorized Activities

### Authorized Activities [1/2]



Doc #	Type	SC/TF/CFG	Document Title/Details
6895	SNARF	300mm Tape Frame PI&C Task Force	Line Item Revision to SEMI E185 -1121-SPECIFICATION FOR 300 mm TAPE FRAME FOUN
6897	SNARF	Global PIC Maintenance Task Force	Revision of E92, Specification For 300 mm Light Weight and Compact Box Opener/Loader To Tool -Interoperability Standard (Bolts/Light)
6898	SNARF	Panel Level Packaging Panel FOUN Task Force	Revision to SEMI E181, - SPECIFICATION FOR PANEL FOUN FOR PANEL LEVEL PACKAGING
6899	SNARF	Panel Level Packaging Panel FOUN Task Force	Revision to SEMI E181.1, - Specification for Panel FOUN for 510 to 515 mm Panel Size and 12 Slots

**#1: SNARFs and TFOFs are available for review on the SEMI Web site at:**  
<http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF>

## Authorized Activities [2/2]



Doc #	Type	SC/TF/CFG	Document Title/Details
6900	SNARF	300mm Tape Frame PI&C Task Force	Revision to SEMI E181.2, - Specification for Panel FOUF for 510 to 515 mm Panel Size and 6 Slots
6901	SNARF	Global PIC Maintenance Task Force	Revision to SEMI E181.3, - Specification for Panel FOUF for 600 to 600 mm Panel Size and 12 Slots
6902	SNARF	Panel Level Packaging Panel FOUF Task Force	Revision to SEMI E181.4, - Specification for Panel FOUF for 600 to 600 mm Panel Size and 6 Slots

#1: SNARFs and TFOFs are available for review on the SEMI Web site at:  
<http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARF>



### Authorized Ballots

## Authorized Ballots[1/2]

Doc #	When	TF	Document Title/Details
6895	Cycle03/04-2022	300mm Tape Frame PI&C Task Force	Line Item Revision to SEMI E185 -1121-SPECIFICATION FOR 300 mm TAPE FRAME FOUF
6897	Cycle03/04-2022	Global PIC Maintenance Task Force	Revision of E92, Specification For 300 mm Light Weight and Compact Box Opener/Loader To Tool -Interoperability Standard (Bolts/Light)
6898	Cycle03/04-2022	Panel Level Packaging Panel FOUF Task Force	Revision to SEMI E181, - SPECIFICATION FOR PANEL FOUF FOR PANEL LEVEL PACKAGING
6899	Cycle03/04-2022	Panel Level Packaging Panel FOUF Task Force	Revision to SEMI E181.1, - Specification for Panel FOUF for 510 to 515 mm Panel Size and 12 Slots



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## Authorized Ballots[2/2]

Doc #	When	TF	Document Title/Details
6900	Cycle03/04-2022	300mm Tape Frame PI&C Task Force	Revision to SEMI E181.2, - Specification for Panel FOUF for 510 to 515 mm Panel Size and 6 Slots
6901	Cycle03/04-2022	Global PIC Maintenance Task Force	Revision to SEMI E181.3, - Specification for Panel FOUF for 600 to 600 mm Panel Size and 12 Slots
6902	Cycle03/04-2022	Panel Level Packaging Panel FOUF Task Force	Revision to SEMI E181.4, - Specification for Panel FOUF for 600 to 600 mm Panel Size and 6 Slots



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### Five-Year Review

Designation	Standard Title	Action By	Assigned to
SEMI E83-0515	Specification for PGV Mechanical Docking Flange	Past Due	Global PIC Maintenance TF (JA)
SEMI E92-0302E	Specification for 300 mm Light Weight and Compact Box Opener/Loader to Tool-Interoperability Standard (Bolts/Light)		



(Reapproved 0615)			
SEMI E156-1115	Specification for Mechanical Interfaces Between 450 mm Automated Material Handling Systems (AMHS) Stocker to Transport Equipment		

**Task Force Highlights**

- Panel Level Packaging(PLP) Panel FOUP TF

**【FOUP】**

- Waiting for the publication of line-item Ballot 6750, 6751 and 6752
- The FOUP standard required many modifications due to the indication of KLA-Eric.
- preparing 5 SNARFs(#6898,6899,6900,6901,6902) with the goal of submitting to Cycle 3 next year.
  - SEMI E181 - 0321 —Specification for Panel FOUP for Panel Level Packaging
  - SEMI E181.1 - 0321 —Specification for Panel FOUP for 510 to 515 mm Panel Size and 12 Slots
  - SEMI E181.2 - 0321 —Specification for Panel FOUP for 510 to 515 mm Panel Size and 6 Slots
  - SEMI E181.3 - 0321 —Specification for Panel FOUP for 600 to 600 mm Panel Size and 12 Slots
  - SEMI E181.4 - 0321 —Specification for Panel FOUP for 600 to 600 mm Panel Size and 6 Slot

**【Loadport】**

- The Panel FOUP Loadport standard, including two subordinate standards, was published this June.
  - SEMI E182 -0621 — Specification for Panel FOUP Loadport for Panel Level Packaging
  - SEMI E182.1-0621 — Specification for Panel FOUP Loadport for 510 to 515 mm Panel Size
  - SEMIE182.2-0621 — Specification for Panel FOUP Loadport for 600 to 600 mm Panel Size

**Staff Contact:** Mami Nakajo ([mnakajo@semi.org](mailto:mnakajo@semi.org))

**Attachment:** JA\_PIC\_Liaison\_20210810\_v1.1

**3.2 SEMI Staff Report**

Laura Nguyen (SEMI) gave the SEMI Staff Report. Of note:

**SEMI Global 2022 Calendar of Events**

- SEMICON China (June 15-17; Shanghai, China)
- SEMICON SEA (June 21-23; Penang, Malaysia)
- SEMICON West (July 12-14; San Francisco, CA/USA)
- SMEICON Taiwan (Sept 14-16; Taipei, Taiwan)
- SEMICON Europa (Nov 15-17; Munich, Germany)
- SEMICON Japan (December 15-17; Tokyo, Japan)

**Critical Dates for SEMI Standards Ballots**

- Cycle 3-2022: Ballot Submission Due: Mar 9/Voting Period: Mar 23 – Apr 22
- Cycle 4-2022: Ballot Submission Due: Apr 18/Voting Period: May 3 – June 2
- Cycle 5-2022: Ballot Submission Due: May 18/Voting Period: June 1 – July 1
- Cycle 6-2022: Ballot Submission Due: July 26/Voting Period: Aug 9 – Sept 8
- Cycle 7-2022: Ballot Submission Due: Aug 30/Voting Period: Sept 13 – Oct 13
- Cycle 8-2022: Ballot Submission Due: Oct 4/Voting Period: Oct 18 – Nov 17
- Cycle 9-2022: Ballot Submission Due: Nov 15/Voting Period: Nov 29 – Dec 29

Critical Dates: <http://www.semi.org/en/Standards/Ballots>



Style Manual update

- Style Manual (November 1, 2021)
  - New Appendix 5
  - Table A5-1 Restricted Biased Terms with Approved, Alternative, Bias-Free Terms

<i>Restricted Biased Terms</i>	<i>Approved, Alternative, Bias-free Terms</i>
blacklist	blocklist, denylist, droplist
master	primary, main, leader, active
slave	secondary, replica, follower, standby
webmaster	web product owner
whitelist	allowlist, accesslist, permitlist

- Table A5-2 Biased Terms to Avoid with Approved, Alternative, Bias-Free Terms

[https://www.semi.org/sites/semi.org/files/2021-11/Style%20Manual%20Version%208\\_November%201%2C%202021\\_final.pdf](https://www.semi.org/sites/semi.org/files/2021-11/Style%20Manual%20Version%208_November%201%2C%202021_final.pdf)

Ballot Formatting

- For revision to an existing Standard, make sure to use the current published version.
  - Obtain the current MS Word version from staff
  - Highly recommend to turn on revision tracking when editing
    - Discourage to manually strikethrough for deletion or underline for addition.
    - If the track changes are excessive and the ballot becomes hard to follow, recommendation to revise as a “complete rewrite.”
      - “Complete rewrites” does not show track changes. Instead, a notice is included in the Background Statement and at the top of the ballot that states “This Document is a complete rewrite.”
- For Line-Item ballots, clearly show what changes are proposed in each Line Item and include an explanation for each Line Item in the required background statement (*Procedure Manual* ¶3.5.3.1).

Standards Publications Report

<i>Cycle</i>	<i>New</i>	<i>Revised</i>	<i>Reapproved</i>	<i>Withdrawn</i>
August 2021	4	3	0	0
September 2021	0	5	6	0
October 2021	1	2	3	1
November 2021	3	7	7	1

Total in portfolio – 1,056 (includes 297 Inactive Standards)

New Standards

<i>Cycle</i>	<i>Designation</i>	<i>Title</i>	<i>Committee</i>	<i>Region</i>
August 2021	SEMI A4.1	Specification for the Automated Test Equipment Tester Event Messaging for Semiconductors (TEMS)	Automated Test Equipment	NA
August 2021	SEMI D82	Test Method for Viewing Angle of Flat Panel Displays	FPD – Metrology	KO
August 2021	SEMI F116	Guide for Drain Segregation for Semiconductor Manufacturing Tools to Support Site Water Reuse	Liquid Chemicals	NA
August 2021	SEMI M90	Test Method for Bulk Micro Defect Density and Denuded Zone Width in Annealed Silicon Wafers by Optical Microscopy After Preferential Etching	Silicon Wafer	JA
October 2021	SEMI C103	Guide for Reporting Performance Parameters of the Chemical Mechanical Planarization (CMP) Conditioning Disks Used in Semiconductor Manufacturing	Liquid Chemicals	NA
November 2021	SEMI E183	Specification for Rich Interactive Test Database (RITdb)	Automated Test Equipment	NA



November 2021	SEMI E186	Specification for Location and Dimensions for Power Connectors and EtherCAT ports in Mass Flow Controllers and Mass Flow Meters	Gases	NA
November 2021	SEMI D74	Guide for Measuring Dimensions of Plastic Films/Substrates	FPD - Materials & Components	JA

Inactive Standards (as of November 30, 2021) Cont.

<i>Committee</i>	<i>Number of Inactive Standards</i>
Assembly & Packaging	68
Automated Test Equipment	2
Compound Semiconductor Materials	4
Environmental Health & Safety	8
Facilities	14
FPD – Equipment	5
FPD – Factory Automation	14
FPD – Materials & Components	13
Gases	18
Information & Control	37
Liquid Chemicals	26
MEMS	4
Metrics	12
Micropatterning	30
Photovoltaic	3
Physical Interfaces & Carriers	25
Silicon Wafer	12
Traceability	8

Five-Year Review

<b>Designation #</b>	<b>Standard Title</b>	<b>Action By</b>	<b>Original TF assigned to:</b>
SEMI E117-0117	Specification for Reticle Load Port	January 2022	Global PIC Maintenance Task Force (NA)
SEMI E19-0417	Specification for Standard Mechanical Interface (SMIF)	April 2022	Global PIC Maintenance Task Force (NA)
SEMI E19.4-0417	Specification for 200 mm Standard Mechanical Interface (SMIF)	April 2022	Global PIC Maintenance Task Force (NA)
SEMI E112-1017	<i>Specification for a 150 mm Multiple Reticle SMIF Pod (MRSP150) Used to Transport and Store Multiple 6 Inch Reticles</i>	<i>October 2022</i>	<i>Global PIC Maintenance Task Force (NA)</i>
SEMI E111-1017	Specification for a 150 mm Reticle SMIF Pod (RSP150) Used to Transport and Store a 6 Inch Reticle	October 2022	Global PIC Maintenance Task Force (NA)

**Attachment:** Staff Report March 2022 v3\_PIC

**4 Ballot Review**

None

## 5 Subcommittee and Task Force Reports

### 5.1 Electron Microscopy Workflow Task Force

Richard Young (Thermo Fisher Scientific) reported for this Task Force. Of note *{See attachment for images}*:

#### Activity update since December 8, 2021, PIC meeting

- SEMI E177 (LC Standard) related activities
- Phase 2, Doc. 6592 (LCC Standard), Doc. 6832 (Shipping Container) related activities

#### Phase 2 activities through monthly telephone conference meetings and email/telephone exchanges when necessary.

- Meetings since December 8 update - Task Force (1), Focus Team (5)

#### SEMI E177 (LC Standard) related activities: *{See attachment for images}*

- One practical limitation has been identified with the 3mm grid LCs:
- When a laser marked LC is coated with a thin carbon foil, the ID mark read-out quality is low due to optical disturbances induced by the presence of the foil
- ID marks at the bottom side of the LC are judged non-practical (too complex!) and therefore, alternative solutions have been researched, proposed and tested
- New activity

#### New activity:

- Japanese TF liaison (JEOL/Hitachi/KEYENCE) with Protochips in the USA.
  - Previously proposed new workflow: half-strip carbon film to expose ID mark
    - Discussed at previous PIC updates - one consequence was expected to be an update to E177 to change size and location of ID mark (DMC data matrix code)
    - After second round of testing there remained concerns about ID reading quality due to etch pits, and about overall manufacturability of the new process
      - ➔ Alternative needed (or more work on reliability/manufacturability of the process)
- New proposal – use through-holes for ID mark of carbon-foil coated LCs
  - Allows high-contrast ID reading using back lighting (see next slide)
    - ➔ It was agreed to abandon the half-strip carbon film method
- Through-hole ID mark investigation for “full-moon” carbon-film LCs (Japan EM Task Force)
  - Through-hole ID mark read successfully using back lighting with carbon film in place (“Grade A” read quality)
    - “Reflected light” ID reading not successful, possible mitigations related to mark layout and lighting could be investigated
- Consequence for LCC: reading carbon-film ID mark in LCC is not possible (first LCC version not planned to be [semi-]transparent)
  - Therefore ➔ ID reading for carbon-film LCs would need to occur elsewhere in the transfer station (e.g. at the TEM holder)
  - This is accepted by the EM tool vendors (Hitachi, JEOL, TFS)
- Consequence for E177 LC Standard: no change may be needed (only size and location of DMC are currently specified in E177)
- Next steps: Further discussions on consequences and on proposals for half-moon grids (compatible with “dimple” or “through-hole” IDs)



Phase 2, Doc. 6592 (LCC Standard) related activities:

- New activity:
  - 16 Dec 2021 focus team (FT) meeting:
    - LCC design choices were discussed and the current draft of document 6592 was presented by Dr Peter Wagner
  - 20 Jan 2022 FT meeting:
    - it was agreed that the current content of document 6592 is acceptable in terms of the selected requirements and specifications (subject to change based on new insights, new test data, etc)
  - 27 Jan 2022 TF meeting: overview of document 6592 was presented (document posted on connect@SEMI)
    - In addition, LCC design issues and choices for overall height, presence sensors, clamping, stacking were presented
  - 3 Feb 2022 FT meeting: the meeting reviewed previously presented LCC design concepts
    - It was agreed that Dr Peter Wagner should add these items to the draft document 6592
    - Dr Wagner prepared a second draft on March 28
      - The updated draft will be reviewed at upcoming Focus Team and Task Force meetings
  - Doc. 6832 (Shipping Container)
    - Initial discussions complete (see previous reports)
    - Next steps: awaiting more complete draft LCC Standard before returning to this topic

Activity outlook into 2022

- Updated (second) draft LCC Standard document prepared by Dr Peter Wagner
  - Review within focus team (April 2022), then within Task Force (May 2022)
  - Identify further open areas for closure in Q2-2022, including Customer Survey #3 (if needed)
  - Further testing to confirm design proposals
  - Create timeline for TF partner activities through end of 2022 – based on availability of test results and on any additional consequences of LC ID marking or related activities
- Shipping container
  - Revisit shipping container standard once draft LCC Standard has been reviewed in Q2-2022
- Goals for Ballots and TC Chapter approvals in 2022
  - Revision to SEMI E177 (LC Standard) – *revision may no longer be needed*
  - Doc. 6592 (LCC Standard)
  - Doc. 6832 (Shipping Container)

**Attachment:** SEMI EM TF - PIC Update 30 March 2022

5.2 *Global PIC Maintenance Task Force*

Larry Hartsough (UA Associates) reported for this Task Force. Of note:

TF Status

- JA Leader: Shoji Komatsu – Acteon NEXT
- NA Leader: Larry Hartsough – UA Associates
- Current NA activity on 5-year review
  - E63 (BOLTS-M): SNARF for Line Item Ballot



- E72 (Equipment Footprint, Hgt & Wgt): SNARF for Major Revision Ballot & TFOF
- Current JA activity on 5-year review
- Standards for Next 5-Year Review
  - SEMI E 117 Specification for Reticle Load Port
  - SEMI E 19 Specification for Standard Mechanical Interface (SMIF)
  - SEMI E 19.4 Specification for 200 mm Standard Mechanical Interface (SMIF)
  - SEMI E 112 Specification for a 150 mm Reticle SMIF Pod (MRSP150) Used to Transport and Store Multiple 6 Inch Reticles
  - SEMI E 111 Specification for a 150 mm Reticle SMIF Pod (MRSP150) Used to Transport and Store a 6 Inch Reticles

**Attachment:** PIC MTF Report March 2022

### 5.3 Packaging Tape Frame Handling Task Force (Standardization Task Force Proposal)

Stefan Radloff (Intel) reported for this Task Force. Of note: *{See attachment for images}*

#### Help Needed: Name?

- FFF – Film Frame FOUP  
→ FFF – Film Frame FOUP

#### Carrier / Load Port Key Attributes

- Carrier
  - Enclosed
  - 10mm pitch / 13 frame capacity
  - carrier ID zone (RFID and/or BCR)
  - wafer handing internal pickup zones
  - Aligns with 300mm FOUP standards where possible
    - bottom features: KC pins, carrier sensing, hold down, conveyor rail
    - auto handling flange
    - FIMS interface – adjust Z key / reg pin position only
    - “reuse” datum planes: HDP, BDP, FDP
    - info pads?
    - purge port location(s)
- Load Port
  - Aligns with 300mm LP standards where possible
    - BOLTS compliant
    - 505mm BDP-BDP pitch
    - Match E15.1 D dim 250 +0/-10 → same “reach” from LFP = reuse PGV/AGV
      - revisit / review fork lift / conveyor rail zones
    - “reuse” datum planes: HDP, BDP, FDP
- Other items?

#### Development Process / Next Steps

- Align on key attributes
- Begin draft of carrier standard – volunteers??
- Proposed updates to G74 tape frame – Japan 3d packaging committee
  - need to align with Packaging Committee
  - better specify bar code type and location
  - specify film edge exclusion zone and centricity
- Monthly meetings – align on date / time?
  - end of the month CA 6pm / Japan 10am / China/TW 9am

**Attachment:** 3-29-22 TF Handling SEMI Task Force r1

### 5.4 Japan Panel Level Packaging(PLP) Panel FOUP Task Force report

Shoji Komatsu (Acteon NEXT) reported for this Task Force. Of note:

#### E181 including the subordinate revision (Cycle 4)

- Motion to approve submission of Ballot(s) that modify E181 and its subordinate standards to JA SEMI staff.
  - Motion by - Kanashiro-san / TDK
- Approval of previous meeting minutes
  - Second by - Shida-san /SEP
- Discussion: Komatsu will update the appendix figure in the subordinate documents.
- Voting
  - Favor : Oppose : Abstain= Majority : 0 : 0

### E182 Loadport update

- Input from std user
  - ① Difficult to understand because Figure is not clear. Ex) Figure 8
  - ② The Y 142 description in section 8.11 is incorrect.
  - ③ GUI may exceed LB in some cases, so STD must be specified. (need the update in section 5.2.8 and 8.2)

→ Prepare the LP revision SNRAF by the next TF.

③ Applicable SEMI Standards  
SEMI E15.1 – 300 mm Equipment Loadport

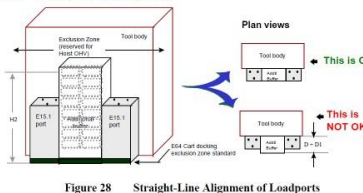


Figure 28 Straight-Line Alignment of Loadports

② 8.11 Volume for Fork-Lift Truck — The entire volume below a load port between the LB and the BI shall be kept clear up to height above the floor defined by dimension z105 and x142 in order to allow for access by a fork-lift truck upon equipment move-in. The volume may be covered by a removable panel. See Figure 8 for a sketch of the volume.

semi   Standards	y142	8	780mm	LB	Rear edge of exclusion volume for lift-truck access under SME
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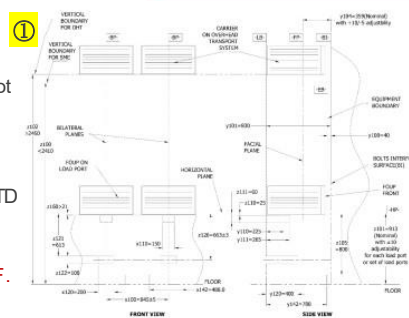


Figure 8 Interface Between Load Port and Panel FOUP Delivery System

**Attachment:** Panel FOUP TF report\_20220330



## 6 Old Business

None

## 7 New Business

### 7.1 New SNARFs/TFOFs

Larry Hartsough (UA Associates) addressed the Committee on the below:

**Motion:** Approve the SNARF for Line-Item Revision to SEMI E63-0616, Specification for 300 mm Box Opener/Loader to Tool Standard (BOLTS-M) Interface  
**By / 2<sup>nd</sup>:** By: Larry Hartsough / U.A. Associates  
Second: Stefan Radloff / Intel  
**Discussion:** None.  
**Vote:** 6-0 in favor. Motion passed.

**Attachment:** E 63 SNARF\_Mar2022\_rev3\_atm

**Motion:** Authorize the Document for Letter Ballot for Line-Item Revision to SEMI E63-0616, Specification for 300 mm Box Opener/Loader to Tool Standard (BOLTS-M) Interface  
**By / 2<sup>nd</sup>:** By: Larry Hartsough / U.A. Associates  
Second: Supika Mashiro / Tokyo Electron Ltd.  
**Discussion:** None.  
**Vote:** 6-0 in favor. Motion passed.

Supika Mashiro (TEL) addressed the Committee on the below:

**Motion:** Approve the SNARF for Revision to SEMI E72-1016, Specification and Guide for Equipment Footprint, Height, and Weight  
**By / 2<sup>nd</sup>:** By: Supika Mashiro / Tokyo Electron Ltd.  
Second: Larry Hartsough / U.A. Associates  
**Discussion:** None.  
**Vote:** 6-0 in favor. Motion passed.

**Attachment:** SNARF\_E72 (rev)\_atm

**Motion:** Approve the TFOF for E72 Revision TF  
**By / 2<sup>nd</sup>:** By: Supika Mashiro / Tokyo Electron Ltd.  
Second: Larry Hartsough / U.A. Associates  
**Discussion:** None.  
**Vote:** 5-0 in favor. Motion passed.

**Attachment:** E72Rev.TF\_TFOF\_atm

## 8 Action Item Review

8.1 New Action Items are noted in Table 11. Previous action items are noted in Table 12 in 'red' and for recent updates in 'blue'. There is no further business.



## 9 Next Meeting and Adjournment

9.1 The next meeting is tentatively scheduled for the week of July 11-14, in conjunction with SEMICON West 2022. Please check [www.semi.org/standards](http://www.semi.org/standards) for updates.

### Tentative Schedule:

Tuesday, July 12

- 14:00-15:00, E72 Revision TF
- 15:00-16:00, EM Workflow TF
- 16:00-17:00, Packaging Tape Frame Handling TF

Wednesday, July 13

- 09:00-10:00, Global PIC Maintenance TF
- 10:00-12:00 Noon, PIC NA TC Chapter Meeting

Adjournment: 11:26.

Respectfully submitted by:

Laura Nguyen

Sr. Coordinator, International Standards

SEMI Global Headquarters

Phone: +1.408.943.7019

Email: [lnguyen@semi.org](mailto:lnguyen@semi.org)

Minutes tentatively approved by:

Matthew Fuller (Entegris), Co-chair	<Date approved>
Melvin Jung (Intel), Co-chair	<Date approved>

**Minutes officially approved by: PIC NA OVTCCM on July 13, 2022 (SEMICON West).**

**Table 13 Index of Available Attachments<sup>#1</sup>**

<i>Title</i>	<i>Title</i>
Required Element Nov 2020 Rev1	3-29-22 TF Handling SEMI Task Force r1
[2021Dec] PIC NA TC Chapter Meeting Minutes FINAL	Panel FOUP TF report_20220330
JA_PIC_Liaison_20210810_v1.1	E 63 SNARF_Mar2022_rev3_atm
Staff Report March 2022 v3_PIC	SNARF_E72 (rev)_atm
SEMI EM TF - PIC Update 30 March 2022	E72Rev.TF_TFOF_atm
PIC MTF Report March 2022	

<sup>#1</sup> 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](http://www.semi.org). For additional information or to obtain individual attachments, please contact Laura Nguyen at the contact information above.