



Physical Interfaces & Carriers Japan TC Chapter

Meeting Summary and Minutes

Japan Standards Winter 2019 Meetings in conjunction with SEMICON Japan 2019

Wednesday, December 11, 2019, 14:00-16:00

Conference Tower, Tokyo Big sight, Tokyo, Japan

TC Chapter Announcements

Next TC Chapter Meeting

Wednesday, April 15, 2020, (Time: TBD)

SEMI Japan, Tokyo, Japan

Table 1 Meeting Attendees

Co-Chairs: Tsuyoshi Nagashima (Miraial), Noriyoshi Toyoda (Hirata Corporation), Daisuke Sado (DAIHEN Corporation)

SEMI Staff: Chie Yanagisawa (SEMI Japan)

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
Acteon NEXT	Komatsu	Shoji	Murata Machinery	Tominaga	Tadamasa
DAIFUKU	Suzuki	Tomoko	Nihon Entegris	Akutagawa	Chieko
DAIFUKU	Yamagata	Kenji	Shin-Etsu Polymer	Fukunaga	Tsukasa
Daihen	Sado	Daisuke	Shin-Etsu Polymer	Shida	Hiroyuki
DISCO	Kobinata	Kyosuke	Sinfonia Technologies	Otani	Mikio
Entegris	Lee	Poshin	Sinfonia Technologies	Suzuki	Atsushi
ESWIN	Qingde	Long	Sinfonia Technologies	Taniyama	Yasushi
Hirata Corporation	Toyoda	Noriyoshi	Sony Semiconductor Solutions	Goto	Hisashi
Hirata Corporation	Nakamura	Hirofumi	SUMCO	Nakai	Tetsuya
JEOL	Asayama	Kyoichiro	Tokyo Electron	Mashiro	Supika
Kokusai Electric	Matsuda	Mitsuhiro	Tokyo Seimitsu	Taniguchi	Naomune
Kumai Consulting	Kumai	Sadao	Yamamoto Planning	Yamamoto	Makoto
Miraial	Nagashima	Tsuyoshi			
Murata Machinery	Ito	Yasuhisa	SEMI Japan	Yanagisawa	Chie

Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
PI&C Japan TC Chapter	Kenji Yamagata (DAIFUKU) stepped down for the co-chair. Tsuyoshi Nagashima (Miraial) and Noriyoshi Toyoda (Hirata Corporation) remain.	Daisuke Sado (DAIHEN Corporation) is newly appointed.

Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
None	

Table 4 Ballot Results

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
None		

Note 1: **Passed** ballots and line items will be submitted to the ISC Audit & Review Subcommittee for procedural review.

Note 2: **Failed** ballots and line items were returned to the originating task forces for re-work and re-balloting or abandoning.

Table 5 Activities Approved by the GCS prior to the Originating TC Chapter meeting

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

Table 6 Authorized Activities

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

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
6618	New SNARF	Panel Level Packaging (PLP) Panel FOUF TF	New Standard - SPECIFICATION FOR PANEL FOUF FOR PANEL LEVEL PACKAGING
6619	New SNARF	Panel Level Packaging (PLP) Panel FOUF TF	New Subordinate Standard - SPECIFICATION FOR PANEL FOUF FOR 510mm-515mm PANEL SIZE and 6 SLOTS
6620	New SNARF	Panel Level Packaging (PLP) Panel FOUF TF	New Subordinate Standard - SPECIFICATION FOR PANEL FOUF FOR 510mm-515mm PANEL SIZE and 12 SLOTS
6621	New SNARF	Panel Level Packaging (PLP) Panel FOUF TF	New Subordinate Standard - SPECIFICATION FOR PANEL FOUF FOR 600mm-600mm PANEL SIZE and 6 SLOTS
6622	New SNARF	Panel Level Packaging (PLP) Panel FOUF TF	New Subordinate Standard - SPECIFICATION FOR PANEL FOUF FOR 600mm-600mm PANEL SIZE and 12 SLOTS
6617	New SNARF	300 mm Tape Frame PI&C TF	New Standard – SPECIFICATION FOR 300mm TAPE FRAME FOUF
6521	SNARF Revision	300 mm Tape Frame PI&C TF	New Standard – SPECIFICATION FOR 300mm TAPE FRAME FOUF LOAD PORT
6522	SNARF Revision	300 mm Tape Frame PI&C TF	New Standard – SPECIFICATION FOR BOLTS OF 300mm TAPE FRAME FOUF LOAD PORT
6523	SNARF Revision	300 mm Tape Frame PI&C TF	New Standard – SPECIFICATION FOR FRONT OPENING INTERFACE BETWEEN 300mm TAPE FRAME FOUF AND LOAD PORT
6524	SNARF Revision	300 mm Tape Frame PI&C TF	New Standard – SPECIFICATION FOR INDICATOR PLACEMENT ZONE AND SWITCH PLACEMENT VOLUME OF 300mm TAPE FRAME FOUF LOAD PORT

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

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

Table 7 Authorized Ballots

#	When	TF	Details
6618	Cycle 1/2-2020	Panel Level Packaging (PLP) Panel FOUP TF	New Standard - SPECIFICATION FOR PANEL FOUP FOR PANEL LEVEL PACKAGING
6619	Cycle 1/2-2020	Panel Level Packaging (PLP) Panel FOUP TF	New Subordinate Standard - SPECIFICATION FOR PANEL FOUP FOR 510mm-515mm PANEL SIZE and 6 SLOTS
6620	Cycle 1/2-2020	Panel Level Packaging (PLP) Panel FOUP TF	New Subordinate Standard - SPECIFICATION FOR PANEL FOUP FOR 510mm-515mm PANEL SIZE and 12 SLOTS
6621	Cycle 1/2-2020	Panel Level Packaging (PLP) Panel FOUP TF	New Subordinate Standard - SPECIFICATION FOR PANEL FOUP FOR 600mm-600mm PANEL SIZE and 6 SLOTS
6622	Cycle 1/2-2020	Panel Level Packaging (PLP) Panel FOUP TF	New Subordinate Standard - SPECIFICATION FOR PANEL FOUP FOR 600mm-600mm PANEL SIZE and 12 SLOTS

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

#	TF	Title	Expiration Date
None			

Table 9 SNARF(s) Abolished

#	TF	Title
6485	Panel Level Packaging (PLP) Panel FOUP TF	SNARF for: New Standard: Specification for Panel FOUP for Panel Level Packaging
6520	300 mm Tape Frame PI&C TF	SNARF for: New Standard: Specification for 300mm Tape Frame FOUP

Table 10 Standard(s) to receive Inactive Status

Standard Designation	Title
None	

Table 11 New Action Items

Item #	Assigned to	Details
20191211-01:	Shoji Komatsu (Acteon NEXT)	to review SEMI E92 and to propose the next step for the document by the next PIC Japan TC Chapter meeting to be held in 2020 spring.
20191211-02:	Noriyoshi Toyoda (Hirata)	to remind Yasuhisa Ito (Murata Machinery) of being ready for his approval at the next JRSC meeting in April 2020.

Table 12 Previous Meeting Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
20190418-02	300 mm Tape Frame PI&C TF	to consider and discuss if those four SNARFs related to Load Port could be into one. -> OPEN
20190920-01	Kenji Yamagata (DAIFUKU)	to remind Daisuke Sado (Daihen) of being ready for his approval at the next JRSC meeting in December 2019. -> CLOSE



1 Welcome, Reminders, and Introductions

Tsuyoshi Nagashima (Miraial) called the meeting to order at 14:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment: 01-02_SEMI Standards Required Elements_August2018_E+J

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting held on September 20, 2019.

Motion:	Approve the previous meeting minutes as written
By / 2nd:	Kenji Yamagata (DAIFUKU) / Shoji Komatsu (Acteon NEXT)
Discussion:	None
Vote:	20 in favor and 0 opposed. Motion passed.

Attachment: 02-00_20190920_PI&C-Japan_MeetingMinutes_Final

3 Technical Committee Award

The following members received Technical Committee Awards for the contribution of the Japan EM Workflow liaison TF.

- Kyoichiro Asayama (JEOL)
- Tsuyoshi Ohnishi (Hitachi High-Technologies)

4 Liaison Reports

4.1 *Physical Interfaces & Carriers Europe TC Chapter*

Chie Yanagisawa (SEMI Japan) reported for the Physical Interfaces & Carriers Europe TC Chapter that there is no update.

4.2 *North America Japan TC Chapter*

Tsuyoshi Nagashima (Miraial) reported for the Physical Interfaces & Carriers NA TC Chapter as attached material.

Attachment: 04-02_NA PIC Liaison Report Nov2019 v1

4.3 *SEMI Staff Report*

Chie Yanagisawa (SEMI Japan) gave the SEMI Staff Report. Of note:

- JRSC Topics
- Standards articles in SEMI Japan monthly newsletter
- Highlight of SEMICON Japan 2019
- SEMI Global Calendar of Events
- Global Standards Meeting Schedule

- Critical Dates for SEMI Standards Ballots
- A&R Ballot Review
- SEMI Standards Publications

Attachment: 05-00_SEMI Staff Report 2019_1204_v0.3

5 Ballot Review

None

6 Subcommittee and Task Force Reports

6.1 300 mm Tape Frame PI&C TF

Hisashi Goto (Sony Semiconductor Solutions) reported for 300 mm Tape Frame PI&C Task Force as attached material.

Attachment: 07-01_20191211_300mm Tape Frame PIC TF_ActivityReports_r1

6.2 Global PIC Standards Maintenance TF

Shoji Komatsu (Acteon NEXT) reported for the Global PIC Standards Maintenance Task Force as follows.

- For 5-year-review, the following document to be reviewed by the next PIC Japan TC Chapter meeting in spring 2020
 - SEMI E92-0302E (Reapproved 0615): Specification for 300 mm Light Weight and Compact Box Opener/Loader to Tool-Interoperability Standard (Bolts/Light)

6.3 Japan Electron Microscopy (EM) Workflow liaison TF

Kyoichiro Asayama (JEOL) reported for the Japan EM Workflow Liaison Task Force reported as attached.

Attachment: 07-03_191211_EM-Workflow_TF-Report

6.4 Panel Level Packaging Panel FOUP TF

Shoji Komatsu (Acteon NEXT) reported that for the Panel Level Packaging Panel FOUP Task Force as attached material. Of note:

- Document #6485: SNARF for New Standard: Specification for Panel FOUP For Panel Level Packaging
 - Withdrawal to be proposed at New Business Section of this meeting
- Document #6486: SNARF for: New Standard - SPECIFICATION FOR PANEL FOUP LOADPORT FOR PANEL LEVEL PACKAGING
 - Keep it as it is
- Proposal for New SNARFs to be made at New Business section of this meeting
 - New SNARF for New Standard: Specification for Panel FOUP for Panel Level Packaging

- New SNARF for New Subordinate Standard: Specification for Panel FOUP for 510 mm-515 mm Panel Size and 6 Slots
- New SNARF for New Subordinate Standard: Specification for Panel FOUP for 510 mm-515 mm Panel Size and 12 Slots
- New SNARF for New Subordinate Standard: Specification for Panel FOUP for 600 mm-600 mm Panel Size and 6 Slots
- New SNARF for New Subordinate Standard: Specification for Panel FOUP for 600 mm-600 mm Panel Size and 12 Slots

Attachment: 07-04_Panel FOUP TF report_20191211

6.5 (*Liaison: 3D Packaging & Integration JA TC Chapter*) *Panel Level Packaging Glass Carrier TF*

Hiroyuki Shida (Shin-Etsu Polymer) reported for the task force as follows.

- TF meeting is held monthly.
- Following items are discussed.
 - Specification Items and Values:
 - Most of specification items and values are agreed as attached. Further discussion will be done for the measurement methods.
 - Referenced Standards:
 - SEMI FPD Materials and Components TC has been published many standards related to glass substrates (i.e. SEMI D24)
 - Reviewed and found useful standards from FPD M&C is D3 (Quality Area), D9 (Terminology) and D24 (Specification for Glass Substrates).

6.6 [*Liaison: 3D Packaging & Integration NA TC Chapter*] *Panel Level Packaging (PLP) Panel TF*

Shoji Komatsu (Acteon NEXT) reported that Panel Level Packaging Panel TF is working on the following document.

- Document #6591 Revision to SEMI 3D20-0719, Specification for Panel Characteristics for Panel Level Packaging (PLP) Applications”

6.7 (*Silicon Wafer Japan TC Chapter*) *JA Shipping Box TF*

Shoji Komatsu (Acteon NEXT) reported that there is no activity.

6.8 (*Silicon Wafer Japan TC Chapter / PI&C NA TC Chapter*) *International 450mm Shipping Box TF*

Shoji Komatsu (Acteon NEXT) reported that there is no activity.

7 Old Business

7.1 Project period Review

Chie Yanagisawa (SEMI Japan) reported that there are six SNARFs under the Japan TC Chapter and the oldest SNARF was initially approved in December 2018.

7.2 5-Year Review

As reported at Global Maintenance PIC TF report of this meeting, the following document is due for 5-Year Review and the leader in Japan to propose the next step for the document.

- SEMI E92-0302E (Reapproved 0615): Specification for 300 mm Light Weight and Compact Box Opener/Loader to Tool-Interoperability Standard (Bolts/Light)

Action Item: 20191211-01: Shoji Komatsu (Acteon NEXT) to review SEMI E92 and to propose the next step for the document by the next PIC Japan TC Chapter meeting to be held in 2020 spring.

7.3 Co-chairs change

Kenji Yamagata (DAIFUKU) reported that Daisuke Sado (Daihen) was appointed as the co-chair of PI&C Japan TC Chapter by JRSC at the meeting held on December 10, 2019 due to step-down of Kenji Yamagata (DAIFUKU).

8 New Business

8.1 Proposal from Panel Level Packaging (PLP) Panel FOUP TF

Shoji Komatsu (Acteon NEXT) proposed for the following items.

8.1.1 #6485: SNARF for: New Standard: Specification for Panel FOUP for Panel Level Packaging

Motion:	Withdraw #6485: SNARF for: New Standard: Specification for Panel FOUP for Panel Level Packaging
By / 2nd:	Shoji Komatsu (Acteon NEXT) / Tsukasa Fukunaga (Shin-Etsu Polymer)
Discussion:	None
Vote:	24 in favor and 0 opposed. Motion passed.

8.1.2 New SNARF for New Standard: Specification for Panel FOUP for Panel Level Packaging

Motion:	Approve the new SNARF for New Standard: Specification for Panel FOUP for Panel Level Packaging
By / 2nd:	Shoji Komatsu (Acteon NEXT) / Tsukasa Fukunaga (Shin-Etsu Polymer)
Discussion:	US5755332 and US5785186, which are material to E158 and E159, were identified as potentially relevant patented technology to the Standard Document to be developed. The two patents that were identified by the TF were expired. Therefore, the TF recommends the TC Chapter to assess the two patents should not be potentially material to the document.
Vote:	22 in favor and 0 opposed. Motion passed.

8.1.3 New SNARF for New Subordinate Standard: Specification for Panel FOUP for 510 mm-515 mm Panel Size and 6 Slots

Motion:	Approve the new SNARF for New Subordinate Standard: Specification for Panel FOUP for 510 mm-515 mm Panel Size and 6 Slots
By / 2nd:	Shoji Komatsu (Acteon NEXT) / Tsukasa Fukunaga (Shin-Etsu Polymer)
Discussion:	None
Vote:	24 in favor and 0 opposed. Motion passed.

8.1.4 New SNARF for New Subordinate Standard: Specification for Panel FOUN for 510 mm-515 mm Panel Size and 12 Slots

Motion:	Approve the new SNARF for New Subordinate Standard: Specification for Panel FOUN for 510 mm-515 mm Panel Size and 12 Slots
By / 2nd:	Shoji Komatsu (Acteon NEXT) / Tsukasa Fukunaga (Shin-Etsu Polymer)
Discussion:	None
Vote:	24 in favor and 0 opposed. Motion passed.

8.1.5 New SNARF for New Subordinate Standard: Specification for Panel FOUN for 600 mm-600 mm Panel Size and 6 Slots

Motion:	Approve the New SNARF for New Subordinate Standard: Specification for Panel FOUN for 600 mm-600 mm Panel Size and 6 Slots
By / 2nd:	Shoji Komatsu (Acteon NEXT) / Tsukasa Fukunaga (Shin-Etsu Polymer)
Discussion:	None
Vote:	23 in favor and 0 opposed. Motion passed.

8.1.6 New SNARF for New Subordinate Standard: Specification for Panel FOUN for 600 mm-600 mm Panel Size and 12 Slots

Motion:	Approve the New SNARF for New Subordinate Standard: Specification for Panel FOUN for 600 mm-600 mm Panel Size and 12 Slots
By / 2nd:	Shoji Komatsu (Acteon NEXT) / Tsukasa Fukunaga (Shin-Etsu Polymer)
Discussion:	None
Vote:	24 in favor and 0 opposed. Motion passed.

8.1.7 Ballot submission of the five documents

Motion:	<p>Authorize the ballot submission for the following 5 documents in Cycle 1/2-2020</p> <ul style="list-style-type: none"> • New Standard - SPECIFICATION FOR PANEL FOUN FOR PANEL LEVEL PACKAGING • New Subordinate Standard - SPECIFICATION FOR PANEL FOUN FOR 510mm-515mm PANEL SIZE and 6 SLOTS • New Subordinate Standard - SPECIFICATION FOR PANEL FOUN FOR 510mm-515mm PANEL SIZE and 12 SLOTS • New Subordinate Standard - SPECIFICATION FOR PANEL FOUN FOR 600mm-600mm PANEL SIZE and 6 SLOTS • New Subordinate Standard - SPECIFICATION FOR PANEL FOUN FOR 600mm-600mm PANEL SIZE and 12 SLOTS
By / 2nd:	Shoji Komatsu (Acteon NEXT) / Tsukasa Fukunaga (Shin-Etsu Polymer)
Discussion:	None
Vote:	24 in favor and 0 opposed. Motion passed.

8.2 Proposal from 300 mm Tape Frame PI&C TF

Hisashi Goto (Sony Semiconductor Solutions) proposed for the following items.

8.2.1 Withdrawal of #6520 SNARF for New Standard: Specification for 300mm Tape Frame FOUP

Motion:	Withdraw #6520 SNARF for New Standard: Specification for 300mm Tape Frame FOUP
By / 2nd:	Hisashi Goto (Sony Semiconductor Solutions) / Chieko Akutagawa (Nihon Entegris)
Discussion:	none
Vote:	24 in favor and 0 opposed. Motion passed.

8.2.2 New SNARF for New Standard - Specification for 300mm Tape Frame FOUP

Motion:	Approve the New SNARF for New Standard - Specification for 300mm Tape Frame FOUP
By / 2nd:	Hisashi Goto (Sony Semiconductor Solutions) / Chieko Akutagawa (Nihon Entegris)
Discussion:	None
Vote:	24 in favor and 0 opposed. Motion passed.

8.2.3 Revision to #6521 SNARF for: New Standard - Specification for 300mm Tape Frame FOUP Load Port

Motion:	Approve revision to #6521 SNARF for: New Standard - Specification for 300mm Tape Frame FOUP Load Port
By / 2nd:	Hisashi Goto (Sony Semiconductor Solutions) / Chieko Akutagawa (Nihon Entegris)
Discussion:	Daniel Babbs (Brooks) gave his feedback that SNARFs related to LP should be into one. Similar discussion was made at the previous Japan TC Chapter meeting on April 18, 2019, and the TF was given as an action item to consider the necessity of unification of resulting Standards Document. To date, the TF has not found any compelling reason to make the four Standards Documents into one. TF would like to continue on utilizing 300 mm Lord Port Standards suite structure to reduce author's workload. Therefore, the TF submitted the four SNARFs.
Vote:	22 in favor and 1 opposed. Motion passed.

8.2.4 Revision to #6522 SNARF for: New Standard - Specification for BOLTS of 300mm Tape Frame FOUP Loadport

Motion:	Approve revision to #6522 SNARF for: New Standard - Specification for BOLTS of 300mm Tape Frame FOUP Loadport
By / 2nd:	Hisashi Goto (Sony Semiconductor Solutions) / Chieko Akutagawa (Nihon Entegris)
Discussion:	None
Vote:	22 in favor and 1 opposed. Motion passed.

8.2.5 Revision to #6523 SNARF for: New Standard - Specification for Front Opening Interface between 300mm Tape Frame FOUP and Load Port

Motion:	Approve revision to #6523 SNARF for: New Standard - Specification for Front Opening Interface between 300mm Tape Frame FOUP and Load Port
By / 2nd:	Hisashi Goto (Sony Semiconductor Solutions) / Chieko Akutagawa (Nihon Entegris)
Discussion:	None
Vote:	20 in favor and 1 opposed. Motion passed.

8.2.6 Revision to #6524 SNARF for: New Standard - Specification for Indicator Placement Zone and Switch Placement Volume of 300mm Tape Frame FOUP Load Port

Motion:	Approve revision to #6524 SNARF for: New Standard - Specification for Indicator Placement Zone and Switch Placement Volume of 300mm Tape Frame FOUP Load Port
By / 2nd:	Hisashi Goto (Sony Semiconductor Solutions) / Chieko Akutagawa (Nihon Entegris)
Discussion:	None

Vote:	22 in favor and 1 opposed. Motion passed.
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8.3 Recommendation of New Co-chair (Other than Section 7.3)

Noriyoshi Toyoda (Hirata) said that he would like to step down after the replacement is approved. So, he addressed to the committee on the following item.

Motion:	Recommend Yasuhisa Ito (Murata Machinery) as a co-chair of the PI&C Japan TC Chapter for replacement
By / 2nd:	Noriyoshi Toyoda (Hirata) / Kenji Yamagata (DAIFUKU)
Discussion:	To remind Yasuhisa Ito of being ready for his approval at the next JRSC meeting in April 2020.
Vote:	24 in favor and 0 opposed. Motion passed.

Action Item: 20191211-02: Noriyoshi Toyoda (Hirata) to remind Yasuhisa Ito (Murata Machinery) of being ready for his approval at the next JRSC meeting in April 2020.

9 Action Item Review

9.1 Open Action Items

Action Item: 20190418-01: SEMI Staff to ask the TF leaders to prepare for the liaison report to 3D Packaging & Integration Japan TC Chapter meeting to be held on June 7.

-> CLOSED

Action Item: 20190418-02: 300 mm Tape Frame PI&C TF to consider and discuss if those four SNARFs related to Load Port could be into one.

-> OPEN

9.2 New Action Items

The TC Chapter reviewed the following action items of this meeting.

Action Item: 20191211-01: Shoji Komatsu (Acteon NEXT) to review SEMI E92 and to propose the next step for the document by the next PIC Japan TC Chapter meeting to be held in 2020 spring.

Action Item: 20191211-02: Noriyoshi Toyoda (Hirata) to remind Yasuhisa Ito (Murata Machinery) of being ready for his approval at the next JRSC meeting in April 2020.

10 Next Meeting and Adjournment

The next meeting is tentatively scheduled as follows. See <http://www.semi.org/en/events> for the current list of meeting schedules.

- Date: Wednesday, April 15, 2020
- Time: TBD
- Place: SEMI Japan office, Tokyo

Having no further business, a motion was made to adjourn. Adjournment was at 17:00.



Respectfully submitted by:

Chie Yanagisawa

Manager

SEMI Japan

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Minutes tentatively approved by:

Tsuyoshi Nagashima (Mirai), Co-chair	December 27, 2019
Noriyoshi Toyoda (Hirata Corporation), Co-chair	December 27, 2019
Daisuke Sado (Daihen), Co-chair	December 27, 2019

Table 13 Index of Available Attachments#1

<i>Title</i>	<i>Title</i>
01-02_SEMI Standards Required Elements_August2018_E+J	07-01_20191211_300mm Tape Frame PIC TF_ActivityReports_r1
02-00_20190920_PI&C-Japan_MeetingMinutes_Final	07-03_191211_EM-Workflow_TF-Report
04-02_NA PIC Liaison Report Nov2019 v1	07-04_Panel FOUP TF report_20191211
05-00_SEMI Staff Report 2019_1204_v0.3	

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 Chie Yanagisawa at the contact information above.