3D Packaging and Integration Japan TC Chapter

Meeting Summary and Minutes (Draft)

Japan Standards Fall 2019 Meetings

Friday, October 11, 2019, 13:00–15:00

SEMI Japan office, Tokyo, Japan

TC Chapter Announcements

Next TC Chapter Meeting

Friday, March 6, 2020, 15:00-17:00

SEMI Japan office, Tokyo, Japan

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Kazunori Kato (AiT), Masahiro Tsuriya (iNEMI), Haruo Shimamoto (AIST)
SEMI Staff: Chie Yanagisawa (SEMI Japan)

Company	*Last*	*First*	*Company*	*Last*	*First*
AGC	Hashimoto	Takeshi	NaiGai Tech	Ogihara	Hideaki
AIST	Shimamoto	Haruo	Shin-Etsu Polymer	Shida	Hiroyuki
AiT	Kato	Kazunori	Tokyo Seimitsu	Chiba	Kiyotaka
iNEMI	Tsuriya	Masahiro	SEMI Japan	Yanagisawa	Chie

Table 2 Leadership Changes

WG/TF/SC/TC Name	*Previous Leader*	*New Leader*
Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging TF	Not applicable *TF is newly formed.	Tsuriya Masahiro (iNEMI) Arai Hidetoshi (Apic-Yamada)
3DS IC Bonded Layer Inspection Metrology TF	Not applicable *TF is newly formed.	Ono Shigeru (Hitachi Power Solutions) Shimamoto Haruo (AIST)

Table 3 Committee Structure Changes

Previous WG/TF/SC Name	*New WG/TF/SC Name or Status Change*
The TF is newly formed.	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging TF
The TF is newly formed.	3DS IC Bonded Layer Inspection Metrology TF

Table 4 Ballot Results

Document #	*Document Title*	*Committee Action*
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

#	Type	SC/TF/WG	Details
None			

Table 6 Authorized Activities

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

#	SC/TF/WG	Details
6590	PLP Glass Carrier TF	New SNARF for New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications

Note 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

#	When	TF	Details
6497A	Cycle 1/2-2020	JA 450mm Assembly and Test Die Preparation Task Force	Line Item Revision to SEMI G95-0314 "Mechanical Interface Specification for 450 mm Load Port for Tape Frame Cassettes in the Backend Process" with non-conforming title change to "Specification for Mechanical Features of 450 mm Load Port for Tape Frame Cassettes in The Backend Process"

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

#	TF	Title	Expiration Date
None			

Table 9 SNARF(s) Abolished

#	TF	Title
None		

Table 10 Standard(s) to receive Inactive Status

Standard Designation	Title
SEMI G57-0302 (Reapproved 1015)	Guide for Standardization of Leadframe Terminology

Table 11 New Action Items

Item #	Assigned to	Details
20191011-01	SEMI Staff	to distribute a draft of New SNARF for Revision to SEMI G52-1115 for Two Week TC Member Review and then forward it to GCS vote for approval
20191011-02	SEMI Staff	to ask Sumio Masuchi (DISCO), the co-leader of ATDP TF to consider what action to be made for G74, G77, G82, G87 and G92 for the next step.

Table 12 Previous Meeting Action Items

Item #	*Assigned to*	*Details*
20190222-01	Chie Yanagisawa (SEMI Japan)	To check if SEMI HQ Standards assigns someone for proof reading for a ballot before entering the voting cycle in order to improve Standards document quality-> CLOSE
20190607-01	SEMI Staff	To forward the Ballot Review Reports to A&R. -> CLOSE
20190607-02	SEMI Staff	To make announcement for Kick-off meeting of Panel Level Packaging (PLP) Glass Carrier Task Force -> CLOSE

1 Welcome, Reminders, and Introductions

Kazunori Kato (AiT) called the meeting to order at 13:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

Attachment: 01_SEMI Standards Required Elements_August2018_E+J

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion:	To approve the previous meeting minutes of the 3D Packaging & Integration Japan TC Chapter on June 7, 2019 as written.
By / 2nd:	Kazunori Kato (AiT) / Takeshi Hashimoto (SGC)
Discussion:	None
Vote:	4 in favor and 0 opposed. **Motion passed.**

Attachment: 02_20190607_3DPI-Japan_MeetingMinutes_final

3 Liaison Reports

3.1 3D Packaging & Integration North America (NA) TC Chapter

Chie Yanagisawa (SEMI Japan) reported the 3D Packaging & Integration North America TC Chapter based on the report as attached.

Attachment: 03_NA 3DP&I Liaison Report July2019 v1

3.2 *3D Packaging & Integration Taiwan TC Chapter*

Chie Yanagisawa (SEMI Japan) reported the 3D Packaging & Integration Taiwan TC Chapter based on the report as attached.

Attachment: 04_20191009_TW_ 3D P&I TC Liaison Report v1

3.3 *SEMI Staff Report*

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

- Japan Regional Standards Committee (JRSC) Update/Organization
- SEMI Japan Newsletter – Standards topics

- SEMI Global 2019 Calendar of Events
- SEMICON Japan 2019
- Standards Meetings/Programs during SEMICON Japan 2019
- Global Standards Meeting Schedule
- Upcoming NA Standards Meetings in 2019/2020
- Standards related Seminars at SEMI Japan
- 2019/2020 Critical Dates for SEMI Standards Ballots
- A&R Ballot Review
- SEMI Standards Publications

Attachment: 05_SEMI Staff Report 2019_0926_v0.1a

4 Ballot Review

None

5 Subcommittee and Task Force Reports

5.1 GCS Report

There has been no GCS voting between the previous TC Chapter meeting on June 7, 2019 and this meeting.

5.2 *3D Packaging & Integration 5 Year Review Task Force*

Masahiro Tsuriya (iNEMI) reported that there are a few documents due for 5-year review and actions to those documents will be proposed at the Old Business section and the New Business section of this meeting later.

5.3 *JA 450mm Assembly and Test Die Preparation Task Force*

Chie Yanagisawa (SEMI Japan) reported as follows on behalf of Sumio Masuchi (DISCO), the TF co-leader

- Ballot #6497A: Line Item Revision to SEMI G95-0314 with non-conforming title change to "Specification for Mechanical Features of 450 mm Load Port for Tape Frame Cassettes in The Backend Process"
    - 6497 failed A&R and 6497A Ballot submission to be proposed at New Business section of this meeting.

5.4 *Panel Level Packaging (PLP) Glass Carrier Task Force*

Takeshi Hashimoto (AGC) reported the task force activity as attached material. Of note:

- The kick-off meeting was held on July 1, the second was held in September 6 and the third is scheduled on October 31.
- New SNARF: New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications
    - TC Member Review took place between 8/2/2019 and 8/15/2019
    - To be proposed for approval at New Business section of this TC Chapter Meeting.

Attachment: 06_PLP Glass Carrier TF Status_20191011

5.5 *Thin Chip Handling Task Force*

Haruo Shimamoto (AIST) reported the task force that there has been no activity. Chie Yanagisawa (SEMI Japan) added the following information.

- Ballot #6424: New Standard: Test Method for Adhesive Strength for Adhesive Tray Used for Thin Chip Handling
  - Published as SEMI 3D19-0618

5.6 *3D Packaging & Integration Steering Group*

Masahiro Tsuriya (iNEMI), the co-leader, reported as attached.

- New TFOFs to be proposed at the New Business section of this meeting.
- Workshop to be held during SEMICON Japan 2019

Attachment: 07_3D-PKG SWG Meeting Minutes - 2019-09-09

5.7 *<PI&C liaison> 300 mm Tape Frame PI&C Task Force*

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

Attachment: 08_20190920_300mm Tape Frame PIC TF_ActivityReports_r1

5.8 *<PI&C liaison> Panel Level Packaging (PLP) Panel FOUP Task Force*

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

Attachment: 09_Panel FOUP TF report_20190920

6 Old Business

6.1 Project Period Review

There is no open SNARF to work.

6.2 5-Year Review Check

The TC Chapter reviewed the documents list and the required actions will be proposed at the next meeting.

- SEMI G52-1115: Test Method for Measurement of Ionic Contamination on Semiconductor Leadframes
  - New SNARF for Major Revision to
  - To be distributed for TC Member Two Weeks Review

Action Item 20191011-01: SEMI Staff to distribute a draft of New SNARF for Revision to SEMI G52-1115 for Two Week TC Member Review and then forward it to GCS vote for approval

The TC Chapter agreed to let the following three Standards inactive.

- SEMI G57-0302 (Reapproved 1015): Guide for Standardization of Leadframe Terminology
- SEMI G75-0698 (Reapproved 0615): Standard Test Method of the Properties of Leadframe Tape
- SEMI G81-0307 (Reapproved 0315): Specification for Map Data Items

Action Item 20191011-02: SEMI staff to ask Sumio Masuchi (DISCO), the co-leader of ATDP TF to consider what action to be made for G74, G77, G82, G87 and G92 for the next step.

7 New Business

7.1 Proposal for New SNARF for New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications

Takeshi Hashimoto (AGC) address the TC Chapter on this topic and it reviewed the SNARF.

Motion:	To approve the New SNARF for New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications
By / 2nd:	Takeshi Hashimoto (AGC) / Masahiro Tsuriya (iNEMI)
Discussion:	None
Vote:	5 in favor and 0 opposed. **Motion passed.**

Attachment: 10_SNARF_PLP Glass Carrier (Draft 20190701)+mt_r2

7.2 Proposal for New TFOF of Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Task Force

Masahiro Tsuriya (iNEMI) address the TC Chapter on this topic and it reviewed the TFOF.

1. Charter: *(State the objective of the proposed TF.)*

- This taskforce will work on the development of standard for WLP/PLP encapsulation characteristics and measurement methodology.

2. Scope: *(Define the specific activities that the TF will conduct.)*

- This taskforce will develop the WLP/PLP encapsulants characteristics and testing methods of key properties. These include:
  - Material Characteristics. This includes the list of key characteristics of all types of encapsulate.
  - Property measurement methods. This includes flowability or curability of materials.
  - Measurement of key behaviors which related to encapsulated WLP wafers and PLP panels, etc. This includes the warpage measurement methods of wafer or panel.

Motion:	To approve the New TFOF of Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Task Force with leadership of Tsuriya Masahiro (iNEMI) and Arai Hidetoshi (Apic-Yamada)

By / 2nd:	Masahiro Tsuriya (iNEMI) / Haruo Shimamoto (AIST)
Discussion:	The TF needs to invite more participants.
Vote:	6 in favor and 0 opposed. **Motion passed.**

Initial members of the TF are AIST, Namics, Panasonic, Shin-Etsu Chemical, Sumitomo Bakelite, Toray Engineering, TOWA other than iNEMI and Apic-Yamada

7.3 Proposal for New TFOF of 3DS IC Bonded Layer Inspection Metrology Task Force

Haruo Shimamoto (AIST) address the TC Chapter on this topic and it reviewed the TFOF.

1. Charter: *(State the objective of the proposed TF.)* This Task Force will focus on the reference sample specification for multi stacked wafers/dies more than two.
2. Scope: *(Define the specific activities that the TF will conduct.)* This Task Force will develop a standard focusing on quality of joint boundary between wafers/dies such as void inspection metrology by providing a specification for a reference sample with the following areas to be addressed: Determine the specification for separating the stacked layers of more than two wafers by standardized 3D wafer structure. Determine the identification marks and size.

Motion:	To approve the New TFOF of 3DS IC Bonded Layer Inspection Metrology Task Force with leadership of Ono Shigeru (Hitachi Power Solutions) and Shimamoto Haruo (AIST)
By / 2nd:	Haruo Shimamoto (AIST) / Masahiro Tsuriya (iNEMI)
Discussion:	None
Vote:	6 in favor and 0 opposed. **Motion passed.**

Initial members of the TF are Nordson Sonoscan, Nippon Barnes and Ultra Memory other than AIST and Hitachi Power Solutions.

7.4 Proposal for Submission of Ballot 6497A: Line Item Revision to SEMI G95-0314 “Mechanical Interface Specification for 450 mm Load Port for Tape Frame Cassettes in the Backend Process” with non-conforming title change to “Specification for Mechanical Features of 450 mm Load Port for Tape Frame Cassettes in the Backend Process”

Hiroyuki Shida (Shin-Etsu Polymer) address the TC Chapter on this topic.

Motion:	To authorize the ballot submission of 6497A for Cycle 1/2-2020
By / 2nd:	Hiroyuki Shida (Shin-Etsu Polymer) / Kiyotaka Chiba (Tokyo Seimitsu)
Discussion:	None
Vote:	6 in favor and 0 opposed. **Motion passed.**

8 Action Item Review

8.1 Open Action Item

There is no open action item.

8.2 New Action Item

The TC Chapter reviewed the following new action item.

Action Item 20191011-01: SEMI Staff to distribute a draft of New SNARF for Revision to SEMI G52-1115 for Two Week TC Member Review and then forward it to GCS vote for approval

Action Item 20191011-02: SEMI staff to ask Sumio Masuchi (DISCO), the co-leader of ATDP TF to consider what action to be made for G74, G77, G82, G87 and G92 for the next step.

9 Next Meeting and Adjournment

The next meeting is scheduled for Friday, March 6, 2019, 15:00-17:00 at SEMI Japan office. See http://www.semi.org/en/events for the current list of meeting schedules.

Having no further business, a motion was made to adjourn. Adjournment was at 15:30.

Respectfully submitted by:

Chie Yanagisawa

Manager

SEMI Japan

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Minutes tentatively approved by:

Kazunori Kato (AiT), Co-chair	November 15, 2019
Masahiro Tsuriya (iNEMI), Co-chair	November 16, 2019
Haruo Shimamoto (ASIT), Co-chair	November 16, 2019

Table 13 Index of Available Attachments#1

Title	*Title*
01_SEMI Standards Required Elements_August2018_E+J	06_PLP Glass Carrier TF Status_20191011
02_20190607_3DPI-Japan_MeetingMinutes_final	07_3D-PKG SWG Meeting Minutes - 2019-09-09
03_NA 3DP&I Liaison Report July2019 v1	08_20190920_300mm Tape Frame PIC TF_ActivityReports_r1
04_20191009_TW_ 3D P&I TC Liaison Report v1	09_Panel FOUP TF report_20190920
05_SEMI Staff Report 2019_0926_v0.1a	10_SNARF_PLP Glass Carrier (Draft 20190701)+mt_r2

#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 [SEMI Staff Name] at the contact information above.