3D Packaging and Integration Japan TC Chapter

Meeting Summary and Minutes

Japan Standards Fall Meetings 2024
Monday, October 28, 2024 2:00 PM – 4:15 PM JST
SEMI Japan, Tokyo, Japan/ OVTCCM (Hybrid)

TC Chapter Announcements

Next TC Chapter Meeting

Monday, February 3, 2025 2:00 PM– 5:00 PM JST

SEMI Japan, Tokyo, Japan/ OVTCCM (Hybrid)

Table 1 Meeting Attendees

Italics indicate virtual participants

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

Company	*Last*	*First*	*Company*	*Last*	*First*
AIST	*Shimamoto*	*Haruo*	*KOKUSAI ELECTRIC*	*Matsuda*	*Mitsuhiro*
AiT	*Kato*	*Kazunori*	Shin-Etsu Polymer	Odashima	Satoshi
Disco	*Gonsui*	*Shinobu*	*Yokohama National University*	*Inoue*	*Fumihiro*
EV Group Japan	*Kurotaki*	*Hirokazu*	*Yokohama National University*	*Sano*	*Marie*
Horiba Stec	*Okuyama*	*Takahiro*			
iNEMI	*Tsuriya*	*Masahiro*	SEMI Japan	Hirabara	Takeaki
Japan Display	Watanabe	Ryoichi	SEMI Japan	Kanejinaka	Keiko
KEYENCE	*Shirakura*	*Hidemi*	SEMI Japan	Yoshida	Akiko

Table 2 Leadership Changes

WG/TF/SC/TC Name	*Previous Leader*	*New Leader*
None		

Table 3 TC Chapter Structure Changes

Previous WG/TF/SC Name	*New WG/TF/SC Name or Status Change*
None	

Table 4 Ballot Results

Document #	*Document Title*	*Committee Action*
7252	Reapproval of SEMI 3D19-0619, Test Method for Adhesive Strength of Adhesive Tray Used for Thin Chip Handling	**Passed** as balloted
7253	Reapproval of SEMI G96-1014 (Reapproved 1019), Test Method for Measurement of Chip (Die) Strength by mean of Cantilever Bending	**Failed** and work will be discontinued

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

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

Table 5 Ratification Ballot Results

Document #	*Document Title*	*ISC A&R Action*	*A&R Forms*
None			

Note 1: **Passed** Ratification ballots will be submitted to SEMI publication for final processing.

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

Table 6 Activities Approved by the GCS between meetings of the TC Chapter

#	*Type*	*SC/TF/WG*	*Details*
None			

Table 7 Authorized Activities

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

#	*Type*	*SC/TF/WG*	*Details*
7299	SNARF	3DS IC Bonded Layer Inspection Metrology TF	New Standard: Guide for 3DS IC Bonded Layer Inspection Metrology
7300	SNARF	3D Packaging & Integration 5-Year Review TF	Line Item Revision to SEMI G96-1014 (Reapproved 1019), Test Method for Measurement of Chip (Die) Strength by mean of Cantilever Bending

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

Table 8 Authorized Ballots

#	*When*	*TF*	*Details*
None			

Table 9 SNARF(s) Granted a One-Year Extension

#	*TF*	*Title*	*Expiration Date*
None			

Table 10 SNARF(s) Cancelled

#	*TF*	*Title*
None		

Table 11 Standard(s) to receive Inactive Status

Standard Designation	*Title*
None	

Table 12 New Action Items

Item #	*Assigned to*	*Details*
3DP&I_20241028-01	SEMI Staff	To forward the result of ballot review for Doc.#7252 to the ISC A&R SC for procedural review.
3DP&I_20241028-02	5 year review TF	To submit G98 Line Item Revision ballot for Cycle 9.

Table 13 Previous Meeting Action Items

Item #	*Assigned to*	*Details*
3DP&I_20240523-01	SEMI Staff	To send SNARF for New Standard, Guide for 3DS IC bonded layer inspection metrology for 3DP&I GTC members' 2 weeks review. →Closed
3DP&I_20240523-02	3DP&I 5-Year Review TF	To submit Doc.#7252 (G96 Reapproval ballot) and Doc.#7253 (3D19 Reapproval ballot) for Cycle 6. →Closed
3DP&I_20240523-03	Co-chairs SEMI Staff	To have a discussion regarding a SEMICON Japan program. →Closed

1 Welcome, Reminders, and Introductions

Kazunori Kato (AiT) 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_Required Meeting Elements March 2024_J

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion:	Approve the minutes as written.
By / 2nd:	Haruo Shimamoto (AIST)/ Satoshi Odashima (Shin-Etsu Polymer)
Discussion:	None.
Vote:	10-Y 0-N. Motion passed.

Attachment: 02_20240126_3DPI-Japan_MeetingMinutes_approved

3 Liaison Reports

3.1 *Japan Regional Standards Committee (JRSC)*

Kazunori Kato (AiT) reported for the JRSC that there had been no updates related to 3D packaging and Integration Japan TC Chapter from the previous meeting.

3.2 *Global Coordinating Subcommittee (GCS)*

Kazunori Kato (AiT) reported for the GCS that there had been no voting or discussion in GCS between meetings of the 3D Packaging and Integration Japan TC Chapter.

3.3 *3D Packaging and Integration North America TC Chapter*

Akiko Yoshida (SEMI Japan) reported for the 3D Packaging and Integration North America TC Chapter. Although there was no liaison report provided, she highlighted the results of the previous NA TC Chapter meeting held in July.

- Doc.#7110, Revision to SEMI 3D4-0915 (Reapproved 0222), Guide for Metrology for Measuring Thickness, Total Thickness Variation (TTV), Bow, Warp/Sori, and Flatness of Bonded Wafer Stacks passed TC review.
- SNARF 7286, Reapproval of SEMI 3D21-1019, Guide for Describing Glass-Based Material for Use in 3DS-IC Process was approved and was authorized for Letter Ballot in Cycle 6 or 7.
- The next meeting is scheduled on Thursday, November 7 during NA Fall Meetings.

3.4 *3D Packaging and Integration Taiwan TC Chapter*

Akiko Yoshida (SEMI Japan) reported for the 3D Packaging and Integration Taiwan TC Chapter that there had been no updates from the previous meeting.

4 SEMI Staff Report

Akiko Yoshida (SEMI Japan) gave the SEMI Staff Report. Of note:

- SEMICON West 2024 will be held in Phoenix, Arizona in October. From the following year, the venue of SEMICON West will alternate between Phoenix and San Francisco every October thereafter.
- Accordingly, the timing of NA Standards Meetings next year will be different than in the past.
- TFs have until 02/20/24 to implement use of Connect@SEMI (https://connect.semi.org) for TF management and document development depository. Once TFs have implemented use of Connect@SEMI, they shall use it to: maintain the TF member roster up to date, share the working drafts in PDF, and distribute the Draft Document at least one week before ballot submission to SEMI. Training materials for TF leaders and members (users) are available on the SEMI website.
- During SEMICON Japan 2024, the first ever global event “Global Standards Summit” will be held on Thursday, December 12 10:30-16:30 at International Conference Center at Tokyo Big Sight. This inaugural Summit aims to identify standards-critical areas and work towards an industry standardization strategy for the next 3- and 7-year time horizons, instead of addressing the current challenges.

Kazunori Kato (AiT) commented that one of the purpose of Global Standards Summit is to have decision makers from each company participate and to promote understanding and resource allocation for standardization activities. He asked TC members’ cooperation in encouraging each supervisor to participate as well.

Attachment: 03_Staff Report July 2024 v4_ay_R1

5 Ballot Review

NOTE 1: TC Chapter adjudication of ballots is detailed in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment file name for each balloted document is provided.

5.1 *Doc.#7252, Reapproval of SEMI 3D19-0619, Test Method for Adhesive Strength of Adhesive Tray Used for Thin Chip Handling*

- Passed the TC Chapter review as balloted. Refer to attachment below for full details.

5.2 *Doc.#7253, Reapproval of SEMI G96-1014 (Reapproved 1019), Test Method for Measurement of Chip (Die) Strength by mean of Cantilever Bending*

- Failed TC Chapter review and work will be discontinued. Refer to attachment below for full details.

Attachment: 04_7252_Ballot Review

05_7253_Ballot Review

6 Subcommittee and Task Force Reports

6.1 *3DS IC Bonded Layer Inspection Metrology Task Force*

Haruo Shimamoto (AIST) reported for the 3DS IC Bonded Layer Inspection Metrology Task Force. The TF has been drafting “Guide” Standard on identifying the location of voids in multi-layered structures, specifically those with three or more layers. This Guide includes the size and shape of ID marks for each layer. He also presented the SNARF that was sent to the 3D Packaging and Integration Global Technical Committee members for two weeks review.

Motion:	Approve SNARF for New Standard: Guide for 3DS IC Bonded Layer Inspection Metrology.
By / 2nd:	Haruo Shimamoto (AIST)/ Mitsuhiro Matsuda (KOKUSAI ELECTRIC)
Discussion:	None.
Vote:	7-Y 0-N. Motion Passed.

Haruo Shimamoto (AIST) added that the draft ballot document is expected to be ready by January.

Attachment: 06_SNARF_April2024_3DSIC.asd_R4

6.2 *Wafer Bond Strength Measurement by Double-cantilever Beam Task Force*

Fumihiko Inoue (Yokohama National University) reported for the Wafer Bond Strength Measurement by Double-cantilever Beam Task Force. Since its kickoff meeting, the TF met in July and August, and the next TF meeting is scheduled for November 7, where the draft SNARF is expected to be discussed.

6.3 *3D Packaging & Integration 5-Year Review Task Force*

As Doc.#7253, Reapproval of SEMI G96-1014 (Reapproved 1019), Test Method for Measurement of Chip (Die) Strength by mean of Cantilever Bending failed the TC review, Masahiro Tsuriya submitted SNARF to revise SEMI G96. The TF will update the ISO document listed in the Referenced Standards and Documents section of SEMI G96.

Motion:	Approve SNARF for Line Item Revision to SEMI G96-1014 (Reapproved 1019), Test Method for Measurement of Chip (Die) Strength by mean of Cantilever Bending
By / 2nd:	Masahiro Tsuriya (iNEMI)/ Haruo Shimamoto (AIST)
Discussion:	Takahiro Okuyama (Horiba Stec) commented that ISO 21920-2 Geometrical product specifications (GPS) -- Surface texture: Profile -- Part 2: Terms, definitions and surface texture parameters is appropriate to be listed. There are also 3D version (Sa, Sz) of ISO 21920 (Ra, Rz) as ISO 25178 series.
Vote:	9-Y 0-N. Motion Passed.

Attachment: 07_SNARF_S3pt2024_G98 Line Item Revision

6.4 *3D Packaging & Integration Steering Group*

Masahiro Tsuriya (iNEMI) reported for the Steering Group that there had been no activities. However, TC co-chairs worked on the Panel introducing/ promoting the activities of the 3D Packaging and Integration Global Technical Committee, which will be displayed at “SEMI IS MORE PATH” in Exhibition Hall during SEMICON Japan 2024, Haruo Shimamoto (AIST) added.

7 Old Business

7.1 *Project Period Review*

No SNARF will be expiring soon.

7.2 *Project Period Review*

No document is subject for 5-year review within this year.

8 New Business

8.1 *Introduction of Proposed New Activity*

Masahiro Tsuriya (iNEMI) introduced a new Task Force which will be proposed at the NA TC Chapter meeting in November to develop a guideline for peel testing of RDLs and other traces used within HDL, WLP, and PLPs structures. The focus is on measuring the peel strength of very narrow traces, which is increasingly relevant for wafer-level and panel-level packaging. The scope may include developing measurement methods and providing reference data. The TF will be led by Steve Martel from Nordson T&I, with Masahiro Tsuriya also participating as a TF co-leader. The TF will include members from Intel, Ajinomoto, Unimicron, and AT&S, etc. Masahiro Tsuriya called for participants from Japan as well.

9 Action Item Review

9.1 *Open Action Items*

Item #	*Assigned to*	*Details*
3DP&I_20240523-01	SEMI Staff	To send SNARF for New Standard, Guide for 3DS IC bonded layer inspection metrology for 3DP&I GTC members' 2 weeks review. →Closed
3DP&I_20240523-02	3DP&I 5-Year Review TF	To submit Doc.#7252 (G96 Reapproval ballot) and Doc.#7253 (3D19 Reapproval ballot) for Cycle 6. →Closed
3DP&I_20240523-03	Co-chairs SEMI Staff	To have a discussion regarding a SEMICON Japan program. →Closed Note: Co-chairs have been supporting "Global Standards Summit" at SEMICON Japan this year as the Planning Committee member and/or Speakers, especially for Topic 2: Packaging Architecture and Materials of the said Summit.

9.2 *New Action Items*

Item #	*Assigned to*	*Details*
3DP&I_20241028-01	SEMI Staff	To forward the result of ballot review for Doc.#7252 to the ISC A&R SC for procedural review.
3DP&I_20241028-02	5 year review TF	To submit G98 Line Item Revision ballot for Cycle 9.

10 Next Meeting and Adjournment

The next meeting is scheduled for Monday, February 3, 2025 14:00-17:00 (JST) via OVTCCM and at SEMI Japan Office, Tokyo, Japan (Hybrid). See http://www.semi.org/standards-events for the current list of events.

Adjournment: [16:15].

Respectfully submitted by:

Akiko Yoshida

Standards & EHS, SEMI Japan

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Email: ayoshida@semi.org

Minutes tentatively approved by:

Kazunori Kato (AiT), Co-chair	November 11, 2024
Masahiro Tsuriya (iNEMI), Co-chair	November 11, 2024
Haruo Shimamoto (AIST), Co-chair	November 12, 2024

Table 14 Index of Available Attachments[#1]

Title	*Title*
01_Required Meeting Elements March 2024_J	05_7253_Ballot Review
02_3DP&I_JA_Minutes_20240523_R0	06_SNARF_April2024_3DSIC.asd_R4
03_Staff Report July 2024 v4_ay_R1	07_SNARF_S3pt2024_G98 Line Item Revision
04_7252_Ballot Review	

#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 Akiko Yoshida at the contact information above.