



3D Packaging & Integration Taiwan TC Chapter

Meeting Summary and Minutes

Taiwan Spring Standards Meeting 2021

Tuesday, Mar. 02, 2021, 13:30 – 15:30

11F-2, No. 1, Taiyuan 1st Street, Zhu bei City, Hsinchu County, Taiwan

TC Chapter Announcements

Next TC Chapter Meeting

Friday, August 13, 2021, 13:30 – 15:30

OVTCCM

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Wei-Chung Lo (ITRI)

SEMI Staff: Cher Wu

Company	Last	First	Company	Last	First
<i>ASE Group</i>	<i>Hwang</i>	<i>Roger</i>	ITRI	Chen	Hsiang-Hung
EVERLIGHT CHEMICAL	Chou	Der-Gun	ITRI	Lin	Wang-Hua
<i>FLAGSHIP INTERNATIONAL</i>	<i>Tuan</i>	<i>Andy</i>	<i>KYEC</i>	<i>Chen</i>	<i>Wendy</i>
Group up Industrial	Hung	Ray	MPUGTW	Kong	Lai-Cheng
ITRI	Chen	Arthur	<i>Nidec-Read</i>	<i>Liu</i>	<i>Leo</i>
ITRI	Chen	Chang-Sheng	Unimicron	Chen	Yu-Hua
ITRI	Chen	Shang-Chun			
ITRI	Wang	Qin-Hong			

Table 2 Leadership Changes

WG/TF/SC/TC Name	Previous Leader	New Leader
Testing Task Force	Shang-Chun Chen /ITRI	Chang-Sheng Chen/ ITRI

Table 3 Committee 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
None		

#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 Activities Approved by the GCS between meetings of the TC Chapter**

#	Type	SC/TF/WG	Details
None			

Table 6 Authorized Activities

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

#	Type	SC/TF/WG	Details
None			

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

<http://downloads.semi.org/web/wstdsba1.nsf/TFOFSNARF>

Table 7 Authorized Ballots

#	When	TF	Details
None			

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
None	

Table 11 New Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
1	Middle End Process TF leader Hsiang Hung Chang	Over 5 year review by TF then feedback next TC Meeting SEMI 3D15-0316 Guide for Overlay Performance Assessment for 3DS-IC Process.
2	Testing TF co- leader Shang-Chun Chen	Over 5 year review by TF then feedback next TC Meeting SEMI 3D14-0615 Guide for Incoming/Outgoing Quality control and Testing Flow for 3DS-IC Products.
3	Testing TF & Middle End Process TF	Assign to 2 TF Leaders to call member meeting to study Japan team's presentation materials. After study and complete benchmark, the result to feedback to TC at August 6, 2021 TC meeting. Need clear definition of CCC, and collect more information. Contact probe card vendors to collect their advice and suggestion or problem.

Table 12 Previous Meeting Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
1.	SEMI Staff-Cher	To invite TSMC to participate in the next TC meeting and share. _ OPEN
2.	Middle End Process TF leaders	Assign to 2 TF Leaders to call member meeting to study Japan team's presentation materials. _ OPEN

#1 Welcome, Reminders, and Introductions

Committee Co-Chair Wei-Chung Lo(ITRI) called the meeting to order at 13:30. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance reviewed. Attendees introduced themselves.

Attachment: [Meeting Reminder 2021](#)

#2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion: Approve previous meeting minute
By / 2nd: Shang-Chun Chen (ITRI) / Hsiang-Hung Chang (ITRI)
Discussion: After review, all TC members agreed to approve it
Vote: 12-0 in favor, Motion passed

Attachment: [20200826_3D PI Meeting Minutes v1](#)

#3 Liaison Reports

1.1 3D Packaging & Integration North America TC Chapter

Cher Wu (SEMI) reported for the 3D Packaging & Integration North America TC Chapter. Of note:

- Fall 2020 Meeting [postponed due to COVID-19 pandemic]
- Next TC meeting :Tuesday, March 23, 2021,via OVTCCM

Attachment: NA 3DP&I Liaison Report Feb2021 v2

1.2 3D Packaging & Integration Japan TC Chapter

Cher Wu (SEMI) reported for the 3D Packaging & Integration Japan TC Chapter. Of note:

1.2.1 Meeting information:

Last meeting

Monday, January 18, 2021 at the SEMI Standards Japan Winter Meetings

Web Conference

Next meeting

Friday, May 28, 2021, SEMI Japan office, Tokyo / Web

1.2.2 Leadership Changes :None

1.2.3 Committee Highlights

- Japan TC Chapter completed simulation training for the OVTCCM on November 6, 2020.
- Special online ballot to vote on whether to adopt or not adopt has been sent out for a 14-day voting period (November 25th – December 9th).
- All official meetings for 3DP&I must now be OVTCCM.

1.1.4. Ballot Results

Doc #	Document Title	TC Chapter Action
6590	New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications	Passed as balloted

1.2.4 Authorized Activities

Doc #	Type	SC/TF/CFG	Document Title/Details
6703	Ballot	3D Packaging & Integration 5 Year Review TF	SNARF for: Revision to SEMI G63-95 (Reapproved 0811) "Test Method for Measurement of Die Shear Strength" – Authorized new SNARF
6706	Ballot	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for CTE and Tg Measurement Methodology for PLP/WLP Encapsulation – Authorized new SNARF
6707	Ballot	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for New Standard: Specification for Flowability Measurement Methodology for PLP/WLP Encapsulation materials – Authorized new SNARF
6708	Ballot	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Gel Time Measurement Methodology for PLP/WLP Encapsulation materials – Authorized new SNARF
6709	Ballot	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Modulus Measurement Methodology for PLP/WLP Encapsulation materials – Authorized new SNARF
6710	Ballot	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Shear Strength Measurement Methodology for PLP/WLP Encapsulation Materials – Authorized new SNARF
6711	Ballot	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Viscosity Measurement Methodology for PLP/WLP Encapsulation materials – Authorized new SNARF

6712	Ballot	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Wettability Measurement Methodology for PLP/WLP Encapsulation materials – Authorized new SNARF
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1.2.5 Authorized Ballots

Doc #	When	TF	Document Title/Details
6703	Cycle 3-2021	3D Packaging & Integration 5 Year Review TF	SNARF for: Revision to SEMI G63-95 (Reapproved 0811) "Test Method for Measurement of Die Shear Strength"
6706	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for CTE and Tg Measurement Methodology for PLP/WLP Encapsulation Materials
6707	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for New Standard: Specification for Flowability Measurement Methodology for PLP/WLP Encapsulation materials
6708	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Gel Time Measurement Methodology for PLP/WLP Encapsulation materials
6709	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Modulus Measurement Methodology for PLP/WLP Encapsulation materials
6710	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Shear Strength Measurement Methodology for PLP/WLP Encapsulation Materials
6711	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Viscosity Measurement Methodology for PLP/WLP Encapsulation materials
6712	CycleX-2021	Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging Panel TF	SNARF for: New Standard: Specification for Wettability Measurement Methodology for PLP/WLP Encapsulation materials

1.2.6 Task Force Highlights

- Encapsulation Characteristics for Wafer Level Package and Panel Level Packaging TF
 - Taskforce Kick-off: November 18, 2020
 - Under development of standard document drafts for 8 encapsulate materials characteristics and 3 items for performances
 - SNARFs approval requests for 8 material characteristics
 - Ballot6706,6707,6708,6709,6710,6711,6712
 - Plan to develop final ballot draft by the end of Q2.
- Panel Level Packaging (PLP) Glass Carrier TF
 - Reviewed ballot 6590, New Standard: Specification for Glass Carrier Characteristics for Panel Level Packaging (PLP) Applications
- Five Years Review TF
 - Completed the review and submitted the ballots for 2020 required review documents.
 - Will start for 2021 review needed
- 3DS IC Bonded Layer Inspection Metrology TF
 - Pre-trial using the SEMATECH sample was done by Aug. 2020.
 - Detectable void size by the nominal frequency of the transducer was defined.
 - A sample for the feasibility study was designed by Sept. 2020.
 - Manufacturing the sample for the feasibility study is delayed due to COVID and equipment trouble.

- 3D Packaging & Integration Steering Group WG
 - Continue to brainstorm the potential areas of SEMI Standard.
 - Example: RDL Adhesion Strength Measurement/Metrology Proposal
 - Share the taskforce activities progress
 - Work on the joint discussion with TWN TC (held meeting on August 2020)
 - Displayed 3 posters at SEMICON Japan 2020

Attachment: 20210226_3DPI-Japan_LiaisonR_v1.0

SEMI Staff Report

Cher Wu (SEMI) gave the SEMI Staff Report. Of note:

- SEMI Global 2021 Calendar of Events
- 2021 Critical Dates for SEMI Standards Ballots

Attachment: 3D P&I TC Staff Report 20210302

#4 Ballot Review

NOTE 1: TC Chapter adjudication on ballots reviewed in detail in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment number for each balloted document provided under each ballot review section below.

Doc #	Document Title	TC Chapter Action
None		

#5 Subcommittee and Task Force Reports

- 5.1 Testing Task Force

5.1.1 TF Co-leader change

Introduce new TF co-leader candidate Chang-Sheng Chen, Shang-Chun Chen stepped down due to job function change.

Motion: Nominated Chang-Sheng Chen (ITRI) to be new co-leader of Testing Task Force for replacement of Shang-Chun Chen (ITRI) and seek TC members' approval.

By: Shang-Chun Chen (ITRI)

Second: Hsiang-Hung Chang (ITRI)

Discussion: None

Result: Result: 13-Y 0-N Voting Result: Pass - 100.00%

5.1.2 New topic direction discussion:

Chip testing before stacking: standard CCC might not be sufficient, consider to introduce MAC to protect both the chip and probe, and its testing temperature condition

Action Item: TF Co-leaders work with SEMI Staff to invite Probe card players to kick off meeting at the end of March.

- 5.2 Middle-End Process Task Force

Study the feasibility of submitting a new SNARF for CMP standards in the next TC meeting on August 6, 2021

- Chiplet Integration: Issues are Different Process Node, Different Wafer Size, Lower Package Cost



- Optical Interconnect: Issues are Optical Assembly, Fiber Alignment, SM Polymer WG, Edge Coupling, V-Groove, Micro Lens Assembling. Testing: PIC Wafer Testing, Loss Measurement, Ge Detector Testing, VCSEL Testing, & Optical Engine (PIC+EIC integrated module) Assy + test beyond 800G and above.
- Terminology & definition should clarify to avoid trademark or IP issue occurred.
- Co-leaders to matching with SEMI Japan 3D P&I group discussion content at August meeting, 2020.

Motion: Approve new topic CCC Stacking for further discussion, invite probe card and measure center to join discussion. or international players to join kick-off meeting at the end of March.

By: Chao-Chang Arthur CHEN (ITRI)

Second: Hsiang-Hung Chang (ITRI)

Discussion:

Result: Result: 14-Y 0-N Voting Result: Pass - 100.00%

#6 Old Business

None

#7 New Business

7.1 SEMI Staff to provide the probe card company list for Testing Force leader to hold a kick-off meeting by end of March.

#8 Next Meeting and Adjournment

The next meeting scheduled August 06, 2021 (13:30) at SEMI Taiwan Office.

See <http://www.semi.org/standards-events> for the current list of events.

Adjournment was at 15:30

Respectfully submitted by:

Cher Wu

Senior Executive Consultant

SEMI Taiwan

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Email: cherwu@semi.org

Minutes tentatively approved by:

Co-chair	Date
Wei-Chung Lo(ITRI)	

Table 13 Index of Available Attachments^{#1}

<i>Title</i>	<i>Title</i>
1_ Meeting Reminder 2021	3.2_ 20210226_3DPI-Japan_LiaisonR_v1.0
2_ 20200826_3D PI Meeting Minutes v1	3.3_ 3D P&I TC Staff Report 20210302
3.1_ NA 3DP&I Liaison Report Feb2021 v2	

#1



#2 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.