



Compound Semiconductor Materials North America Technical Committee Chapter Meeting Summary and Minutes

Fall 2022
November 2, 2022,
09:00 – 11:00 AM Pacific
Online

Committee Announcements

Next Committee Meeting
TBD

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Jim Oliver, Russ Kremer

SEMI Staff: Kevin Nguyen

<i>Company</i>	<i>Last</i>	<i>First</i>
<i>Wolfspeed</i>	<i>Barbieri</i>	<i>Tom</i>
<i>Zeon Specialty Materials</i>	<i>Jani</i>	<i>Nikhil</i>
<i>Self</i>	<i>Kronwasser</i>	<i>Judy</i>
<i>Bruker Corporation</i>	<i>Lafford</i>	<i>Tamzin</i>
<i>Northrop Grumman</i>	<i>Oliver</i>	<i>Jim</i>
<i>Wolfspeed</i>	<i>Rao</i>	<i>Shailaja</i>
<i>Siltron, Inc.</i>	<i>Soukhajak</i>	<i>Andrey</i>

Table 2 Leadership Changes

None

Table 3 Committee Structure Changes

None

Table 4 Ballot Results

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

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
6952	Reapproval of SEMI M10-0218 Terminology For Identification Of Structures And Features Seen On Gallium Arsenide Wafers	Passed as balloted
6953	Line Item Revision of SEMI M79-0218 Specification For Round 100 mm Polished Monocrystalline Germanium Wafers For Solar Cell Applications	Passed as balloted
6954	Line Item Revision of SEMI M23-0811 (Reapproved 0218) Specification For Polished Monocrystalline Indium Phosphide Wafers	Passed as balloted

Table 5 Authorized Activities

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



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

Table 6 Authorized Ballots

#	When	SC/TF/WG	Details
None			

Table 7 New Action Items

Item #	Assigned to	Details
Nov22022-1	Kevin Nguyen Jim Oliver	SEMI staff to determine if there is any Standards due for 5 year. If there is, coordinate and set up a committee meeting in conjunction with CS MANTECH, May 2023.

Table 8 Previous Meeting Actions Items

Item #	Assigned to	Details	Status
None			

1 Welcome, Reminders, and Introductions

1.1 Jim Oliver, committee co-chair, called the meeting to order at 9:15 AM. The SEMI meeting reminders on membership requirements, antitrust, patentable technology, and meeting guidelines were briefly presented and explained.

2 Review of Previous Meeting Minutes

2.1 The committee reviewed the minutes of the previous meeting held in June 2022.

Motion: Approve the minutes as written
 By: Tom Barbieri / Wolfspeed, Inc.
 Second: Judy Kronwasser / Novasic
Result: 4-Y 0-N Voting Result: Pass - 100.00%

3 Liaison Reports

3.1 *China Compound Semiconductor Materials Committee*

3.1.1 Kevin Nguyen presented the Europe CSM liaison report. Of note:

- Last meeting
 - Apr 27th, Spring 2022 Meeting
 - Online
- Next meeting
 - TBD
- SiC Substrate TF.
 - Doc. 6767, New Standard: Test Method for Flatness of Silicon Carbide Wafers by Optical Interference
 - Doc. 6768, New Standard: Test Method for Micropipe Density of Silicon Carbide Wafer by Laser Reflection
 - Doc. 6769, New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic
 - All ballots failed.
- SiC Epitaxial Wafer TF



- Doc. 6693, New Standard: Specification for 4H-SiC Homo-Epitaxial Wafer
 - Passed with Technical Changes. Ratification ballot to be issued.

Attachment: 01, China CSM Committee Chapter Liaison Report

3.2 Europe Compound Semiconductor Materials Committee

3.2.1 Kevin Nguyen presented the Europe CSM liaison report. Of note:

- Leadership
 - Arnd Weber (SiCrystal)
- Meetings
 - Last meeting
 - November 17, 2021
 - Online via Official Virtual TC Chapter Meeting
 - 11:00 – 1:00 PM CET
 - Next meeting
 - November 16, 2022
 - Munich, Germany
- Ballot Result
 - Doc. 6717, New Standard: Test Method For Determination Of Threading Screw Dislocation Density In 4H-SiC By X-Ray Topography
 - Passed and published as SEMI M91-0622
- SiC TF
 - Leader: Arnd Weber (SiCrystal)
 - Doc. 6615, Revision of M55-0817 Specification for Polished Monocrystalline Silicon Carbide Wafers (To include 200 mm wafer for Silicon Carbide)
 - Published in September as M55-0921
- Test Methods TF
 - Leader: Christian Kranert (Fraunhofer)
 - Doc. 6870, New Standard: Test Method for Quantifying Basal Plane Dislocations in 4H-SiC by X-ray Topography
- 5 Year Review TF
 - SEMI M46 - Test Method for Measuring Carrier Concentrations in Epitaxial Layer Structures by ECV Profiling
 - Needs experts to review
 - SEMI M63 - Test Method for Measuring the Al Fraction in AlGaAs on GaAs Substrates by High Resolution X-Ray Diffraction
 - Needs experts to review
 - SEMI M75 - Specification for Polished Monocrystalline Gallium Antimonide Wafers
 - Needs experts to review

Attachment: 02, Eu CSM Liaison Report November 2021 v1

3.3 *Japan Compound Semiconductor Materials Committee*

3.3.1 Kevin Nguyen presented the Europe CSM liaison report. Of note:

- Last meeting
 - Jan. 19, 2022
 - Web Conference
- Next meeting
 - 2023 Spring, Exact date and time will be determined.
- SiC Epitaxial Wafer liaison TF (New)
 - Charter: Discussions will be held in Japan to support and complement Silicon Carbide Epitaxial Wafer revision and new standards development activities in other regions.
 - Scope: To cover the scope of the SiC Epitaxial Wafer Task Force for its on existing SEMI Silicon Carbide Standards and new Standards as such become necessary.

Attachment: 03, Japan CSM Liaison Report Feb2022 v1

4 Staff Report

4.1 Kevin Nguyen presented the report. Of notes,

- Calendar
 - SEMICON Europa
 - Nov 15-18, 2022
 - Munich, Germany
 - SEMICON Japan
 - Dec 14- 16, 2022
 - Tokyo, Japan
 - SEMICON Korea
 - Feb 1-3, 2023
 - Seoul, Korea
 - SEMICON China
 - Mar 22-24, 2023
 - Shanghai, China
- 2022 and 2023 Critical Dates for SEMI Standards Ballots
 - <https://www.semi.org/en/collaborate/standards/ballots>
- SEMI Standards Publications
 - Total SEMI Standards in portfolio: 1,064
 - Includes 309 Inactive Standards
- NEW! SEMI Corporate PPT Template
 - www.semi.org/standards (under Tools for Developing Standards)

Attachment: 04, Staff Report Nov 2022 v3

5 Ballot Review

5.1 Doc. 6952, Reapproval of SEMI M10-0218 Terminology For Identification Of Structures And Features Seen On Gallium Arsenide Wafers

5.1.1 Passed as balloted. Refer to attachment for ballot adjudication.

5.2 Doc. 6953, Line Item Revision of SEMI M79-0218 Specification For Round 100 mm Polished Monocrystalline Germanium Wafers For Solar Cell Applications

5.2.1 Passed as balloted. Refer to attachment for ballot adjudication.

5.3 Doc. 6954, Line Item Revision of SEMI M23-0811 (Reapproved 0218) Specification For Polished Monocrystalline Indium Phosphide Wafers

5.3.1 Passed as balloted. Refer to attachment for ballot adjudication.

Attachment: 05, A&R

6 Task Force Reports

6.1 *Silicon Carbide Task Force*

6.1.1 This is a liaison Task Force. All activities were reported under the Europe Liaison report.

6.2 *M86 (GaN) Revision Task Force*

6.2.1 Kevin Nguyen reported Troy Baker still plans to issue another revision to SEMI M86.

7 Old Business

7.1 None

8 New Business

8.1 *Documents Due for Five Year Review*

8.1.1 None at the moment. If there is any standards due for 5 year review next year, Kevin will inform the co-chairs.

9 Action Item Review

9.1 *Open Action Items*

None

9.2 *New Action Items*

Refer to table 7.

10 Next Meeting

10.1 The next meeting would be in conjunction with CS MANTECH May 16-17 in Orlando, Florida. Jim Oliver asked if there anyone is planning on attending. There were 3 people confirmed. Jim will coordinate with Kevin if a decision is made.

11 Adjournment

Having no further business, a motion was made to adjourn the Compound Semiconductor Materials NA TC Chapter. Adjournment was at 10:15 AM.



Respectfully submitted by:

Kevin Nguyen
Manager, International Standards Operations
673 S. Milpitas Boulevard
Milpitas, CA 95035
Tel: 408-943-7997
Email: knguyen@semi.org
www.semi.org/standards

Minutes approved by:

Russ Kremer, Cochair	
Jim Oliver, Cochair	

Table 9 Index of Available Attachments #1

#	<i>Title</i>	#	<i>Title</i>
1	China CSMCommittee Chapter Liaison Report	4	Staff Report Nov 2022 v3
2	Eu CSM Liaison Report November 2021 v1	5	A&R
3	Japan CSM Liaison Report Feb2022 v1		

#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 Kevin Nguyen at the contact information above.