

Compound Semiconductor Materials Europe TC Chapters Meeting Minutes

SEMICON Europa 2015

Wednesday, October 7, 2015, 11:00 AM - 1:00 PM

Messe Dresden, Germany

Next Committee Meeting

Spring 2016, Nurnberg, Germany. Exact date will be determined. Check www.semi.org/standards for more info.

SEMI Staff

Kevin Nguyen – SEMI HQ

Co-chair – Arnd-Dietrich Weber (SiCrystal AG)

Table 1 – Meeting Attendees

<i>Last Name</i>	<i>First Name</i>	<i>Company</i>
Bullema	Eite	TNO
Jantz	Wolfgang	SEMIMAP
Kretzer	Ulrich	Freiberger
Passek	Fritz	Siltronic
Wagner	Peter	Self
Werner	Bergholz	Jacobs University

Table 2 – Organization/Task Force Changes

None

Table 3 – Ballots Summary

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
Doc. 5795	New Standard: Test Method for Contactless Resistivity Measurement of Semi-Insulating Semiconductors	Passed with editorial changes

Table 4 – Authorized Ballots

None

Table 5 – Authorized Activities

None

Table 6 – Previous Meeting Actions Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>	<i>Status</i>
0415-1	All	Report on any possibilities for new standards at next ECS meeting in fall 2015	Completed
0415-2	SEMI Staff	Complete and cross check list of documents maintained by ECS committee	Completed

Table 7 – New Actions Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
1015-1	EU CSM TC	To perform 5 year review for M54 and M81. <ul style="list-style-type: none"> • SEMI M54-0304 (Reapproved 0611) Guide for Semi-Insulating (SI) GaAs Material Parameters • SEMI M81-0611 Guide to Defects Found in Monocrystalline Silicon Carbide Substrates

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
1015-2	Arnd-Dietrich Weber	To determine the schedule for the next CSM EU TC Chapter meeting Spring 2016 in Nurnberg, Germany

1.0 Call to Order

Arnd Weber called the meeting to order and welcomed everyone who attended. A round of self-introduction was made. All SEMI standards meetings are subjected to SEMI Anti-Trust Reminder and Guidelines concerning Patentable Technology. SEMI Regulations now require all attendees to be members of SEMI standards. Membership enrollment is at www.semi.org/standardsmembership. The agenda was reviewed and approved.

2.0 Review and Approval of Meeting Minutes from Spring Standards Meeting, Berlin, Germany, April 15, 2015

Minutes were reviewed. No change was made.

Motion: To accept the minutes as written.

By / 2nd: Wolfgang Jantz/Peter Wagner

Discussion: None

Vote: Unanimous. Motion passed

[Attachment – 1, 1506_EU_CSM_Minutes_Signed](#)

3.0 Task Force Reports

3.1 SiC M55 Review – A. Weber

Arnd Weber reported the task force has been meeting via teleconferences. Progress is made, but more works are needed to be done before the ballot 4689, Revision to SEMI M55, Specification for Polished Monocrystalline Silicon Carbide Wafers, can be issued. Peter Wagner questioned if M55 covers 6 inch wafer. Arnd confirmed.

3.2 Contactless Capacitive Resistivity TF – W. Jantz

Wolfgang reported doc. 5795, New Standard: Test Method for Contactless Resistivity Measurement of Semi-Insulating Semiconductors, will be adjudicated at today's meeting. Upon approval, there is no other outstanding SNARFs in the Task Force.

3.3 Miscellaneous: Resistivity Round Robin – W. Jantz

Wolfgang reported a round robin was conducted by Dow Chemicals, but there were some errors in the process. The data for temperature and other parameters were not captured properly. When Mike McMillan left Dow, there was no one else took over to carry on the round robin. Wolfgang is asking for idea on how to move forward, but he felt the resistivity round robin should be done since it is important for the compound materials industry.

4.0 Ballots Review

4.1 Doc. 5795, New Standard: Test Method for Contactless Resistivity Measurement of Semi-Insulating Semiconductors

- The ballot passed review with editorial changes. See attachment for details.

[Attachment – 2, 5795ProceduralReview](#)

5.0 Authorize Draft #4689 for ballot

Arnd reported doc. 4689, Revision to SEMI M55, Specification for Polished Monocrystalline Silicon Carbide Wafers, needs more time. It was not ready for ballot.

6.0 Liaison Reports

6.1 North America Committee

Report was given by Kevin Nguyen. Highlights.

- Committee Co-chairs
 - Russ Kremer / Freiberger Compound Materials
 - Jim Oliver / Northrop Grumman
- Last meeting
 - May 20 for CS MANTECH 2015
Scottsdale, Arizona
- Next meeting
 - May 18 for CS MANTECH 2016
Miami, Florida
- Ballot review
 - Doc. 4979A, New Standard: Specification for Polished Monocrystalline C-Plane Gallium Nitride Wafers, was published as SEMI M86-0915
- New TFOF/SNARF
 - Doc. 5886, Line Item Revisions to:
 - SEMI M9-0914, Specifications for Polished Monocrystalline Gallium Arsenide Wafers with title change to: Specification for Polished Monocrystalline Gallium Arsenide Wafers
 - SEMI M9.1-0813, Standard for Round 50.8 mm Polished Monocrystalline Gallium Arsenide Wafers for Electronic Device Applications with title change to: Specification for Round 50.8 mm Polished Monocrystalline Gallium Arsenide Wafers for Electronic Device Applications
 - SEMI M9.2-0813, Standard for Round 76.2 mm Polished Monocrystalline Gallium Arsenide Wafers for Electronic Device Applications with title change to: Specification for Round 76.2 mm Polished Monocrystalline Gallium Arsenide Wafers for Electronic Device Applications
 - SEMI M9.5-0813, Standard for Round 100 mm Polished Monocrystalline Gallium Arsenide Wafers for Electronic Device Applications with title change to: Specification for Round 100 mm Polished Monocrystalline Gallium Arsenide Wafers for Electronic Device Applications
 - SEMI M9.6-0813, Standard for Round 125 mm Diameter Polished Monocrystalline Gallium Arsenide Wafers with title change to: Specification for Round 125 mm Diameter Polished Monocrystalline Gallium Arsenide Wafers
 - Correct nonconforming titles per Procedure Manual, Appendix 4
 - Doc. 5884, Line Item Revision to SEMI M65-0306E2, Specifications for Sapphire Substrates to use for Compound Semiconductor Epitaxial Wafers with title change to: Specification for Sapphire Substrates to use for Compound Semiconductor Epitaxial Wafers
 - Correct nonconforming title per Procedure Manual, Appendix 4
 - Doc. 5885, Line Item Revision to SEMI M75-0812, Specifications for Polished Monocrystalline Gallium Antimonide Wafers with title change to: Specification for Polished Monocrystalline Gallium Antimonide Wafers
 - Correct nonconforming title per Procedure Manual, Appendix 4
 - Doc. 5882, Line Item Revision to SEMI M10-1296, Standard Nomenclature for Identification of Structures and Features Seen on Gallium Arsenide Wafers with title change to: Nomenclature for Identification of Structures and Features Seen on Gallium Arsenide Wafers
 - Correct nonconforming title per Procedure Manual, Appendix 4
 - Doc. 5883, Line Item Revision to SEMI M42-0211, Specification for Compound Semiconductor Epitaxial Wafers
 - Move DIN standard reference from Referenced Standards and Documents section to a new Related Documents section.
 - All documents to be balloted for Cycle 1 or 2, 2016.

- Doc. 5220, New Standard: Test Method for Measuring Vanadium Concentration in Silicon Carbide by Secondary Ion Mass Spectrometry
 - SNARF was discontinued. A question was asked on whether a document was drafted. Kevin reported the TF never completed the draft, only the SNARF was created.
- SEMI NA Staff contact.
 - Kevin Nguyen (knguyen@semi.org)

Attachment – 3, NA CSM report October 2015

6.2 Japan Committee

No report. There has been no meeting in Japan for several years.

7.0 Staff Report

Report was given by Kevin. Highlights:

- Upcoming event
 - 2015
 - December 16-18, 2015
 - Tokyo, Japan
 - 2016
 - NA Spring, April 4-7, 2016, at SEMI HQ in San Jose, California
 - SEMICON West, July 11-14, 2016, San Francisco, California
- There are now 9 ballots cycle for 2015. Critical date for 2016 will be updated on the web at
 - <http://www.semi.org/Standards/Ballots>
- SEMI Standards Publications
 - Total SEMI Standards in portfolio: 947
- New Requirements/Process Reminders for TC Chapter Meetings from December 2014 Regulations
 - Standards Document Development Project Period
 - Project period shall not exceed 3 years (Regs 8.3.2)
 - If document development activity is found to be continuing, but cannot completed with the project period, TC Chapter may grant one-year extension at a time, as many times as necessary.
 - SNARF Review Period
 - A submitted SNARF for a new, or for a major revision to an existing, Standard or Safety Guideline is made available to all members of a TC Chapter's parent global technical committee for two weeks for their review and comment. (Regs 8.2.1)
 - If the SNARF is submitted at a TC Chapter meeting, the committee can review and approve, but the SNARF will need to be distributed for two weeks and then approved via GCS.
 - **Procedures for Correcting Nonconforming Titles of Published Standards Document (PM Appendix 4)**
 - Some Standards qualify for a special procedure where a line item change can be used to correct the titles. Otherwise, the corrective action will likely require a major revision.
 - The following standard is in need of title correction for title conformance
 - SEMI M75-0812 - Specifications for Polished Monocrystalline Gallium Antimonide Wafers
 - **5 Year Review**
 - The following standards are due for 5 year review
 - SEMI M54-0304 (Reapproved 0611) Guide for Semi-Insulating (SI) GaAs Material Parameters
 - SEMI M81-0611 Guide to Defects Found in Monocrystalline Silicon Carbide Substrates

Attachment – 4, SEMI Staff Report (10 1 2015) CSM

8.0 SNARF/TFOF presentations & Any Other Business

Kevin mentioned SEMI M75 will need to be issued for title conformance. The TC can either issue a line ballot to correct its title now or can issue a ballot when M75 is due for 5 year review.

- SEMI M75-0812 - Specifications for Polished Monocrystalline Gallium Antimonide Wafers

Also, M54 and M81 are due for 5 year review. If revisions are needed, TFOF and SNARF are needed. If reapprovals, TFOF is not needed. **Action Item #1** - The TC will need to take action review these standards.

- SEMI M54-0304 (Reapproved 0611) Guide for Semi-Insulating (SI) GaAs Material Parameters
- SEMI M81-0611 Guide to Defects Found in Monocrystalline Silicon Carbide Substrates

9.0 Next Meetings

The next CSM EU TC Chapter is not confirmed. But it is estimated to be around Easter Spring 2016 in Nurnberg, Germany. **Action Item #2** – Arnd will set the schedule and determine a meeting location.

10.0 Action Item Review

Summary of action was reviewed by Kevin Nguyen. If any, these can be found in the New Action Items table 7 at the beginning of these minutes.

11.0 Adjourn

Adjournment of the meeting was held at 1:00 PM

These minutes are respectfully submitted by:

Kevin Nguyen,
SEMI Standards Operations Manager
Phone: 408-943-7997
Email: knguyen@semi.org

Approved by:
Arnd-Dietrich Weber, SiCrystal October 21, 2015

Table 8 – Index of Attachment Summary

#	Title		Title
1	1506_EU_CSM_Minutes_Signed		
2	5795ProceduralReview		
3	NA CSM report October 2015		
4	SEMI Staff Report (10 1 2015) CSM		

#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