



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

CS MANTECH 2019
1st May 2019, 08:00 – 09:00 PM
Hyatt Regency; Minneapolis, Minnesota

Committee Announcements

Next Committee Meeting

CS MANTECH 2020

Wednesday, May 13, 2020 (7:00-8:00 PM)

CS MANTECH Tucson, Arizona

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Jim Oliver (Northrop Grumman), Russ Kremer (Frieberger)

SEMI Staff: Kevin Nguyen

<i>Company</i>	<i>Last</i>	<i>First</i>
ETA Research	Baker	Troy
Wolfspeed	Barbieri	Tom
Semilab	Benjamin	Mark
SEH America	Hannah	Jim
Frieberger	Kremer	Russ
Consultant	Kronwasser	Judy
SEMI	Nguyen	Kevin
Northrop Grumman	Oliver	Jim

Table 2 Leadership Changes

None

Table 3 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>
None		

Table 4 Authorized Activities

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

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

<http://downloads.semi.org/web/wstdsbal.nsf/TFOFSNARE>

Table 5 Authorized Ballots

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

Table 6 New Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
2019May #01	Kevin Nguyen	To forward 4 compound semiconductor inactive standards to Russ and Jim.
2019May #02	Kevin Nguyen	To check if Jim Hannah's SEMI application membership is in the database.

Table 7 Previous Meeting Actions Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>	<i>Status</i>
None			

1 Welcome, Reminders, and Introductions

Jim Oliver, committee co-chair, called the meeting to order at 8:05 PM. The SEMI meeting reminders on membership requirements, antitrust, patentable technology, and meeting guidelines were briefly presented and explained.

2 Review of Previous Meeting Minutes

The committee reviewed the minutes of the previous meeting held in May 2018.

Motion: Accept the minutes of the previous meeting as written.

By / 2nd: Russ Kremer / Judy Kronwasser

Discussion: None

Vote: 5-0 in favor. Motion passed.

Attachment: 01, NA CSM Minutes 2018 CSMANTECH

3 Liaison Reports

3.1 Europe Compound Semiconductor Materials Committee

Kevin Nguyen presented the Europe CSM liaison report. The key items were as follows:

- Leadership
 - Arnd Weber (SiCrystal)
- Meetings
 - Last Meetings:
 - April 9, 2019
 - Nurnberg, Germany
 - Next Meeting:
 - November 2019
 - SEMICON Europa, Munich Germany
- Ballot Results
 - Doc. 6118, Revision of SEMI M54-0304 (Reapproved 0611) - Guide for Semi-Insulating (SI) GaAs Material Parameters
 - Passed, and published as SEMI M54-0319
- Authorized Ballots
 - Doc. 6474, Revision to SEMI M82-0813: Test Method for the Carbon Acceptor Concentration in Semi-Insulating Gallium Arsenide Single Crystals by Infrared Absorption Spectroscopy



- Doc. 6546, Revision to SEMI M83-0913: Test Method for Determination of Dislocation Etch Pit Density in Monocrystals of III-V Compound Semiconductors
- Global SiC Task Force
 - Leader: Arnd-Dietrich Weber, SiCrystal
 - M55-0817 Specification for Polished Monocrystalline Silicon Carbide Wafers is published.
 - Situation to start a 200mm wafer standard are under observation – currently not feasible.
 - M81-0418 Guide to Defects Found in Monocrystalline Silicon Carbide Substrates is also published.
- Contactless Capacitive Resistivity Measurement of SI-Semiconductors TF
 - Leader: Wolfgang Jantz, Semimap
 - The contactless resistivity standard is published as M87-0116 Test Method for Contactless Resistivity Measurement of Semi-Insulating Semiconductors
 - Currently planning Round Robin

Attachment: 02, EU CSM TC Chapter Liaison report April 2019 v1

4 Staff Report

4.1 Kevin Nguyen presented the report. Of notes,

- SEMICON West
 - Standards Meetings will NOT be at the Marriott
 - Will be at MOSCONE South Hall this year.
 - Visitor Registration
 - West '19 Visitor Registration is now open
 - Free Expo Only Registration for STANDARDS
 - PROMO CODE : STAN2019
 - Register Today!
 - <http://www.semiconwest.org/>
- 2019 Critical Dates for SEMI Standards Ballots
 - Cycle 4, 2019
 - Ballot Submission Date: April 16
 - Voting Period Starts: April 30
 - Voting Period Ends: May 30
 - Cycle 5, 2019
 - Ballot Submission Date: May 10
 - Voting Period Starts: May 24
 - Voting Period Ends: June 24
- Connected@SEMI Community
 - Online collaboration community for Standards
 - <https://connect.semi.org>
 - Program Member
 - Join any task forces
 - Post discussion thread
 - TF Leader/Community Admin
 - Add member
 - Upload meeting minutes



- Communicate TF members
- Contact your staff if a TF Site is desired
- Details
 - www.semi.org/standards → Committee Info → Collaboration Community
- SEMI Standards Publications
 - Total SEMI Standards in portfolio: 1,000
 - Includes 268 Inactive Standards
 - Compound Semiconductor Materials - Number of Inactive Standards – 4
 - **Action Item #1** – Kevin to forward these 4 inactive standards to Russ and Jim

Attachment: 03, Staff Report April 2019_v1SA

5 Ballot Review

None

6 Task Force Reports

6.1 *Silicon Carbide Task Force*

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

7 Old Business

7.1 None

8 New Business

8.1 Tom Barbieri wants to look into 3” and 4” gallium nitride wafer standards. Judy said it is a good time since SEMI M86-0915 Specification for Polished Monocrystalline c-Plane Gallium Nitride Wafers, is due for 5 year review. She offers to help if needed.

8.2 Jim Hannah also expresses desire for standard effort for GaN-on-Silicon and SiC-on-SiC, specifically for a 200mm specification for the slightly unique underlying (1,1,1) GaN-ready Silicon substrate. Jim Hannah reported that he has some contacts, but was wondering how to best pursue. Jim Oliver said it is perfectly fine to invite other to join. When ready, SNARF and TFOF can be submitted to SEMI Staff.

8.3 Jim said that he applied for SEMI Standards membership, but he is not entire sure if his application went through. **Action Item #2** – Kevin to check if Jim Hannah’s SEMI application membership is in the database.

9 Action Item Review

9.1 *Open Action Items*

None

9.2 *New Action Items*

10 Adjournment

Having no further business, a motion was made to adjourn the NA Compound Semiconductor Materials Committee meeting on May 13 in conjunction with CS MANTECH 2020 in Tucson, Arizona. Adjournment was at 9:00 PM.



Respectfully submitted by:

Kevin Nguyen
Manager, International Standards Operations

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Minutes approved by:

Russ Kremer (Freiberger Compound Materials), Cochair	
Jim Oliver (Northrop Grumman), Cochair	May 29, 2019

Table 8 Index of Available Attachments #1

#	<i>Title</i>	#	<i>Title</i>
1	NA CSM Minutes 2018 CSMANTECH	3	Staff Report April 2019_v1SA
2	EU CSM TC Chapter Liaison report April 2019 v2		

#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.