



Compound Semiconductor Materials Committee China TC Chapter

HB-LED Committee China TC Chapter

Joint Meeting Summary and Minutes

China Spring Standards Meeting 2024

June 12th, 2024, 14:30-16:30

Qingdao, Shandong

TC Chapter Announcements

Next TC Chapter Meeting

China Fall Standards Meeting 2024

TBD, China, 2024

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Jiangbo Wang (HC SEMITEK), Guoyou Liu(CRRC TIMES)

SEMI Staff: Cassie Li (SEMI China), Ein Wu (SEMI China)

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
HC SEMITEK	Wang	Jiangbo	CRRC TIMES	Liu	Guoyou
Runxin Micro	Wang	Ronghua	Sinopatt	Zhang	Neng
GHTOT	Ji	Yong	SEMILAB	Huang	Li
Linton	Hu	Dongli	Dynax	Qian	Hongtu
BST	Liu	Jianzhe	Zhejiang University	Huang	Hongjia
Monocrystal	Niu	Chongshi	CETC13	Sun	Niefeng
LEGUAN	Li	Ruiping	CETC13	Wang	Yang
NAURA	Wang	Xiangang	SEMILAB	Basa	Peter
HIT	Gan	Yang	SEMILAB	Chen	Yue
VITAL	Su	Xiaoping	SEMILAB	Ji	Qingsheng
VITAL	Cao	Hang	SICTY	Ding	Diongjie
GACII	Feng	Huixing	Perfect Crystal	Zhang	Jiaqi
Raphael Optech	Gu	Weizhong	AKS	Jin	Yan
Raphael Optech	Liu	Jinglun	ZORRUN	Li	Guoping
Synlight	Li	Qingxuan	Westlake Inst	Liu	Dongli
Huilong	Liu	Jinxian	AMEC	Ma	Ziguang
MING-E	Meng	Zhihao	Simbba	Song	Tianrun
Glory Soft	Shi	Weitang	Sheng-Han	Wang	Gang
JING'AN	Xie	Binhui	Sheng-Han	Zhang	Jinmei
Cobetter	Gan	Li	KINGSEMI	Xing	Jiutian
Zhanjing	Yin	Xiyan	Isabers-materials	Wang	Xin
Zhanjing	Yin	Tong	ASE	Lu	Evelyn

Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
<i>Compound Semiconductor Materials</i>		
New TF: GaN Task force	Ronghua Wang – Runxin Micro Guoqiao Tao – Enkris Yi Pei – Dynax	
<i>HB-LED</i>		
None		

Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
<i>Compound Semiconductor Materials</i>	
None	
<i>HB-LED</i>	
None	

Table 4 Ballot Results

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
<i>Compound Semiconductor Materials</i>		
6769B	New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic	Failed
<i>HB-LED</i>		
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

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
<i>Compound Semiconductor Materials</i>			
None			
<i>HB-LED</i>			
None			

Table 6 Authorized Activities

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



#	Type	SC/TF/WG	Details
<i>Compound Semiconductor Materials</i>			
None			
<i>HB-LED</i>			
None			

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

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

Table 7 Authorized Ballots

#	When	TF	Details
<i>Compound Semiconductor Materials</i>			
None			
<i>HB-LED</i>			
None			

Table 8 SNARF(s) Granted a One-Year Extension

#	TF	Title	Expiration Date
<i>Compound Semiconductor Materials</i>			
None			
<i>HB-LED</i>			
None			

Table 9 SNARF(s) Abolished

#	TF	Title
<i>Compound Semiconductor Materials</i>		
None		
<i>HB-LED</i>		
None		

Table 10 Standard(s) to receive Inactive Status

Standard Designation	Title
<i>Compound Semiconductor Materials</i>	
None	
<i>HB-LED</i>	
None	

Table 11 New Action Items

Item #	Assigned to	Details
<i>Compound Semiconductor Materials</i>		
None		
<i>HB-LED</i>		
None		

Table 12 Previous Meeting Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
<i>Compound Semiconductor Materials</i>		
None		
<i>HB-LED</i>		
None		

1 Welcome, Reminders, and Introductions

Committee co-chair Jiangbo Wang chaired the meeting and welcomed all attendees. All the attendees introduced themselves. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed.

Agenda was reviewed.

Attachment: 2 Compound&HB-LED TC Spring Meeting 2024 Agenda

2 Review of Previous Meeting Minutes

The TC Chapter reviewed the minutes of the previous meeting.

Motion: To approve the minutes of the previous meeting as written

By / 2nd: Jiangbo Wang(HC SEMITEK) / Yong Ji(GHTOT)

Discussion: None

Vote: 25Y - 0 N, (Total 25 companies.) Motion Passed.

Attachment: 3 China CSM&HB-LED TC Joint Winter Meeting Minutes 20240125

3 Liaison Reports

3.1 Compound Semiconductor Materials North America TC Chapter

Cassie Li (SEMI) reported for the Compound Semiconductor Materials North America TC Chapter. Of note:

Action Item:

- The Co-chair of North America Compound Semiconductor Materials TC is Russ Kremer (Consultant) and Jim Oliver (Northrup Grumman).
- Ballot Results
 - Doc. 6952, Reapproval of SEMI M10-0218 Terminology For Identification Of Structures And Features Seen On Gallium Arsenide Wafers
Passed as balloted
 - Doc. 6953, Line Item Revision of SEMI M79-0218 Specification For Round 100 mm Polished Monocrystalline Germanium Wafers For Solar Cell Applications
Passed as balloted
 - Doc. 6954, Line Item Revision of SEMI M23-0811 (Reapproved 0218) Specification For Polished Monocrystalline Indium Phosphide Wafers
Passed as balloted

- Task Force Updates
 - M86 (GaN) Revision TF
 - Doc. 6806, Revision of M86, Specification for Polished Monocrystalline c-Plane Gallium Nitride Wafers (Subject: To revise 1-4 inches diameter)
 - Passed in June 2022 and published as M86-0922

Attachment: 5 NA CSM TC Chapter Liaison report Nov 2022 v1

3.2 Compound Semiconductor Materials Europe TC Chapter

Cassie Li (SEMI) reported for the Compound Semiconductor Materials Europe TC Chapter. Of note:

Action Item: Next meeting –August 6,2024 OVTCCM

- The Co-chair of Europe Compound Semiconductor Materials TC is Arnd Weber (SiCrystal).
- Ballot results
 - Doc 7161, Line-Item Revision of SEMI M93-0923 Test Method For Quantifying Basal Plane Dislocation Density In 4H-SiC By X-Ray Diffraction Topography/Imaging
 - Passed as balloted
- New SNARFs
 - Silicon Carbide Engineered Substrate TF
 - Doc. 7225, New standard: Specification for Silicon Carbide Engineered Substrate
 - 5 Year TF
 - Doc. TBD, Line-Item Revision of SEMI M54 - Guide for Semi-Insulating (SI) GaAs Material Parameters
- Task Force Highlights
- Silicon Carbide Epi Defects TF
 - Leader - Christian Kranert (Fraunhofer IISB)
 - Drafting Doc. 7160, New Standard: Guide for Defects found in Homoepitaxial Layers of Silicon Carbide
- Silicon Carbide Engineered Substrate TF
 - Leader - Enrica Cela (Soitec)
 - Drafting Doc. 7225, New standard: Specification for Silicon Carbide Engineered Substrate
- SiC TF
 - Leader: Arnd Weber (SiCrystal)
 - Drafting Doc. 7111, Revision of SEMI M81 Guide to Defects Found in Monocrystalline Silicon Carbide Substrates
 - Ongoing.
- Test Methods TF
 - Leader: Christian Kranert (Fraunhofer)



- Doc. 7161, Line Item Revision of SEMI M93-0923 Test Method for Quantifying Basal Plane Dislocation Density in 4H-SiC by X-Ray Diffraction Topography/Imaging
 - Passed TC Chapter review.
- 5 Year Review TF
 - Leaders
 - Hans Christian – Munich University of Applied Sciences
 - Arnd Weber (SiCrystal)
 - Reviewing Standards due for 5 year review
 - SEMI M54-0319 - Guide for Semi-Insulating (SI) GaAs Material Parameters
 - Will be issued in cycle 4 or 5 ballot for line-item revision for review at the next meeting
 - SEMI M83-0820 - Test Method for Determination of Dislocation Etch Pit Density in Monocrystals of III-V Compound Semiconductors
 - Ongoing

Attachment: 6 CSM EU TC Chapter April 2024

3.3 Compound Semiconductor Materials Japan TC Chapter

Cassie Li (SEMI) reported for the Compound Semiconductor Materials Japan TC Chapter. Of note:

Action Item: Next meeting –November 8,2024

- The Co-chair of Japan Compound Semiconductor Materials TC is Masayoshi Obara (Shin-Etsu Handotai Co., Ltd.).
- Ballot result
 - Doc 7211 Line Item Revision to SEMI M92-0423, Specification for 4H-SiC Homoepitaxial Wafer
 - L1 L2 Failed
 - L3 L4 L5 Passed.
- Task Force Highlight:
 - Silicon Carbide Substrate Liaison Task Force
 - Reviewing Doc.# 6767A, New Standard: Test Method for Flatness of Silicon Carbide Wafers by Optical Interference as well as Doc.#6769B, New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic, which are under development by the Silicon Carbide Substrate Task Force under the Compound Semiconductor Materials China TC Chapter.
 - Continue to communicate with the said Task Force to improve the draft documents.
 - SiC Epitaxial Wafer Liaison Task Force
 - No activities in particular
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Attachment: 7 CSM_JA TC Chapter Liaison Report_June 2024_R1 (1)

3.4 SEMI Staff Report

Cassie Li (SEMI China) gave the SEMI Staff Report. Of note:

Action Item:

- SEMI International Standards Overview
- SEMI Standards Publications
- 2024 Critical Dates for SEMI Standards Ballots
- NARSC Members
- Organization chart

Attachment: 4 SEMI Staff Report

4 Ballot Review

None

5 Subcommittee and Task Force Reports

5.1 SiC Epitaxial Wafer Task Force

Zhixia Chen (Epiworld) reported for the 4H-SiC Epitaxial Wafer Task Force. This report contained information on:

Action Item:

- Introduced the task force's leaders and members.
- Progress of Documents work:
 - Doc. 6693, New Standard: Specification for 4H-SiC Homoepitaxial Wafer
 - Ballot passed and forwarded to ISC A&R
 - Document is published as SEMI M92-0423

Attachment: 8 Report of 4H-SiC epitaxial wafer task force_20240612

5.2 Silicon Carbide Substrate Task Force

Jiaqi Zhang (Perfecr Crystal) reported for the Silicon Carbide Substrate Task Force. This report contained information on:

Action Item:

- Introduced the task force's leaders and members.
- Documents in Development:
 - Doc.6767: New Standard: Test Method for GBIR, SBIR, GF3R, SFQR and SORI of Silicon Carbide Wafers by Oblique Incident Interference Method
 - Doc.6769: New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic
- Specific Work



- Jan ,2024,Cycle 2 of Letter Ballot (6769B)
- April,26 2024- Spring Meeting (Part A) Failed
- Till now, Communicate with the foreign experts who give the opinions, and complete the revision of the 6769B standard in Fall meeting
-

Attachment: 9 SEMI China CS Std. Technical Committee Silicon Carbide substrate Task Force 20240612

6 Old Business

6.1 *Refer to Table 12 Previous Meeting Action Items*

7 New Business

7.1 *Requests for ballots*

None

7.2 *SNARF(s) Granted a One-Year Extension*

None

7.3 *Five-Year-Review*

None

7.4 *New Task Force*

Motion: Approve a new Task Force named GaN Task Force

By / 2nd: Ronghua Wang (Runxin Micro) / Li Huang (SEMILAB)

Discussion: Yong Ji(GHTOT): Is it possible to create a new task force to combine AlN and GaN?
Ronghua Wang (Runxin Micro): We will create a new one separately later.

Vote: 27 in favor. (Total 27 companies. 0 companies abstain.) Motion passed.

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Attachment: 1 GaN TF

8 Next Meeting and Adjournment

The next meeting of the Compound Semiconductor Materials & HB-LED China TC Chapter is scheduled for TBD, 2024 in China.

For more information, please visit Standards Calendar at <http://www.semi.org/en/standards>

Adjournment: 16:30.



Respectfully submitted by:

Cassie Li

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Minutes tentatively approved by:

Jiangbo Wang (HC SEMITEK), Compound Semiconductor Materials Committee and HB-LED Committee China TC Chapter Co-chair	2024/6/27
Guoyou Liu (CRRC TIMES), Compound Semiconductor Materials Committee and HB-LED Committee China TC Chapter Co-chair	2024/6/27

Table 13 Index of Available Attachments^{#1}

<i>Title</i>	<i>Title</i>
1 Chinese SEMI Standard Meeting Reminders	1 GaN TF
2 Compound&HB-LED TC Spring Meeting 2024 Agenda	3 China CSM&HB-LED TC Joint Winter Meeting Minutes 20240125
4 SEMI Staff Report	5 NA CSM TC Chapter Liaison report Nov 2022 v1
6 CSM EU TC Chapter April 2024	7 CSM_JA TC Chapter Liaison Report_June 2024_R1 (1)
8 Report of 4H-SiC epitaxial wafer task force_20240612	9 SEMI China CS Std. Technical Committee Silicon Carbide substrate Task Force 20240612

^{#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 [SEMI Staff Name] at the contact information above.