



# Compound Semiconductor Materials Committee China TC Chapter Joint Meeting Summary and Minutes

China Winter Standards Meeting 2024

December 5<sup>th</sup>, 2024, 13:00-17:30

Wuxi, Jiangsu

## TC Chapter Announcements

*Next TC Chapter Meeting*

China Spring Standards Meeting 2025

TBD, China, 2025

## Table 1 Meeting Attendees

*Italics indicate virtual participants*

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

**SEMI Staff:** Cassie Li ( SEMI China), Sara Ma (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
Linton	Peng	Yiqi	Zhejiang University	Huang	Hongjia
Monocrystal	Niu	Chongshi	<i>KLA</i>	<i>Yuan</i>	<i>Haochen</i>
TSSST	Li	Ruiping	<i>KLA</i>	<i>Kallus</i>	<i>Davids</i>
NAURA	Wang	Xiangang	SEMILAB	Basa	Peter
HIT	Gan	Yang	YASC	Yin	Zhixin
TUV	Xin	Xing	SEMILAB	Ji	Qingsheng
TUV	Xu	Shu	<i>Japan AIST</i>	<i>Makoto</i>	<i>Kitabatake</i>
TUV	Wang	Kiki	Perfect Crystal	Zhang	Jiaqi
TUV	Lu	Guoyan	ZORRUN	Li	Guoping
T-Vision	Yan	Zhenzhen	Westlake Inst	Liu	Dongli
SEMILAB	Liu	Kun	DDXDF	Li	Yuanfeng
SEMILAB	Chen	Yue	DDXDF	Zheng	Ruting
SEMILAB	Miao	Rui	Bosmarter	Hu	Wanping
SEMILAB	Shi	Weitang	MEGA	Chen	Xiaojun
Hanbell Precise	Jin	Nenglong	Raphaeloptech	Liu	Jinglun
Shanghai Silicology Scientific & Trading	Miao	Zhi	Raphaeloptech	Wan	Xinjun
Shanghai Yishi Trading	Pan	Honghua	YUJIA	Chen	Fei
Runxin Micro	Wang	Ronghua	Everbright	Li	Shunfeng
CMIT	Wei	Mingde	TMJT	Ren	Diansheng



AK OPTICS	Ma	Tiezhong	Enkris	Tao	Guoqiao
Epiworld	Feng	Gan	Bosch	Ma	Shuyang
ZKS	Liu	Zhibin	Bosch	Wu	Qiqi
TOPE	Zhang	Junying	TSD	Jiang	Jile
Hemotors	Zhang	Jianbo	JH Graphite	Li	Xueguang
Zhejiang Institute of Quality Sciences	Zhang	Yupei	CJLU	Xu	Zhipeng

**Table 2 Leadership Changes**

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
<i>Compound Semiconductor Materials</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	

**Table 4 Ballot Results**

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</i>
<i>Compound Semiconductor Materials</i>		

#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			

**Table 6 Authorized Activities**

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

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</i>
<i>Compound Semiconductor Materials</i>			
	SNARF	GaN Task Force	New Standard: Specification of Multiple Materials Substrate for GaN Epitaxial Growth for HB-LED
	SNARF	Silicon Carbide Substrate Task Force	New Standard: Specification of High Purity Silicon Carbide Powder for SiC Crystal



**Table 6 Authorized Activities**

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

#	Type	SC/TF/WG	Details
6769	SNARF Revised	Silicon Carbide Substrate Task Force	From: New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic To: New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic Effect

#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>			
6769C	Cycle2-2025	Silicon Carbide Substrate Task Force	New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic Effect

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

#	TF	Title	Expiration Date
<i>Compound Semiconductor Materials</i>			
6767	Silicon Carbide Substrate Task Force	TEST METHOD FOR GBIR, SBIR, SFQR and SORI OF SILICON CARBIDE WAFERS BY OBLIQUE INCIDENT INTERFERENCE METHOD	2026/4/8
6769	Silicon Carbide Substrate Task Force	TEST METHOD FOR RESIDUAL STRESS OF SILICON CARBIDE WAFERS BY PHOTOELASTIC EFFECT	2026/4/8

**Table 9 SNARF(s) Abolished**

#	TF	Title
<i>Compound Semiconductor Materials</i>		
None		

**Table 10 Standard(s) to receive Inactive Status**

Standard Designation	Title
<i>Compound Semiconductor Materials</i>	
None	

**Table 11 New Action Items**

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

**Table 12 Previous Meeting Action Items**

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

### 1 Welcome, Reminders, and Introductions

Committee co-chair Jiangbo Wang chaired the meeting and welcomed all attendees including the online attendees. All the attendees introduced themselves. And agenda was reviewed.

**Attachment:** 2 Compound Semiconductor Materials Winter 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 / 2<sup>nd</sup>:** Jiangbo Wang(HC SEMITEK) / Yang Gan(HIT)

**Discussion:** None

**Vote:** 28Y - 0 N, (Total 28 companies.) Motion Passed.

**Attachment:** 3 China CSM&HB-LED TC Joint Spring Meeting Minutes 20240612

### 3 SEMI Staff Report

Sara Ma (SEMI China) gave the SEMI Staff Report. Of note:

**Action Item:**

- SEMI International Standards Overview
- SEMI Standards Publications
- 2024 & 2025 Critical Dates for SEMI Standards Ballots
- NARSC Members
- Organization chart

**Attachment:** 4 SEMI Staff Report

### 4 Liaison Reports

#### 4.1 Compound Semiconductor Materials Europe TC Chapter

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

**Action Item:**

- Meeting Information
- Leadership / Leadership Changes



- Committee Structure Changes
- Organization Chart
- Ballot Results
- Task Force Highlights

**Attachment:** 5 EU CSM Liaison Report November 2024

#### 4.2 Compound Semiconductor Materials Japan TC Chapter

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

**Action Item:**

- Meeting Information
- Leadership
- Organization Chart
- Ballot Results
- Task Force Highlights

**Attachment:** 6 CSM\_JA TC Chapter Liaison Report\_October 2024\_R0-Japan

## 5 Ballot Review

None

## 6 Subcommittee and Task Force Reports

### a) 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
- Title change
  - ◆ 6769: Change the title of 6769 from New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic to New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic Effect.
- Specific Work
  - Jan , SEMI Standards Compound Semiconductor China TC Chapter Meeting Spring 2024, shortly reviewed and reported updates with foreign experts



- Till now, Communicate with the foreign experts who give the opinions, and complete the revision of the 6769B standard in Fall meeting
- Now-China Spring Standards Meeting, Submit a request for extension, continue to communicate with foreign experts, and complete the revisions of standards 6767 and 6769C
- Extension Request
  - #6767 apply for one-year extension until 2026/4/8
  - #6769C apply for one-year extension until 2026/4/8

**Attachment:** 7 SEMI China CS Std. Technical Committee Silicon Carbide substrate Task Force 20241205

b) *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\_20241205

## 7 Old Business

- a) *Refer to Table 12 Previous Meeting Action Items*

## 8 New Business

### 8.1 New SNARFs

8.1.1 SNARF, New Standard: Specification of Multiple Materials Substrate for GaN Epitaxial Growth for HB-LED

**Motion:** Approve the SNARF.

**By / 2nd:** Neng Zhang(Sinopatt) / Ruiping Li (TSSST)

**Discussion:** Shunfeng Li(Everbright): The 'multiple materials' in the title is overbroad not precise.

Tiezhong Ma(AK OPTICS): The title should be changed to for HB-LED.

**Vote:** 24 in favor and 0 opposed 0 abstain. (Total 24 companies.) Motion passed.

**Attachment:** 11 SNARF\_Specification of Multiple Materials Substrate for GaN Epitaxial Growth for HB-LED

8.1.2 SNARF, New Standard: Specification of High Purity Silicon Carbide Powder for SiC Crystal

**Motion:** Approve the SNARF.

**By / 2nd:** Yiqi Peng (Linton) / Shunfeng Li(Everbright)



**Discussion:** None

**Vote:** 31 in favor 0 abstain and 0 opposed (Total 31 companies.) Motion passed.

**Attachment:** 12 SEMI PPT Template\_Standards-silicon carbide Crystal

## 8.2 *Requests for ballots in Cycle 2 of 2025*

8.2.1 Doc. 6769C, New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic Effect

**Motion:** Approve the Document 6769 for Letter Ballot in Cycle 2-2025.

**By / 2nd:** Jiaqi Zhang (Perfect Crystal) / Li Huang(SEMILAB)

**Discussion:** Jiangbo Wang: They need to list the difference between the new version and the older version, and need to finish the final version before the cycle 2 of 2025

**Vote:** 22 in favor and 0 opposed 0 abstain. (Total 24 companies.) Motion passed.

**Attachment:** 10 6769B(12.3)(1)(1)

8.3 *SNARF Revised, 6769, New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic Effect*

**Motion:** Approve the SNARF title revised to New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic Effect.

**By / 2nd:** Jiaqi Zhang (Perfect Crystal) / Ruiping Li (TSSST)

**Discussion:** None

**Vote:** 28 in favor and 0 opposed 0 abstain. (Total 28 companies.) Motion passed.

## 8.4 *SNARF(s) Granted a One-Year Extension*

8.4.1 Doc. 6767, New Standard: Test Method for GBIR, SBIR, GF3R, SFQR and SORI of Silicon Carbide Wafers by Oblique Incident Interference Method

**Motion:** Approve the One-Year Extension .

**By / 2nd:** Jiaqi Zhang (Perfect Crystal) / Ruiping Li (TSSST)

**Discussion:** None

**Vote:** 28 in favor and 0 opposed 0 abstain. (Total 28 companies.) Motion passed.

8.4.2 Doc. 6769, New Standard: Test Method for Residual Stress of Silicon Carbide Wafers by Photoelastic Effect

**Motion:** Approve the One-Year Extension .

**By / 2nd:** Jiaqi Zhang (Perfect Crystal) / Ruiping Li (TSSST)

**Discussion:** None

**Vote:** 28 in favor and 0 opposed 0 abstain. (Total 28 companies.) Motion passed.



8.5 Five-Year-Review

None

8.6 New Task Force

None

**9 Next Meeting and Adjournment**

The next meeting of the Compound Semiconductor Materials & HB-LED China TC Chapter is scheduled for TBD, 2025 in China.

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

Adjournment: 17:30.

Respectfully submitted by:

Sara Ma

SEMI China

Phone: 021-6027-8578

Email: sarama@semi.org

Minutes tentatively approved by:

Jiangbo Wang (HC SEMITEK), Compound Semiconductor Materials Committee and HB-LED Committee China TC Chapter Co-chair	2024/12/19
Guoyou Liu (CRRC TIMES), Compound Semiconductor Materials Committee and HB-LED Committee China TC Chapter Co-chair	2024/12/19

**Table 13 Index of Available Attachments<sup>#1</sup>**

<i>Title</i>	<i>Title</i>
1 Chinese SEMI Standard Meeting Reminders	2 Compound Semiconductor Materials Winter Meeting 2024 Agenda
3 China CSM&HB-LED TC Joint Spring Meeting Minutes 20240612	4 SEMI Staff Report
5 EU CSM Liaison Report November 2024	6 CSM_JA TC Chapter Liaison Report_October 2024_R0-Japan
7 SEMI China CS Std. Technical Committee Silicon Carbide substrate Task Force 20241205	8 Report of 4H-SiC epitaxial wafer task force_20240612



**Table 13 Index of Available Attachments#1**

9 GaN TF	10 6769B(12.3)(1)(1)
11 SNARF_Nov2024 Specification of Multiple Materials Substrate for GaN Epitaxial Growth aiming at HB-LED(2)	11 SNARF_Specification of Multiple Materials Substrate for GaN Epitaxial Growth for HB-LED
12 SEMI PPT Template_Standards-silicon carbide Crystal	12 SNARF_Specification of High purity silicon carbide powder for SiC Substrate(1)

#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](http://www.semi.org). For additional information or to obtain individual attachments, please contact [SEMI Staff Name] at the contact information above.