# Compound Semiconductor Materials Committee China TC Chapter

# Joint Meeting Summary and Minutes

China Winter Standards Meeting 2024
December 5th, 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)

| *Company* | *Last* | *First* | *Company* | *Last* | *First* |
|---|---|---|---|---|---|
| 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 | *KLA* | *Yuan* | *Haochen* |
| TSSST | Li | Ruiping | *KLA* | *Kallus* | *Davids* |
| NAURA | Wang | Xiangang | SEMILAB | Basa | Peter |
| HIT | Gan | Yang | *YASC* | *Yin* | *Zhixin* |
| TUV | Xin | Xing | SEMILAB | Ji | Qingsheng |
| TUV | Xu | Shu | *Japan AIST* | *Makoto* | *Kitabatake* |
| 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

| *WG/TF/SC/TC Name* | *Previous Leader* | *New Leader* |
|---|---|---|
| *Compound Semiconductor Materials* | | |
| None | | |

### Table 3 Committee Structure Changes

| *Previous WG/TF/SC Name* | *New WG/TF/SC Name or Status Change* |
|---|---|
| *Compound Semiconductor Materials* | |
| None | |

### Table 4 Ballot Results

| *Document #* | *Document Title* | *Committee Action* |
|---|---|---|
| *Compound Semiconductor Materials* | | |
| | | |

#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

| *#* | *Type* | *SC/TF/WG* | *Details* |
|---|---|---|---|
| *Compound Semiconductor Materials* | | | |
| None | | | |

### Table 6 Authorized Activities

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

| *#* | *Type* | *SC/TF/WG* | *Details* |
|---|---|---|---|
| *Compound Semiconductor Materials* | | | |
| | 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<br>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* |
|---|---|---|---|
| *Compound Semiconductor Materials* | | | |
| 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* |
|---|---|---|---|
| *Compound Semiconductor Materials* | | | |
| 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* |
|---|---|---|
| *Compound Semiconductor Materials* | | |
| None | | |

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

| *Standard Designation* | *Title* |
|---|---|
| *Compound Semiconductor Materials* | |
| None | |

**Table 11 New Action Items**

| *Item #* | *Assigned to* | *Details* |
|---|---|---|
| *Compound Semiconductor Materials* | | |
| None | | |

**Table 12 Previous Meeting Action Items**

| *Item #* | *Assigned to* | *Details* |
|---|---|---|
| *Compound Semiconductor Materials* | | |
| 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 / 2nd:** | 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 Compond 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 meting
    - 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 | |
| Guoyou Liu (CRRC TIMES), Compound Semiconductor Materials Committee and HB-LED Committee China TC Chapter Co-chair | |

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

| *Title* | *Title* |
|---|---|
| 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<br>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. For additional information or to obtain individual attachments, please contact [SEMI Staff Name] at the contact information above.