

Japan Silicon Wafer Committee Meeting Summary and Minutes

Japan Standards Summer Meetings 2013
September 3, 2013, 13:00-17:00
JPR Bldg. Conference room1, SEMI Japan office, Tokyo, Japan

Next Committee Meeting

December 5, 2013, 10:30 – 18:00 Japan Standard Time
Makuhari Messe, Chiba, Japan

Committee Announcements (optional)

There will be long break time between 12:00a.m. and 15:30p.m. in the next Japan Silicon Wafer Committee meeting on December 5, 2013.

Table 1 Meeting Attendees

Co-Chairs: Tetsuya Nakai (SUMCO), Naoyuki J. Kawai (The University of Tokyo)

SEMI Staff: Hirofumi Kanno

| <i>Company</i> | <i>Last</i> | <i>First</i> | <i>Company</i> | <i>Last</i> | <i>First</i> |
|--------------------|-------------|--------------|-------------------------|-------------|--------------|
| SUMCO | Nakai | Tetsuya | The University of Tokyo | Kawai | Naoyuki |
| GlobalWafers Japan | Izunome | Koji | GlobalWafers Japan | Takeda | Ryuji |
| GlobalWafers Japan | Araki | Koji | Hitachi Hi Tech | Ikota | Masami |
| HST Vision | Sasaki | Kunihiko | Freelance | Yoshise | Masanori |
| Hitachi Kokusai | Matsuda | Mitsuhiro | Takenaka Consulting | Takenaka | Takao |
| Shimizu Consulting | Shimizu | Yasuhiro | Consultant | Kumai | Sadao |
| Tokyo Electron | Mashiro | Supika | | | |

Table 2 Leadership Changes

None

Table 3 Ballot Results (or move to Section 4, Ballot Review)

None

Table 4 Authorized Ballots (or move to Section 7, New Business)

| # | When | SC/TF/WG | Details |
|-------|-------------|---------------------------------------|---|
| 4844B | Cycle7-2013 | International Test Methods Task Force | New Standard: Guide for the Measurement of Trace Metal Contamination on Silicon Wafer Surface by Inductively Coupled Plasma Mass Spectrometry |
| 5389A | Cycle7-2013 | International Test Methods Task Force | Revision to MF1982-1110, Test Method for Analyzing Organic Contaminants on Silicon Wafer Surfaces by Thermal Desorption Gas Chromatography |

Table 5 Authorized Activities (or move to Section 7, New Business)

| # | Type | SC/TF/WG | Details |
|---|------|---|---|
| | TFOF | Feducial Mark Interoperability Task Force | TF Charter: Standardization of fiducial mark as the alternative to the notch is now under development at the International 450mm Wafer Task Force under the Global Silicon Wafer Committee. Adoption of fiducial mark will affect not only Si wafer specification and related Standards but also Standards owned by other Global Technical Committees that reference the Notch. Furthermore, as readability of fiducial mark may change due to |

Table 5 Authorized Activities (or move to Section 7, New Business)

| # | Type | SC/TF/WG | Details |
|-----|-------|---|--|
| | | | intentional and unintentional interaction of wafer surface and various tools in their process apparatuses and with wafer handling mechanisms, standardization of fiducial mark detection data and their communication is deemed necessary to support traceability and to compensate deteriorated readability of Fiducial Mark. In order to address above cross disciplinary challenge, this Task Force is established under five Global Technical Committees (Silicon Wafer TC, PI&C TC, I&C TC, Assembly & Packaging TC and Traceability TC), and develops the Standards to support the fiducial mark. |
| TBA | SNARF | International 450mm Shipping Box Task Force | Line Item Revision of SEMI M80-0812, Mechanical Specification for Front-Opening Shipping Box Used to Transport and Ship 450 mm Wafer |

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

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

Table 6 New Action Items (or move to Section 8, Action Item Review)

| Item # | Assigned to | Details |
|------------|--|--|
| 09032013-1 | SEMI Staff | To confirm whether SEMI HQ has any measurement data for reference sample materials for oxygen and carbon or not. |
| 09032013-2 | Yasuhiro Shimizu (Shimizu Consulting) and SEMI Staff | After the Task Force consensus, the draft document for Revision of M80 is forwarded to Silicon Wafer Committee and PIC Committee joint GCS to get approval for the ballot issuance in Cycle 7. |

Table 7 Previous Meeting Actions Items (or move to Section 8, Action item Review)

| Item # | Assigned to | Details |
|----------|--|---|
| 130607-1 | Co-chairs of the Japan Silicon Wafer Committee | To confirm the organization structure of the International Advanced Surface Inspection Task Force (Japan Side) by SEMICON West → Done |
| 130607-2 | Co-chairs of the Japan Silicon Wafer Committee | To ask Masaru Watanabe (Semilab Japan), who has currently been a co-leader of the International 450 mm Wafers Task Force, whether to continue the leadership position → Done; Masaharu Watanabe remains as a co-leader. |

1 Welcome, Reminders, and Introductions

Naoyuki J. Kawai called the meeting to order at 13:00. The meeting reminders on antitrust issues, intellectual property issues and holding meetings with international attendance were reviewed. Attendees introduced themselves.

2 Review of Previous Meeting Minutes

The committee reviewed the minutes of the previous meeting.

Motion: Approve the minutes of the previous meeting

By / 2nd: Tetsuya Nakai (SUMCO) / Takao Takenaka (Takenaka Consulting)

Discussion: None

Vote: 11:0 (The motion passed)

3 Liaison Reports

3.1 *Europe Silicon Wafer Committee*

Hirofumi Kanno (SEMI) reported for the Europe Silicon Wafer Committee. Of note:

- Meeting Information
- Committee Chairmen
- Committee Structure
- Leadership Changes
- Ballot Results
- New SNARF
- Task Forces Activities

Attachment: 01, EU Si Wafer liaison report_March 2013

3.2 *North America Silicon Wafer Committee*

Hirofumi Kanno (SEMI) reported for the North America Silicon Wafer Committee. Of note:

- Meeting Information
- Committee Chairmen
- Committee Structure
- Leadership Changes
- Ballot Results
- New SNARF
- Task Forces Activities

Committee Discussion: Masanori Yoshise pointed out that Doc. 5605, submitted by the International 450 mm Wafer Task Force and approved by the previous North America Silicon Wafer Committee meeting, might be in the scope of the International AWG Task Force.

- Doc. 5605, Line Item Revision to SEMI M1-0413, Specification for Polished Single Crystal Silicon Wafers (Wafers for 16nm technology generation SFQR)

Attachment: 02, NA Si Wafer Liaison Report 20130822

3.3 *SEMI Staff Report*

Hirofumi Kanno (SEMI) gave the SEMI Staff Report. Of note:

- Global SEMI Events
- Global Standards Meetings Schedule
- Ballot Critical Dates
- Publication Update
- ISC A&R SC Summary May and June 2013
- Preparation for SEMICON Japan 2013
- Contact Information

Attachment: 03, SEMI Staff Report 2013 Aug. R0.1

3.4 JRSC Report

Hirofumi Kanno (SEMI) gave the JRSC Report. Of note:

For global FPD related Technical Committees, the motion to propose the disbandment both of FPD Factory Automation Committee and FPD Mask Committee to the ISC was approved at the previous JRSC meeting.

3.5 Silicon Wafer GCS Report

Tetsuya Nakai (SUMCO) gave the Silicon Wafer GCS Report. Of note:

- Clarification of procedure for SNARF submission and ballot voting – ok to approve both SNARF and ballot if consensus in TF.
- Recommend that only documents that appear on a TF agenda be approved at a Committee meeting for ballot. Also, the agenda must be published at least ten days before the meeting.

Attachment: 04, GCS130708

3.6 JEITA Report

Naoyuki J. Kawai gave the JEITA Report. Of note:

- Status on JEITA activity for its disbandment
- Treatment of reference sample materials for oxygen and carbon
- Future plans and actions

Action Item: SEMI Staff confirm whether SEMI HQ has any measurement date for the reference sample materials for oxygen and carbon or not.

Attachment: 05, SEMI Staff Report 2013 Aug. R0.1

3.7 JSPS Report

Takao Takenaka (Takenaka Consulting) gave the SEMI Staff Report.

Attachment: 05, JSPS, SWC130903img001

Attachment: 06, JSPS, SWC130903 img002

4 Subcommittee & Task Force Reports

4.1 International Polished Wafers Task Force

Koji Izunome (GlobalWafers Japan) reported for the International Polished Wafers Task Force. The Doc.5543 was passed at SEMICON WEST. The Task Force is going to check the content of the final draft Doc. 5500.

4.2 International Epitaxial Wafers Task Force

Takao Takenaka (Takenaka Consulting) reported for the International Epitaxial Wafers Task Force. In Japan side, the Task Force has not met currently. Doc. 5542 (Line Items Revision to M62) are currently on ballot for Cycle 5.

4.3 International Annealed Wafers Task Force

Koji Araki (GlobalWafers Japan) reported for the International Annealed Wafers Task Force.

Doc. 5583 (Line Items Revision of M57) is currently on ballot in Cycle 5.

4.4 International SOI Wafers Task Force

Tetsuya Nakai (SUMCO) reported for the International SOI Wafers Task Force. This report contained information on the ballot adjudication for Doc.5541 (Revision of M41) and Task Force leadership change.

Attachment: 07, SOI TF Report_130607

4.5 Reclaim Wafer Task Force

Takao Takenaka reported for the Reclaim Wafer Task Force. This report contained information on status of the Task Force Structure. The Task Force is currently inactive. The Task Force has no plan to have their meeting during SEMICON Japan 2013.

4.6 International Terminology Task Force

Tetsuya Nakai reported for the International Terminology Task Force. For terms in M59, the Task Force is going to discuss terminology of M59 after the International Test methods task Force review them.

4.7 International Test Methods Task Force

Ryuji Takeda (GlobalWafers Japan) reported for the International Test Methods Task Force.

Attachment: 08, Task Force Minutes at Aug 28 2013

4.8 Japan Test Method Task Force

Ryuji Takeda reported for the Japan Test Methods Task Force.

- For GOI, the Task Force planned to submit SNARF for M60 Revision at the next Committee meeting during SEMICON Japan.
- For Surface Metal Chemical Analysis, the Task Force reported the activity and reviewed Doc. 4484B, *Guide for the Measurement of Trace Metal Contamination on Silicon Wafer Surface by Inductively Coupled Plasma Mass Spectrometry*.

Motion: Approve the ballot issuance for Doc. 4484B in Cycle 7.

By / 2nd: Ryuji Takeda (GlobalWafers Japan) / Takao Takeda (Takenaka Consulting)

Discussion: None

Vote: 12:0 (The motion passed.)

- For surface organic contaminant analysis, the Task Force reported the activity and reviewed Doc. 5389A, *Revision to MF1982, Test Method for Analyzing Organic Contaminations on Silicon Wafer Surfaces by Thermal Desorption Gas Chromatography*.

Motion: Approve the ballot issuance for Doc. 5389A in Cycle 7.

By / 2nd: Ryuji Takeda (GlobalWafers Japan) / Takao Takeda (Takenaka Consulting)

Discussion: During the document review at the meeting, there is discussion whether the Task Force should submit the document with tracks (e.g., deletions and additions). The decision is going to be delegated to Ryuji Takeda / Co-leader of the Task Force.

Vote: 12:0 (The motion passed)

- For bulk heavy metal analysis by electrical measurement, the Task Force has been developing Doc. 5313C.
- About BMD DZ, there is currently no activity. In future, the Task Force will work on.

Attachment: 09, Japan Test method TF Progress Report at Aug 28th_express report

4.9 International 450mm Shipping Box Task Force / JA Shipping Box Task Force

Yasuhiro Shimizu (Shimizu Consulting) reported for the International 450mm Shipping Box Task Force. This report contained information on a new SNARF proposal.

Motion: Approve the SNARF for *Revision of SEMI M 80-0812, MECHANICAL SPECIFICATION FOR FRONTOPENING SHIPPING BOX USED TO TRANSPORT AND SHIP 450 mm WAFERS*

By / 2nd: Yasuhiro Shimizu (Shimizu Consulting) / Sadao Kumai (Consultant)

Discussion: None

Vote: 12:0 (The motion passed)

Action Item: After the Task Force consensus, the draft document for Revision of M80 is forwarded to Silicon Wafer Committee and PIC Committee joint GCS to get approval for the ballot issuance in Cycle 7.

Attachment: 10, SHIPPING BOX TF REPORT 2013_09_03

4.10 International 450mm Wafer Task Force

Naoyuki J. Kawai reported for the International 450mm Wafer Task Force. This report contained information on edge exclusion proposal by G450C to extent FQA radius by another 0.5 mm. The SNARF will be presented at the next NA Fall meeting.

4.11 International Advanced Wafer Geometry Task Force/ Japan AWG Task Force

Masanori Yoshise (freelance) reported for the Task Forces. This report contained information below.

- Ballot review Result of Doc. 5430A
- Discussion about NT&ZDD
- Discussion about 1.5mm EE, ITRS, Metric Illustration
- Discussion about Revision MF1390 M49
- Next Task Force meeting at the Dresden during SEMICON Europe 2013
 - Committee Discussion: Doc.5500 described in the agenda is out of the Task Force activity. The Document should be developed in the International Polished Wafer Task Force. Masanori Yoshise confirms this.

Attachment: 11, AWG Report Sep 3rd

4.12 International Advanced Surface Inspection

There was no report for the International Advanced Surface Inspection Task Force. The Task Force will meet and re-arrange the Task Force leadership.

5 Old Business

None

6 New Business

6.1 450mm Standards Seminar

Hirofumi Kanno (SEMI) addressed the committee on this topic.

Motion: To organize the seminar with Japan PIC Committee

By / 2nd: Tetsuya Nakai (SUMCO) / Masanori Yoshise (Freelance)

Discussion: None

Vote: 10:0 (The motion passed.)

6.2 Committee and Task Force meeting schedule during SEMICON Japan

Hirofumi Kanno (SEMI) addressed the committee on this topic.

6.3 TFOF proposal for Fiducial Mark Interoperability Task Force

Tetsuya Nakai and Supika Mashiro (Tokyo Electron) addressed the committee on this background and Mitsuhiro Matsuda (Hitachi Kokusai) addressed the TFOF.

Motion: Approve the TFOF for Fiducial Mark Interoperability Task Force

By / 2nd: Mitsuhiro Matsuda (Hitachi Kokusai) / Supika Mashiro (Tokyo Electron)

Discussion: Tetsuya Nakai's status as the Task Force co-leader will be ensured and announced by October.

Vote: 10:0 (The motion passed.)

Attachment: 12, FiducialMark IO TF-TFOFform_r0.2

7 Action Item Review

7.1 Open Action Items

Hirofumi Kanno (SEMI) reviewed the open action items. These can be found in the Open Action Items table at the beginning of these minutes.

7.2 New Action Items

Hirofumi Kanno (SEMI) reviewed the new action items. These can be found in the New Action Items table at the beginning of these minutes.

8 Next Meeting and Adjournment

The next meeting of the Japan Silicon Wafer committee is scheduled for December 5, 2013, 10:30 – 18:00 at SEMICON Japan 2013 in Makuhari Messe, Chiba, Japan.

Respectfully submitted by:
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Minutes approved by:

| | |
|--|-----------------|
| Naoyuki J. Kawai (The University of Tokyo), Co-chair | <Date approved> |
| Tetsuya Nakai (SUMCO), Co-chair | <Date approved> |

Table 8 Index of Available Attachments #1

| # | <i>Title</i> | # | <i>Title</i> |
|----|---------------------------------------|----|---|
| 01 | EU Si Wafer liaison report_March 2013 | 07 | SOI TF Report_130607 |
| 02 | NA Si Wafer Liaison Report 20130822 | 08 | Task Force Minutes at Aug 28 2013 |
| 03 | SEMI Staff Report 2013 Aug. R0.1 | 09 | Japan Test method TF Progress Report at Aug 28th_express report |
| 04 | GCS130708 | 10 | SHIPPING BOX TF REPORT 2013_09_03 |
| 05 | JSPS, SWC130903img001 | 11 | AWG Report Sep 3rd |
| 06 | JSPS, SWC130903img002 | 12 | FiducialMark IO TF-TFOFform_r0.2 |

#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.