



Microlithography NA TC Chapter Meeting Summary and Minutes

SEMICON West

Wednesday, July 10, 2019

11:00 AM – 12:00 PM

Moscone Center, San Francisco, California

TC Chapter Announcements

Next TC Chapter Meeting

July 22, 2020 - 11:00 AM – Noon (tentative)

San Francisco, California

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Bryan Barnes

SEMI Staff: Kevin Nguyen

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
NIST	Barnes	Bryan	DNP	Naoya	Hayashi
Wes Erck & Associates	Erck	Wes	NIST	Orji	George
Hitachi High Tech	Ikota	Masami	I&I Consulting	Starikov	Alex
HJL Lithography	Levinson	Harry			

Table 2 Leadership Changes

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

Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>

Table 4 Ballot Results

<i>Document #</i>	<i>Document Title</i>	<i>Committee Action</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

#	Type	SC/TF/WG	Details
6516	SNARF	P47 Revision TF	Revision to SEMI P47 Test Method for Evaluation of Line-Edge Roughness and Linewidth Roughness
	TFOF	P47 Revision TF	New TFOF

Table 6 Authorized Activities

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

#	Type	SC/TF/WG	Details
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
6456	Cycle 8-19	Mask Orders TF	Revision to SEMI P45-0211, Specification For Job Deck Data Format For Mask Tools

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

#	TF	Title	Expiration Date
None			

Table 9 SNARF(s) Abolished

#	TF	Title
None		

Table 10 Standard(s) to receive Inactive Status

Standard Designation	Title
SEMI P9-1111	Guide for Functional Testing of Microelectronic Resists
SEMI P22-0307	Guideline for Photomask Defect Classification and Size Definition
SEMI P29-1111	Specification for Characteristics Specific to Attenuated Phase Shift Masks and Masks Blanks
SEMI P36-1108 (Reapproved 0913)	Guide for Magnification Reference for Critical Dimension Measurement Scanning Electron Microscopes (CD-SEM)

Table 11 New Action Items

Item #	Assigned to	Details
July2019-#1	Kevin Nguyen (SEMI)	To set up a depository website for the Patterning Metrology TF

Table 12 Previous Meeting Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>	<i>Status</i>
July2018- #1	Kevin Nguyen (SEMI) & Alex Starikov	To coordinate and distribute Revision of SEMI P19-92 (Reapproved 0707) Specification for Metrology Pattern Cells for Integrated Circuit Manufacture, for information ballot	Pending

1 Welcome, Reminders, and Introductions

1.1 Bryan Barnes called the meeting to order at 11:00 AM. 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

2.1 The TC Chapter reviewed the minutes of the previous meeting.

- Motion:** Accept the minutes as written
- By / 2nd:** Wes Erck/ Alex Starikov
- Discussion:** None
- Vote:** Unanimous.

3 Liaison Reports

3.1 *SEMI Staff Report*

Kevin Nguyen (SEMI) gave the SEMI Staff Report. Of note:

- Next meetings
 - November 4-7, 2019
 - SEMI HQ in Milpitas, California
- 2019 Critical Dates for SEMI Standards Ballots
- SEMI Standards Publications
 - Total SEMI Standards in portfolio: 1003
 - Includes 268 Inactive Standards
 - Micropatterning 29
 - Bryan feels the number of inactive standards is not consistent. Also, per SEMIViews, P9, P29, P36 have been inactive, but they are still shown on the staff report as active.
- New Forms, Regulations & Procedure Manual
 - Regulations (Feb 28, 2019)
 - Latest version clarifies procedures applicable for Copyrighted Items and trademarks
 - What is a Trademark?
 - Trademarks are brands that owners consider to be valuable intellectual property.
 - It can be a company name, an acronym, a graphical symbol, or a product name, even a software product. Products that are trademarked services are usually called service marks.
 - Anyone can claim to trademark something, not already in use by others, to identify and distinguish it from others
 - What are the Rules for Trademarks Clarified?
 - As part of SEMI policy to avoid any appearance of restraint of trade, the Regulations allow incorporation of trademarks in Standards Documents only under specific conditions.



- Hence, incorporation of a trademark in a Standards Document without complying with those conditions is a violation of the Regulations.
- It was brought to the attention of the ISC Regulations Subcommittee that a number of SEMI Standards Documents include trademarks or even require use of trademarked products without indicating that they were trademarks, who owned them, or the existence of a record of TC Chapter approval of that use.
- Responsibilities of the TC Chapter
 - See Regulations §§ 1.5.11 & 16.4 for official requirements
 - Examples
 - Example 1 for a product trademarked name
 - Not acknowledged: Kleenex
 - Not allowed: Kimberly-Clark Kleenex®
 - Allowed: Kleenex®1
 - Preferred: Kleenex®1 brand tissue (straight quote from box)
 - 1 Kleenex trademark is owned by Kimberly-Clark Corporation.
 - Example 2 for trademarked SDO name in subheadings of applicable sections
 - ASTM® Standards¹
 - 1 ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959, USA; Telephone: +1.610.832.9585, Fax: +1.610.832.9555, <http://www.astm.org>. ASTM trademark is owned by ASTM International.
- Procedure Manual (Feb 28, 2019)
- SNARF (Feb 2019)

Attachment: 01, Staff Report July 2019_v2 Micro

4 Ballot Review

NOTE 1: TC Chapter adjudication on ballots reviewed is detailed in the Audits & Review (A&R) Subcommittee Forms for procedural review. The A&R forms are available as attachments to these minutes. The attachment number for each balloted document is provided under each ballot review section below.

4.1.1 No ballot.

5 Subcommittee and Task Force Reports

5.1 Mask Orders P45 (MALY) Task Force

5.1.1 Wes reported.

- 1st meeting conference call on April 1st, 2019
- 2nd meeting at Photomask Japan on April 17
- A number of changes and additions have been agreed. Remaining work regards addition of MEBES pattern files as an alternation pattern format. This would be useful in mask shops for data management.
- Expected completion is September 30. Ballot document is to be submitted to SEMI by Oct 11.

Motion: To authorize for ballot for review at the next meeting

By / 2nd: Wes Erck/Harry Levinson

Discussion: None

Vote: 3-0



5.2 Patterning Metrology Task Force

5.2.1 Bryan reported the TF has an informal meeting to discuss on P18 and P19.

- SEMI P18-92 (Reapproved 1104) Specification for Overlay Capabilities of Wafer Steppers
- SEMI P19-92 (Reapproved 0707) Specification for Metrology Pattern Cells for Integrated Circuit Manufacture

P18 does not have required sections, so revision is expected. For P19, a correction was made via Publication Improvement Proposal (PIP) to correct an oversight with the definition, and it was corrected by SEMI. These standards are in need of further revision. Bryan would like a depository site for the TF to collaborate.

Alex also inquired the progress of both P18 and P19 revision. There was misunderstanding in the revision process. Alex, Bryan, and Kevin will coordinate and ensure the ballot is issued before the next meeting.

Action Item # 1 – Kevin to set up a Connected@SEMI site for the Patterning Metrology TF.

5.3 P47 (Line-Edge Roughness) Revision Task Force

Harry reported on the behalf of the P47 TF since he was in the meeting. The TF is revising the document:

- Adding correlation length to the standard.
- Discussion was held on whether measurement of noise was deducted or not.

6 Leadership and Task Force Changes

6.1 None

7 Old Business

7.1 *Standards due for Five-Year Review.*

7.1.1 The following standards are due for 5 year review. As there is no volunteer coming forward to keep these standards up to date, it was recommended in letting these standards to go inactive.

- SEMI P9-1111
 - Guide for Functional Testing of Microelectronic Resists
- SEMI P29-1111
 - Specification for Characteristics Specific to Attenuated Phase Shift Masks and Masks Blanks
- SEMI P36-1108 (Reapproved 0913)
 - Guide for Magnification Reference for Critical Dimension Measurement Scanning Electron Microscopes (CD-SEM)

Motion: To let standards above go inactive

By / 2nd: Wes Erck/ Harry Levinson

Discussion: It appears P9 was previously let go inactive. Even if it is still active, it was noted to proceed with inactive status.

Vote: 4-0

- SEMI P22-0307
 - Guideline for Photomask Defect Classification and Size Definition
 - [Note: Title nonconformance]

Motion: To let go inactive



By / 2nd: Wes Erck/ Hayashi Naoya
Discussion: None
Vote: 5-0

8 New Business

8.1 *None*

9 Next Meeting and Adjournment

The next meeting is tentatively scheduled for July 22, 2020 - 11:00 AM – Noon.
 San Francisco, California. See <http://www.semi.org/standards> for the current list of events.
 Having no further business, a motion was made to adjourn. Adjournment was at 12:00 PM.

Respectfully submitted by:

Kevin Nguyen,
 SEMI Standards Operations Manager
 Phone: 408-943-7997
 Email: knguyen@semi.org

Minutes tentatively approved by:

Bryan Barnes (NIST) Co-chair	August 6, 2019
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Table 13 Index of Available Attachments^{#1}

<i>Title</i>	<i>Title</i>
Staff Report July 2019_v2 Micro	

^{#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.