



Microlithography NA TC Chapter Meeting Summary and Minutes

SEMICON West

Tuesday, July 11, 2017

10:00 AM – 12:00 PM

San Francisco Marriott Marquis, San Francisco, California

TC Chapter Announcements

Next TC Chapter Meeting

July 10, 2018 - 10:00 AM – Noon (tentative)

San Francisco Marriott Marquis, San Francisco, California

Table 1 Meeting Attendees

Italics indicate virtual participants

Co-Chairs: Bryan Barnes, Wes Erck

SEMI Staff: Kevin Nguyen

<i>Company</i>	<i>Last</i>	<i>First</i>	<i>Company</i>	<i>Last</i>	<i>First</i>
Wes Erck & Associates	Erck	Wes	Samoo	Ah Young	Kim
NIST	Barnes	Bryan	Samoo	Jinhyo	Kim
I&I Consulting	Starikov	Alex	DNP	Naoya	Hayashi

Table 2 Leadership Changes

<i>WG/TF/SC/TC Name</i>	<i>Previous Leader</i>	<i>New Leader</i>
Microlithography TC Chapter	Wes Erck is retired as a Microlithography co-chair	

Table 3 Committee Structure Changes

<i>Previous WG/TF/SC Name</i>	<i>New WG/TF/SC Name or Status Change</i>
	Patterning Metrology Task Force (new TF)

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

<i>#</i>	<i>Type</i>	<i>SC/TF/WG</i>	<i>Details</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
tbd	SNARF	Patterning Metrology Task Force	Revision to SEMI P18-92 (Reapproved 1104) SPECIFICATION FOR OVERLAY CAPABILITIES OF WAFER STEPPERS
tbd	SNARF	Patterning Metrology Task Force	Line Item revision to SEMI P19-92 (Reapproved 0707) SPECIFICATION FOR METROLOGY PATTERN CELLS FOR INTEGRATED CIRCUIT MANUFACTURE

#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
None			

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 P29-1111	Specification for Characteristics Specific to Attenuated Phase Shift Masks and Masks Blanks (pending feedback from global members)
SEMI P46-1111	Specification for Critical Dimension (CD) Measurement Information Data on Photomask by XML (pending feedback from global members)
SEMI P31-0304 (Reapproved 0611)	Practice for Catalog Publication for Chemical Amplified (CA) Photoresist Parameter (pending feedback from global members)
SEMI P45-0211	Specification for Job Deck Data Format for Mask Tools (pending feedback from global members)

Table 11 New Action Items

Item #	Assigned to	Details
July2017-#1	Kevin Nguyen (SEMI)	To distribute SNARF for Revision to SEMI P18-92 (Reapproved 1104) SPECIFICATION FOR OVERLAY CAPABILITIES OF WAFER STEPPERS, to members for two weeks review
July2017-#2	Bryan Barnes (NIST)	To review SEMI P47-0307 (Reapproved 0513) Test Method for Evaluation of Line-Edge Roughness and Linewidth Roughness
July2017-#3	Kevin Nguyen (SEMI)	To contact the author of SEMI P37-0613 Specification for Extreme Ultraviolet Lithography Substrates and Blanks, for 5 year review

Table 11 New Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
July2017-#3	Kevin Nguyen (SEMI)	To seek feedback from members if there is an interest to maintain the following standards. Otherwise, they will go inactive. <ul style="list-style-type: none"> • SEMI P29-1111 Specification for Characteristics Specific to Attenuated Phase Shift Masks and Masks Blanks • SEMI P46-1111 Specification for Critical Dimension (CD) Measurement Information Data on Photomask by XML • SEMI P31-0304 (Reapproved 0611) Practice for Catalog Publication for Chemical Amplified (CA) Photoresist Parameter • SEMI P45-0211 Specification for Job Deck Data Format for Mask Tools
July2017-#3	Kevin Nguyen (SEMI)	To contact author from Japan for SEMI P22-0307, Guideline for Photomask Defect Classification and Size Definition, for 5 year review.

Table 12 Previous Meeting Action Items

<i>Item #</i>	<i>Assigned to</i>	<i>Details</i>
None		

1 Welcome, Reminders, and Introductions

Bryan Barnes called the meeting to order at 10:00 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

The TC Chapter reviewed the minutes of the previous meeting.

Motion: Accept the minutes as written

By / 2nd: Wes Erck/Bryan Barnes

Discussion: None

Vote: 3-0

3 Liaison Reports

3.1 SEMI Staff Report

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

- Next meetings
 - November 6-9, 2017
 - SEMI HQ in Milpitas, California
- 2017 Critical Dates for SEMI Standards Ballots
 - Cycle 6, 2017
 - Ballot Submission Date: July 21
 - Voting Period Starts: August 1
 - Voting Period Ends: August 31
 - Cycle 7, 2017
 - Ballot Submission Date: August 18
 - Voting Period Starts: September 1



- Voting Period Ends: October 2
- GTC Charter & Scope Review
 - SEMI Regulations requires all GTCs to have charter and scope
 - Current Charter of Micropatterning
 - To explore, evaluate and formulate consensus-based microlithography specifications that through voluntary compliance will enhance the manufacturing capability of the semiconductor industry.
 - Current Scope
 - None
 - Bryan acknowledges the current charter is generic. For the least, the scope should be revised to include metrology.
- 5 Year Review
 - SEMI P37-0613 Specification for Extreme Ultraviolet Lithography Substrates and Blanks
 - SEMI P47-0307 (Reapproved 0513) Test Method for Evaluation of Line-Edge Roughness and Linewidth Roughness
 - SEMI P29-1111 Specification for Characteristics Specific to Attenuated Phase Shift Masks and Masks Blanks
 - SEMI P46-1111 Specification for Critical Dimension (CD) Measurement Information Data on Photomask by XML
 - SEMI P31-0304 (Reapproved 0611) Practice for Catalog Publication for Chemical Amplified (CA) Photoresist Parameter
 - SEMI P45-0211 Specification for Job Deck Data Format for Mask Tools
 - SEMI P22-0307 Guideline for Photomask Defect Classification and Size Definition
- Nonconforming Titles
 - SEMI P22-0307 Guideline for Photomask Defect Classification and Size Definition
 - This standard was originally from Japan. But since Japan TC Chapter was disbanded, the standard is transferred to North America.
- SEMI Standards Publications
 - Total SEMI Standards in portfolio: 974
 - Includes 191 Inactive Standards

Attachment: 01, Staff Report July 2017_LN_SA 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 None

5 Subcommittee and Task Force Reports

5.1 OASIS TF

No report. Wes reported there is an inquiry on SEMI P44-1216 Specification for Open Artwork System Interchange Standard (OASIS ®) Specific to Mask Tools, from Canada. Tom Grebinski or Wes will follow-up.



5.2 Extreme Ultraviolet (EUV) Fiducial Mark Task Force

No report. Bryan commented that the leader has not been showing up. And they should be in contact.

5.3 Extreme Ultraviolet (EUV) Mask Task Force

No report

6 Old Business

6.1 Standards due for Five-Year Review.

SEMI P37-0613 Specification for Extreme Ultraviolet Lithography Substrates and Blanks

- Wes recommended SEMI Staff to contact the author.

SEMI P47-0307 (Reapproved 0513) Test Method for Evaluation of Line-Edge Roughness and Linewidth Roughness

- Bryan Barnes will look into this standard.

SEMI P29-1111 Specification for Characteristics Specific to Attenuated Phase Shift Masks and Masks Blanks

- SEMI Staff should email all Microlithography members and verify if there is an interest in keeping this standard. Otherwise, it will be inactive.

SEMI P46-1111 Specification for Critical Dimension (CD) Measurement Information Data on Photomask by XML

- SEMI Staff should email all Microlithography members and verify if there is an interest in keeping this standard. Otherwise, it will be inactive.

SEMI P31-0304 (Reapproved 0611) Practice for Catalog Publication for Chemical Amplified (CA) Photoresist Parameter

- SEMI Staff should email all Microlithography members and verify if there is an interest in keeping this standard. Otherwise, it will be inactive.

SEMI P45-0211 Specification for Job Deck Data Format for Mask Tools

- SEMI Staff should email all Microlithography members and verify if there is an interest in keeping this standard. Otherwise, it will be inactive.

SEMI P22-0307 Guideline for Photomask Defect Classification and Size Definition

- This document is from Japan. SEMI staff should contact Japan author to see if there is an interest in keeping it active.

7 New Business

7.1 New TFOF and SNARF

There is a need to create a new task force to maintain and revise lithography standards.

Motion: To approve Patterning Metrology Task Force

By / 2nd: Bryan Barnes/Alex Starikov

Discussion: None

Vote: 3-0

Attachment: 02, metrology tfof

Motion: To approve a SNARF for Line Item revision to SEMI P19-92 (Reapproved 0707)
SPECIFICATION FOR METROLOGY PATTERN CELLS FOR INTEGRATED CIRCUIT
MANUFACTURE



By / 2nd: Bryan Barnes/Alex Starikov

Discussion: Alex is surprised to learn

Vote: 3-0

Attachment: 03, P19 SNARF

Motion: To approve a SNARF for Revision to SEMI P18-92 (Reapproved 1104)
SPECIFICATION FOR OVERLAY CAPABILITIES OF WAFER STEPPERS

By / 2nd: Bryan Barnes/Alex Starikov

Discussion: Since this appears to be a major revision, two weeks members review is required before the SNARF can be approved.

Attachment: 04, P18 SNARF

7.2 *Wes Erck*

Wes is moving Japan and will no longer be able to chair the meeting. Therefore, Wes is officially retired and stepped down from being co-chair position after many years of service. The committee appreciated for his dedication for involvement in SEMI for over a decade.

8 Next Meeting and Adjournment

The next meeting is tentatively scheduled for July 10, 2018 - 10:00 AM – Noon.

San Francisco Marriott Marquis, San Francisco, California. See <http://www.semi.org/standards-events> 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	<Date approved>
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Table 13 Index of Available Attachments^{#1}

<i>Title</i>	<i>Title</i>
Staff Report July 2017_LN_SA v2 Micro	P19 SNARF
metrology tfof	P18 SNARF

#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.