

# Record of Line-item Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: **North America**  
 Global Technical Committee: **Silicon Wafer**  
 TC Chapter Cochairs: **Dinesh Gupta/STA, Noel Poduje/SMS**  
 Standards Staff: **Kevin Nguyen**

	Scheduled in Background Statement	Actual
Date	07/11/2017	07/11/2017
Location	San Francisco Marriott Marquis	San Francisco Marriott Marquis
Reason for Change of Date and/or Location (if changed)		

Note: See *Regulations* ¶ 9.5 Exception for allowable reason to change.

## Document Information

### I. Document Number, Title, Lists of Line Items

<b>Document Number</b> 6169	<b>Document Title</b> Line Item Revision to MF1390-1014: Test Method For Measuring Bow And Warp On Silicon Wafer By Automated Noncontact Scanning	
List of Line	Line Item 1	<b>Line Item Title</b> Delete Note 3 in section 2.5 and MF657 in section 4.1
	Line Item 2	<b>Line Item Title</b> Deletion of Note 2 and modification of other sections as shown.

## Line Item 1 Adjudication

### II. Tally

Standards staff to fill in.

Voting Tally: **As-cast tally after close of voting period**

Note: A minimum of 60% of the Voting Interests that have TC Members within the global technical committee that issued the Letter Ballot must return Votes. (*Regulations* ¶ 9.7.1.1)

**Voting Tally:**

Voting Interest:	Returned Votes	Distribution	Return Rate	
Letter Ballot	52	÷ 86	= 60.5%	≥60%
Intercommittee Ballot	31			
Voting Interest Reject(s)	1	Total Voters with Rejects		1
Voting Interest Accept(s)	36			

Note: See Regulations § 3.2.1 for definition of Voting Interest.

**III. Rejects**

**Voting Interest Reject 1 (Voting Interest Name: Materials & Metrology)  
Voter Reject 1 (Voter: Murray Bullis/ Materials & Metrology)**

**Negative 1**

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.		
	Negative Text	1. There seems to be no justification for introducing two different bow metrics. When should one be use and when the other? In fact, I would be amazed if the difference between these was significantly different from the reproducibility of either!		
TF input (optional)				
Withdrawal (check one)	<input checked="" type="checkbox"/>	No Negative withdrawal made by Voter.	GO TO "Related" subsection	
	<input type="checkbox"/>	Withdrawal document received by Standards staff on MM/DD/YYYY.	GO TO "Final" subsection → (A)	
Related	Motion and Reason (check one)	<input checked="" type="checkbox"/>	'Related' is mutually agreed upon. (Needs no motion.)	GO TO "Persuasive" subsection
		<input type="checkbox"/>	Negative is not related. (Needs ≥2/3 votes to pass.)	
		Reason	XXXX	
	Motion by/ 2 <sup>nd</sup> by	Name (Company)/Name (Company)		
	Discussion			
Result of Vote (check one)	<input type="checkbox"/>	XX Y-XX N; Motion passed/failed.		
	<input type="checkbox"/>	[Negative is not related.] < 2/3	GO TO "Persuasive" subsection	
	<input type="checkbox"/>	2/3 ≤ [Negative is not related.]	GO TO "Final" subsection → (B)	
Persuasive	Motion and Reason (check one)	<input type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)	
		<input checked="" type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)	

		Reason	The fact that both suppliers and users use both metrics in High Volume Manufacturing			
	<b>Motion by/ 2<sup>nd</sup> by</b>	Noel Poduje (SMS)/Kurt Haller (KLA-Tencor)				
	<b>Discussion</b>					
	<b>Result of Vote (check one)</b>	10 Y-0 N; Motion passed.				
		<input type="checkbox"/>	[Negative is related and persuasive.] > 1/3	<b>Is a technical change recommended? (check one)</b>	<input type="checkbox"/> Y	GO TO "Address by Technical Change Option" subsection
		<input type="checkbox"/>	[Negative is related and not persuasive.] < 2/3		<input type="checkbox"/> N	GO TO "Final" subsection → (E)
		<input type="checkbox"/>	2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)		
		<input checked="" type="checkbox"/>	90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection		
<b>Not Significant Finding Option</b>	<b>This option can be used only "if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action". (Regulations ¶ 9.6.4.4.2)</b>					
	<b>Use of "Not significant finding option" (check one)</b>	<input checked="" type="checkbox"/>	It is mutually agreed upon to term the Negative "not significant".		GO TO "Final" subsection → (D)	
		<input type="checkbox"/>	It is mutually agreed upon to term the Negative "significant".		GO TO "Final" subsection → (C)	
		<input type="checkbox"/>	Whether or not the Negative is "not significant" is decided by a vote.			
	<b>Motion</b>	The Negative is "not significant".				
	<b>Motion by/ 2<sup>nd</sup> by</b>	Name (Company)/Name (Company)				
<b>Vote</b>	<input type="checkbox"/>	XX Y-XX N; Motion passed with simple majority			GO TO "Final" subsection → (D)	
	<input type="checkbox"/>	XX Y-XX N; Motion failed with simple majority			GO TO "Final" subsection → (C)	
<b>Final</b>	<b>(check if applicable)</b>	<input type="checkbox"/>	(A)	Withdrawn (counted under h in disposition)		
		<input type="checkbox"/>	(B)	Not related (counted under i in disposition)		
		<input type="checkbox"/>	(C)	Related and not persuasive (significant)		
		<input checked="" type="checkbox"/>	(D)	Not significant (counted under j in disposition)		
		<input type="checkbox"/>	(E)	Related and persuasive and not addressed by technical change		DOCUMENT FAILS
	<input type="checkbox"/>	(F)	Addressed by technical change (counted under k disposition)			
<b>(check if applicable)</b>	<input type="checkbox"/>	Comment generated. See Section V-(ii) Comment # X.				

This table is needed for each Negative.

## Negative 2

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.			
	Negative Text	2. If they can be shown to be significantly different then they need to be defined herein (please use correct format) and later moved to SEMI M59 (with suitable corrections to the existing bow definition).			
TF input (optional)					
Withdrawal (check one)	<input checked="" type="checkbox"/>	No Negative withdrawal made by Voter.		GO TO "Related" subsection	
	<input type="checkbox"/>	Withdrawal document received by Standards staff on MM/DD/YYYY.		GO TO "Final" subsection → (A)	
Related	Motion and Reason (check one)	<input checked="" type="checkbox"/>	'Related' is mutually agreed upon. (Needs no motion.)		GO TO "Persuasive" subsection
		<input type="checkbox"/>	Negative is not related. (Needs ≥2/3 votes to pass.)		
		Reason	XXXX		
	Motion by/ 2 <sup>nd</sup> by	Name (Company)/Name (Company)			
	Discussion				
	Result of Vote (check one)	XX Y-XX N; Motion passed/failed.			
<input type="checkbox"/>		[Negative is not related.] < 2/3		GO TO "Persuasive" subsection	
<input type="checkbox"/>	2/3 ≤ [Negative is not related.]		GO TO "Final" subsection → (B)		
Persuasive	Motion and Reason (check one)	<input type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)		
		<input checked="" type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)		
		Reason	There is a systematic difference between the two metrics that can be greater than reproducibility therefore they are distinct		
	Motion by/ 2 <sup>nd</sup> by	Noel Poduje (SMS)/Kurt Haller (KLA-Tencor)			
	Discussion				
	Result of Vote (check one)	10 Y-0 N; Motion passed.			
<input type="checkbox"/>		[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input type="checkbox"/>	Y GO TO "Address by Technical Change Option" subsection
<input type="checkbox"/>		[Negative is related and not persuasive.] < 2/3		<input type="checkbox"/>	N GO TO "Final" subsection → (E)
<input type="checkbox"/>	2/3 ≤ [Negative is related and not persuasive.] < 90%		GO TO "Final" subsection → (C)		

		<input checked="" type="checkbox"/>	90% ≤ [Negative is related and not persuasive.]	GO TO “Not Significant Finding Option” subsection	
Not Significant Finding Option	This option can be used only “if the TC Chapter finds a Negative not persuasive by a vote equal to or greater than 90% of the persons voting on the action”. (Regulations ¶ 9.6.4.4.2)				
	Use of “Not significant finding option” (check one)	<input checked="" type="checkbox"/>	It is mutually agreed upon to term the Negative “not significant”.	GO TO “Final” subsection → (D)	
		<input type="checkbox"/>	It is mutually agreed upon to term the Negative “significant”.	GO TO “Final” subsection → (C)	
		<input type="checkbox"/>	Whether or not the Negative is “not significant” is decided by a vote.		
	Motion	The Negative is “not significant”.			
	Motion by/ 2 <sup>nd</sup> by	Name (Company)/Name (Company)			
	Vote	<input type="checkbox"/>	XX Y-XX N; Motion passed with simple majority	GO TO “Final” subsection → (D)	
<input type="checkbox"/>		XX Y-XX N; Motion failed with simple majority	GO TO “Final” subsection → (C)		
Final	(check if applicable)	<input type="checkbox"/>	(A)	Withdrawn (counted under h in disposition)	
		<input type="checkbox"/>	(B)	Not related (counted under i in disposition)	
		<input type="checkbox"/>	(C)	Related and not persuasive (significant)	
		<input checked="" type="checkbox"/>	(D)	Not significant (counted under j in disposition)	
		<input type="checkbox"/>	(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
		<input type="checkbox"/>	(F)	Addressed by technical change (counted under k disposition)	
	(check if applicable)	<input type="checkbox"/>	Comment generated. See Section V-(ii) Comment # X.		

### Negative 3

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.		
	Negative Text	3. The two types of bow, if retained, also need to be added to Table 1 of SEMI M1; this would allow the purchaser of silicon wafers to specify which bow was desired. Also they should be discussed in Appendix 3 and Related Information 4 of SWMI M1. At present, only one type of bow is included in these locations.		
		*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.		
	TF input (optional)			
Withdrawal (check one)	<input checked="" type="checkbox"/>	No Negative withdrawal made by Voter.		GO TO “Related” subsection
	<input type="checkbox"/>	Withdrawal document received by Standards staff on MM/DD/YYYY.		GO TO “Final” subsection → (A)
Related Motion and Reason (check one)	<input type="checkbox"/>	‘Related’ is mutually agreed upon. (Needs no motion.)		GO TO “Persuasive” subsection
	<input checked="" type="checkbox"/>	Negative is not related. (Needs ≥2/3 votes to pass.)		

		Reason	because it is not part of the ballot	
	Motion by/ 2 <sup>nd</sup> by	Noel Poduje (SMS)/Len Perroots (SuperSight)		
	Discussion	A SNARF will be proposed for M1 revision by the appropriate task force.		
	Result of Vote (check one)	9 Y-0 N; Motion passed.		
		<input type="checkbox"/> [Negative is not related.] < 2/3	GO TO "Persuasive" subsection	
		<input checked="" type="checkbox"/> $2/3 \leq$ [Negative is not related.]	GO TO "Final" subsection → (B)	
Final	(check if applicable)	<input type="checkbox"/> (A)	Withdrawn (counted under h in disposition)	
		<input checked="" type="checkbox"/> (B)	Not related (counted under i in disposition)	
		<input type="checkbox"/> (C)	Related and not persuasive (significant)	
		<input type="checkbox"/> (D)	Not significant (counted under j in disposition)	
		<input type="checkbox"/> (E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
		<input type="checkbox"/> (F)	Addressed by technical change (counted under k disposition)	
	(check if applicable)	<input type="checkbox"/>	Comment generated. See Section V-(ii) Comment # X.	

### Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

3	Original number (#) of Negatives	(g)	
#	Number of Negatives withdrawn	(h)	
1	Number of Negatives found not related	(i)	
2	Number of Negatives found not significant	(j)	
#	Number of Negatives addressed by technical change (Negative becomes not significant)	(k)	
Final	<input checked="" type="checkbox"/>	$g - (h + i + j + k) = 0$	Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check
	<input type="checkbox"/>	$g - (h + i + j + k) > 0$	Reject is included in the denominator of § VI. Approval Conditions Check
	<input type="checkbox"/>	Reject without a Negative	Not Valid

Note: If all of the Negatives included with a Reject Vote are withdrawn, determined to be not related, or determined to be not significant, the Reject Vote is not valid. (Regulations ¶ 9.4.3.3)

Note: A Negative addressed by a technical change is automatically considered to be not significant. (Regulations ¶ 9.6.4.4.2)



## Line Item 2 Adjudication

### II. Tally

Standards staff to fill in.

**Voting Tally: As-cast tally after close of voting period**

**Note: A minimum of 60% of the Voting Interests that have TC Members within the global technical committee that issued the Letter Ballot must return Votes. (Regulations ¶ 9.7.1.1)**

**Voting Tally:**

Voting Interest:	Returned Votes	Distribution	Return Rate	
Letter Ballot	52	86	60.5%	≥60%
Intercommittee Ballot	31			
Voting Interest Reject(s)	0	Total Voters with Rejects		0
Voting Interest Accept(s)	36			

**Note: See Regulations § 3.2.1 for definition of Voting Interest.**

### III. Rejects

None

### IV. Other Technical Issues

### V. Comments

None

### V-(ii) Comments Created by Handling Negative

None

### VI. Editorial Changes Other than Those Voted on in § V

**Original section/paragraph number and at least one full sentence are required in “FROM” and “TO” fields.**  
None

### VII. Approval Conditions Check

#### VII. - (i). Approval Rate

**APPROVAL CONDITION 1: All Negatives have been discussed and were withdrawn, found not related, found not persuasive, or addressed by a technical change. (Regulations ¶ 9.7.1.2)**

**APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (Regulations ¶ 9.7.1.3)**



Note: If both approval conditions are not satisfied, the Document fails.

		Accepts		(Accepts + Valid Rejects)					
Approval Rate	=	36	/	36	=	100.0%		≥90%	

### VII. – (ii) Approval Level (check one)

Note: See Regulations § 9.7.2 for further information.

**Globally Approved (No Ratification Ballot needed):**

Line Item 2 meets the Letter Ballot approval conditions for the global technical committee.

**Need a Ratification Ballot:**

Line Item 2 meets the Letter Ballot approval conditions for the TC Chapter and a Ratification Ballot will be issued to validate technical changes.

### Checks for Entire Document Including All Approved Line Items

### VIII. Safety Check

Note: This Safety check applies to the entire Standard or Safety Guideline including all the approved Line Items. See § 15 of the Regulations for further information.

Motion	<input checked="" type="checkbox"/>	This is not a Safety Document, when all safety-related information is removed, the Document is still technically sound and complete. (Regulations ¶ 8.7.1)
	<input type="checkbox"/>	This is a Safety Document, when all safety-related information is removed, the Document is not technically sound and complete. (Regulations ¶ 8.7.2)
	<input type="checkbox"/>	Safety Checklist (Regulations ¶ 15.3) is complete and has been included with the Document throughout the balloting process. (Regulations ¶ 15.1.2)
Motion by/2 <sup>nd</sup> by		Tetsuya Nakai (SUMCO)/Fritz Passek (Siltronic)
Discussion		XXXX
Vote		9 Y-0 N

## IX. Intellectual Property (IP) Check

**Note:** This IP check applies to the entire Standard or Safety Guideline including all the approved Line Items. See § 16 of the *Regulations* for further information.

x	The TC Chapter meeting chair asked those participating, if they were aware of any potentially material patented technology or copyrighted items* in the Standard or Guideline. ( <i>Regulations</i> ¶ 8.8.1)	
x	No potentially material patented technology or reproduction of copyrighted items is known.	GO TO SECTION X.
	Potentially material patented technology or reproduction of copyrighted items is known, but a Letter of Assurance (LOA) or copyright release letter for such items has been obtained or presented to the TC Chapter.	GO TO SECTION X.
	Potentially material patented technology or reproduction of copyrighted items is known and use of such materials is technically justified by the TC Chapter, but an LOA or copyright release letter for some of the item(s) has NOT been obtained or presented to the TC Chapter.	
Motion	<input type="checkbox"/>	Ask ISC for special permission to publish.
	<input type="checkbox"/>	Quit activity.
	<input type="checkbox"/>	Wait for LOA for patented technology or release of copyrighted items.
	<b>Motion by/2<sup>nd</sup> by</b>	Name (Company)/Name (Company)
	<b>Discussion</b>	XXXX
	<b>Vote</b>	XX Y-XX N
	<b>Final Action</b>	<input type="checkbox"/> Motion passed
		<input type="checkbox"/> Motion failed

\* **Note:** Such potentially material patented technology or copyrighted items might have become known since the Standard or Safety Guideline was last reviewed, or might become relevant due to this Letter Ballot.

## X. Action for This Document

Motion (Check all applicable items)	x	Line item(s) [1] and [2] passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review.
		Line item(s) [X], [X] and [X] passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
		Line item(s) [X], [X] and [X] passed TC Chapter review with technical changes and with or without editorial changes and will be forwarded to the ISC A&R SC for procedural review. A Ratification Ballot will be issued to verify the technical changes.
		Line item(s) [X], [X] and [X] failed TC Chapter review and will be returned to the TF for rework.
		Line item(s) [X], [X] and [X] failed TC Chapter review and work will be discontinued.
	<b>Motion by/ 2nd by</b>	Noel Poduje (SMS)/Len Perroots (SuperSight)
	<b>Discussion</b>	XXXX
	<b>Vote</b>	10 Y-0 N
	<b>Final Action</b>	<input checked="" type="checkbox"/> Motion passed
		<input type="checkbox"/> Motion failed

Standards staff to record the result of the A&R procedural review here:

A&R		Line item(s) [X], [X] and [X] are Approved for publication
		Line item(s) [X], [X] and [X] are Approved pending acceptance of the Ratification Ballot
		Line item(s) [X], [X] and [X] are Not approved
	Reason:	