

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	07/09/2019	07/09/2019
Location	Moscone South Hall, San Francisco, CA	Moscone South Hall, San Francisco, CA
Reason for Change of Date and/or Location (if changed)		

Note: See [Regulations ¶ 9.5](#) Exceptions for allowable reason to change.

Document Information

I. Document Number, Title, Lists of Line Items

Document Number 5834		Document Title Line Item Revision to SEMI M85-1014: Guide for the Measurement of Trace Metal Contamination on Silicon Wafer Surface by Inductively Coupled Plasma Mass Spectrometry
List of Line Items	Line Item 1	Line Item Title Adding some explanations to 10.1.7
	Line Item 2	Line Item Title Adding some explanation to NOTE 4
	Line Item 3	Line Item Title Changing some words in 12.3.1
	Line Item 4	Line Item Title Changing some words in 12.3.2

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 ¶ 9.6.2.1.1)

Voting Tally:

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	58	÷	90	=	64.4%	≥60%
Intercommittee Ballot	42					
Voting Interest Reject(s)	0		Total Voters with Rejects			0
Voting Interest Accept(s)	47					

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

III. Rejects

None

IV. Other Technical Issues

Note: TC Chapter may choose to address a technical issue that is not part of a Negative received on a Letter Ballot (i.e., a Comment or a reason not addressed by a Vote response) by handling it as a Negative and finding it related and technically persuasive. The TC Chapter may then fail the Document or address such technical issue by using the procedure defined in *Regulations* § 9.6.1.4.3 to make a technical change to the Document. (*Regulations* ¶ 9.6.1.4.2.5)

None

V. Comments

V- (i) Voters' Comments

Commenter 1 ([Russell, Surjany /Chem Trace](#)) - Comment 1

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.			
	Suggest to add VPD box to 10.1.7			
Action	The TC Chapter agreed to do one of the following actions.			
	*No motion is required in this step.			
	<input type="checkbox"/>	Already addressed by Commenter #, Comment #		
	<input type="checkbox"/>	No further action was taken by the TC Chapter.		
	<input type="checkbox"/>	Refer to the TF for more consideration.		
	<input checked="" type="checkbox"/>	New Business		
	<input type="checkbox"/>	Editorial Change		
	Options for editorial change (check one)	<input type="checkbox"/>	Case 1: No vote in this section: To be included and voted on as a group in § VI. <i>Editorial Changes Other than Those Voted on in § V.</i>	
		<input type="checkbox"/>	Case 2: Voted in this section: Original section number and at least one full sentence are required in "FROM" and "TO" fields.	
	Editorial Changes	1	FROM: Section/Paragraph xxx	
			TO: Section/Paragraph xxx	
Justification (If necessary)				
2		FROM: Section/Paragraph xxx		
		TO: Section/Paragraph xxx		
		Justification (If necessary)		
Motion		To approve above editorial change(s)		
Motion by/2 nd by		Name (Company)/Name (Company)		

Discussion	XXXX
Vote	XX Y-XX N; Motion passed/failed.

This table is needed for each Comment accompanied a Vote

V-(ii) Comments Created by Handling Negative

None

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

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 ¶ 9.6.2.1.2*)

APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations ¶ 9.6.2.1.3*)

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

		Accepts		(Accepts + Valid Rejects)					
Approval Rate	=	47	/	47	=	100.0%		≥90%	

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

Note: See *Regulations § 9.6.2* for further information.

☒

Globally Approved (No Ratification Ballot needed):

Line Item 1 meets the Letter Ballot approval conditions for the global technical committee.

☐

Need a Ratification Ballot:

Line Item 1 meets the Letter Ballot approval conditions for the TC Chapter and a Ratification Ballot will be issued to validate technical changes.

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 ¶ 9.6.2.1.1)

Voting Tally:

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	58	÷	90	=	64.4%	≥60%
Intercommittee Ballot	42					
Voting Interest Reject(s)	0		Total Voters with Rejects			0
Voting Interest Accept(s)	48					

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

III. Rejects

None

IV. Other Technical Issues

None

V. Comments

V- (i) Voters' Comments

Commenter 1 (**John Valley /Nanometrics**) - Comment 1

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.		
	Editorially change 'very carefully' to 'carefully'		
Action	The TC Chapter agreed to do one of the following actions.		
	*No motion is required in this step.		
	<input type="checkbox"/>	Already addressed by Commenter #, Comment #	
	<input type="checkbox"/>	No further action was taken by the TC Chapter.	
	<input type="checkbox"/>	Refer to the TF for more consideration.	
	<input type="checkbox"/>	New Business	

	x	Editorial Change	
	Options for editorial change (check one)		Case 1: No vote in this section: To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.
		x	Case 2: Voted in this section: Original section number and at least one full sentence are required in “FROM” and “TO” fields.
		Editorial Changes	1
TO: Section/Paragraph xxx NOTE 5: In case of being a likelihood of the influence of silicon matrix on the measurement, this effect should be removed. However, the additional process step also includes a risk of contamination of the respective sample. Thus, the Si matrix removal should be done very carefully to avoid any contamination.			
Justification (If necessary)			
Motion		To approve above editorial change(s)	
Motion by/2 nd by		Kurt Haller (KLA)/Tetsuya Nakai (SUMCO)	
Discussion		None	
Vote		9 Y-0 N; Motion passed	

V-(ii) Comments Created by Handling Negative None

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

None other than listed in above section V- (i)

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 ¶ 9.6.2.1.2*)

APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations ¶ 9.6.2.1.3*)

		Accepts		(Accepts + Valid Rejects)				
Approval Rate	=	48	/	48	=	100.0%	≥90%	

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

Note: See *Regulations § 9.6.2* 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.

Line Item 3 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 ¶ 9.6.2.1.1)

Voting Tally:

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	58	÷	90	=	64.4%	≥60%
Intercommittee Ballot	42					
Voting Interest Reject(s)	0		Total Voters with Rejects			0
Voting Interest Accept(s)	47					

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

III. Rejects

None

IV. Other Technical Issues

None

V. Comments

V- (i) Voters' Comments

None

V-(ii) Comments Created by Handling Negative

None

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

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* ¶ 9.6.2.1.2)

APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations* ¶ 9.6.2.1.3)

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

		Accepts		(Accepts + Valid Rejects)					
Approval Rate	=	47	/	47	=	100.0%		≥90%	

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

Note: See *Regulations* § 9.6.2 for further information.

☒

Globally Approved (No Ratification Ballot needed):

Line Item 3 meets the Letter Ballot approval conditions for the global technical committee.

☐

Need a Ratification Ballot:

Line Item 3 meets the Letter Ballot approval conditions for the TC Chapter and a Ratification Ballot will be issued to validate technical changes.

Line Item 4 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 ¶ 9.6.2.1.1)

Voting Tally:

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	58	÷	90	=	64.4%	≥60%
Intercommittee Ballot	42					
Voting Interest Reject(s)	1		Total Voters with Rejects			1
Voting Interest Accept(s)	49					

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


III. Rejects

Voting Interest Reject 1 (Voting Interest Name: CoLa)

Voter Reject 1 (Voter: Laszlo, Fabry/CoLa)

Negative 1

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary.
	Negative Text	Please add an item concerning matrix interferences like §3.7 of PV 49.

TF input (optional)		<p>This comment need to confirm PV49 and discuss at JTF because this is technical issue. PV49 §3.7 description as below, § 3.7 Mass and molecular interferences can introduce bias if the instrument mass resolution, or subsequent detection scheme, is not sufficient to exclude the interference. A discussion of well-known matrix interferences may be seen in Shabani, et al. Mater. Sci. Eng. B 2003, Vol. 102 pp.238–246.</p> <p>However, scope of SNARF described as below, § 12.3.1 and § 12.3.2: Here, a unique way is described for calculating detection limit and quantification limit, respectively. There are, however, alternative options to determine these two limits. We thus suggest to either use the wording "can be determined" or "One possibility to determine..." or to further discuss how to take into account those alternative options, which are common industry practice.</p> <p>Regarding your comment content, JTF think that Note 9 should be emphasized the importance of such discussion.</p> <p>Example for: NOTE 9: Quantification limit is an important parameter for comparison of measurement data between the facilities. It should be referred to if necessary. In addition, affect of the Si matrix (may be seen in Shabani, et al. Mater. Sci. Eng. B 2003, Vol. 102 pp.238–246) should be considered carefully.</p>			
		<div style="text-align: right;">  RE For the comment of Doc583 </div> <p>Then, JTF recommended as New Business with Note 9 revision.</p>			
Withdrawal (check one)		<input type="checkbox"/>	No Negative withdrawal made by Voter.	GO TO "Related" subsection	
		<input checked="" type="checkbox"/>	Withdrawal document received by Standards staff on July/03/2019.	GO TO "Final" subsection → (A)	
Final	(check if applicable)	<input checked="" 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 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.		

This table is needed for each Negative.

Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

1	Original number (#) of Negatives	(g)
1	Number of Negatives withdrawn	(h)
#	Number of Negatives found not related	(i)

#	Number of Negatives found not significant		(j)
#	Number of Negatives addressed by technical change (Negative becomes not significant)		(k)
Final	x	$g - (h + i + j + k) = 0$	Reject is Not Valid and is not included in the denominator of § VI. <i>Approval Conditions Check</i>
		$g - (h + i + j + k) > 0$	Reject is included in the denominator of § VI. <i>Approval Conditions Check</i>
		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* ¶ 9.6.1.4.5.2)

IV. Other Technical Issues

None

V. Comments

V- (i) Voters' Comments

None

V-(ii) Comments Created by Handling Negative

None

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

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* ¶ 9.6.2.1.2)

APPROVAL CONDITION 2: At least 90% of the sum of valid Voting Interest Accept and Voting Interest Reject Votes must be Accept. (*Regulations* ¶ 9.6.2.1.3)

		Accepts		(Accepts + Valid Rejects)					
Approval Rate	=	49	/	49	=	100.0%		≥90%	

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

Note: See *Regulations* § 9.6.2 for further information.

☒

Globally Approved (No Ratification Ballot needed):

Line Item 4 meets the Letter Ballot approval conditions for the global technical committee.

☐

Need a Ratification Ballot:

Line Item 4 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	x	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)
		This is a Safety Document, when all safety-related information is removed, the Document is not technically sound and complete. (Regulations ¶ 8.7.2)
		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 nd by		Kurt Haller (KLA)/Ron Sinton (Sinton Instruments)
Discussion		None
Vote		9 Y-0 N; Motion passed

IX. Intellectual Property (IP) Check

Note: This Letter Ballot may cover all or part of a Standard or Safety Guideline. Regardless of the coverage, this IP check applies to the entire Standard or Safety Guideline including all the approved Line Items*. See Regulations § 16 for further information.

x	The TC Chapter meeting chair asked those participating, if they were aware of any patented technology that might be relevant (see Regulations ¶ 16.3.1.1) to the Standard or Safety Guideline; or, any copyrighted items or trademarks that are used/reproduced (see Regulations ¶ 16.4.1.2) in the Standard or Safety Guideline. (Also see, Regulations § 8.8)				
	x	The question is NOT answered in affirmative (No potentially material patented technology or use/reproduction of copyrighted items/trademarks is known.)	GO TO SECTION X.		
		The question is answered in affirmative	Is any of the known IPs a patented technology?	Yes, at least one of them is a patented technology	GO TO IX (a) "Patented Technology" subsection
				No	GO TO IX (b) "Copyright items" subsection

IX(a) Patented Technologies subsection

IX(a1) Total numbers of Patented Technologies to be dealt with

# Fill number	(l) Known Patented Technology that might be relevant to the Standard/Safety Guideline	# Fill number	(m) Number of patented technologies first became known to the TC Chapter on or after the day of the issuance of this Letter Ballot	Postpone assessment of such patented technologies to be performed at the next scheduled TC Chapter meeting.
		#	(n) Number of patented technologies first became known to	GO TO IX (a2)

		Fill number	the TC Chapter before the day of the issuance of this Letter Ballot	
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IX(a2) Assessment of disclosed patented technologies

Disclosed patented technology #1 (Brief description, e.g., patent title and number):			Date of Assessment (If different from the date of Letter Ballot adjudication) MM/DD/YYYY		
Is disclosed patented technology #1 found to be "might be material" to the Standard/Safety Guideline?		YES (It is a PMPT)	Is the use of this PMPT technically justified?	YES	PROCEED to assess NEXT one, or if this is the last one, GO TO IX(a3)
				NO	The Document is failed and returned to the TF
			NO	No further action is needed for patented technology #1	

This table is needed for each disclosed patented technology.

IX(a3) LOA status check of PMPT of which inclusion assessed to be justified

LOA Status of PMPT #1					
Has an LOA for this patented technology been received from every owner ?		YES	PROCEED to check NEXT one, or if this is the last one, GO TO IX(b)		
		NO	MOTION	Ask ISC for special permission to publish.	The Document is failed and returned to the TF
				Quit activity.	
				Wait for LOA	
			Motion by/ 2 nd by		Name (Company)/Name (Company)
			Discussion		XXXX
			Vote		XX Y-XX N; Motion passed (or failed)

This table is needed for each PMPT of which inclusion assessed to be justified.

IX(b1) Total numbers of copyrighted items to be dealt with

# Fill number	(o) Known copyrighted items that are used or reproduced to the Standard/Safety Guideline	o > 0 There is at least one known copy righted items that might be relevant to the Standard/Safety Guideline	GO TO IX (b2)
		o = 0 There is no disclosed copyrighted item	GO TO IX (c)

IX(b2) Assessment of disclosed copyrighted items

Disclosed copyrighted item #1 (Brief description of its use in the Document):					
Is disclosed copyrighted item #1 used or reproduced in the Standard/Safety Guideline?		YES	Is the use/reproduction of this copyrighted item technically justified?	YES	PROCEED to assess NEXT one, or if this is the last one, GO TO IX(b3)
				NO	The Document is failed and returned to the TF
		NO	No further action is needed for copyrighted item #1		

This table is needed for each disclosed copyrighted item.

IX(b3) Copyright release status check of copyrighted item of which inclusion assessed to be justified

Copyright release Status of copyrighted item #1						
Has the copyright release been received from its owner ?.		YES	PROCEED to assess NEXT one, or if this is the last one, GO TO IX(c)			
		NO	MOTION		Ask ISC for special permission to publish.	
					Quit activity.	The Document is failed and returned to the TF
					Wait for copyright release letter	PROCEED to check NEXT one, or if this is the last one, GO TO IX(c)
			Motion by/ 2 nd by		Name (Company)/Name (Company)	
			Discussion		XXXX	
			Vote		XX Y-XX N; Motion passed (or failed)	

This table is needed for each copyrighted item of which use/reproduction assessed to be justified.

IX(c) Assessment of disclosed (identified) trademark

Is there any trademark in the Standard/Safety Guideline?		YES	Is every instance of trademark use technically justified?	YES	GO TO IX(d)
				NO	The Document is failed and returned to the TF
		NO	GO TO IX(d)		

IX(d) IP check completion condition check

The co-chair checks if any Patented Technologies first become known to the TC Chapter on or after the day of the issuance of this Letter Ballot? i.e., m>0 in IX(a1)		YES	Sections IX(a2) and IX(a3) shall be completed and recorded for such patented technologies at next scheduled meeting of the TC Chapter. Until then, the TC Chapter shall NOT go to X (making motion to pass/fail this Document) (see Regulations ¶ 16.4.1.2) Until then this Letter Ballot Review is on hold.		
		NO	GO TO X		

X. Action for This Document

Motion (Check all applicable items)	<input checked="" type="checkbox"/>	Line item(s) [1], [3] and [4] passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review.
	<input checked="" type="checkbox"/>	Line item(s) [2] passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
	<input type="checkbox"/>	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.
	<input type="checkbox"/>	Line item(s) [X], [X] and [X] failed TC Chapter review and will be returned to the TF for rework.
	<input type="checkbox"/>	Line item(s) [X], [X] and [X] failed TC Chapter review and work will be discontinued.
Motion by/ 2nd by		Tetsuya Nakai (SUMCO)/Ron Sinton (Sinton Instruments)
Discussion		None
Vote		10 Y-0 N
Final Action	<input checked="" type="checkbox"/>	Motion passed
	<input type="checkbox"/>	Motion failed

Note: If the use of PMPT or copyrighted item is justified by the TC Chapter, LOA or release form must be received before publication can proceed.