

Record of Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: **North America**

Global Technical Committee: **3D Packaging & Integration**

TC Chapter Cochairs: **Richard Allen (NIST), Chris Moore (Covalent Metrology), Sesh Ramaswami (Applied Materials)**

Standards Staff: **Laura Nguyen**

	Scheduled in Background Statement	Actual
Date	04/04/2019	04/04/2019
Location	SEMI HQ, Milpitas, CA/USA	SEMI HQ, Milpitas, CA/USA
Reason for Change of Date and/or Location (if changed)		

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

I. Document Number and Title

Document Number 6332A	Document Title New Standard: Specification for Panel Substrate Characteristics for Panel Level Packaging (PLP) Applications
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II. Tally

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 (with example values):

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	72	÷	110	=	65.5%	≥60%
Intercommittee Ballot	35					
Voting Interest Reject(s)	2		Total Voters with Rejects			2
Voting Interest Accept(s)	53					

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

III. Rejects

Voting Interest Reject 1 (Voting Interest Name: TEL)

Voter Reject 1 (Voter: Supika Mashiro/Tokyo Electron Ltd.)

Negative 1

Negative	Referenced Section/ Paragraph	Paragraph 1.2					
	Negative Text	<p>Negative: The second sentence of 1.2 is not written to describe the purpose of the Document or explain the purpose.</p> <p>[Suggestion] Either move the sentence to the Background Statement or change it something in the meaning of 'With such standardized dimensions, investigation on numerous panel sizes, consequent delay of the introduction of the technology, and resulting customization of equipment and processes for each panel size are expected to be prevented.</p>					
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				
Persuasive	Motion and Reason (check one)	<input checked="" type="checkbox"/>	Negative is related and persuasive. (Needs >1/3 votes to pass.)				
		<input type="checkbox"/>	Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)				
		Reason	XXXX				
	Motion by/ 2 nd by	Stefan Radloff (Intel) / Cristina Chu (ASM-NEXX)					
	Discussion	Non.					
	Result of Vote (check one)	5 Y 0 N; Motion passed.					
		<input checked="" type="checkbox"/>	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" 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 type="checkbox"/>	90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection					

Address by Technical Change Option		Technical Change Recommendations Original section/paragraph number and at least one full sentence are required in “FROM” and “TO” fields.				
		Technical Changes	1	FROM: Section/Paragraph 1.2 1.2 To permit common processing equipment, standardized panel (largest external) dimensions (whether with or without process carrier) are essential. As this technology has developed, numerous panel sizes are being investigated delaying the introduction of the technology and requiring customization of equipment and processes for each panel size.		
				TO: Section/Paragraph 1.2, 1.3 1.2 To permit common processing equipment, standardized panel (largest external) dimensions (whether with or without process carrier) are essential. As this technology has developed, numerous panel sizes are being investigated delaying the introduction of the technology and requiring customization of equipment and processes for each panel size. 1.3 <u>To accelerate the adoption of panel level packaging by eliminating the need to customize equipment and processes for a variety of panel sizes.</u>		
				Justification (if necessary)		
				Motion Negative is addressed by the technical change(s).		
		Motion by/2nd by Stefan Radloff (Intel) / Cristina Chu (ASM-NEXX)				
		Discussion None.				
		Result of Vote (check one) <div> <input checked="" type="checkbox"/> 5 Y 0 N; Motion passed. </div> <div> <input type="checkbox"/> 2/3 ≤ [Negative is addressed by the technical change(s).] </div> <div> <input type="checkbox"/> [Negative is not addressed by the technical change(s).] < 2/3 </div>				
		GO TO “Incorporation of the Technical Change” subsection				
		GO TO “Final” subsection → (E)				
Incorporation of the Technical Change		Motion To incorporate the technical change(s).				
		Motion by/2nd by Stefan Radloff (Intel) / Cristina Chu (ASM-NEXX)				
		Discussion None.				
		Result of Vote (check one) <div> <input checked="" type="checkbox"/> 5 Y 0 N; Motion passed. </div> <div> <input type="checkbox"/> 90% ≤ [Agree to incorporate.] </div> <div> <input type="checkbox"/> [Disagree to incorporate.] > 10% </div>				
GO TO “Final” subsection → (F)						
GO TO “Final” subsection → (E)						
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 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 checked="" 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)
0	Number of Negatives withdrawn		(h)
0	Number of Negatives found not related		(i)
0	Number of Negatives found not significant		(j)
1	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. Approval Conditions Check
		$g - (h + i + j + k) > 0$	Reject is included in the denominator of § VI. Approval Conditions Check
		Reject without a Negative	Not Valid

This table is needed for each Voting Interest Reject.

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*)

Voting Interest Reject 2 (Voting Interest Name: UAA)

Voter Reject 2 (Voter: Larry Hartsough/UA Associates)

Negative 1

Negative	Referenced Section/ Paragraph	Paragraph 6.1		
	Negative Text	N1: In the requirement of 6.1, change 'will' to 'shall'.		
TF input (optional)				
Withdrawal (check one)	X	No Negative withdrawal made by Voter.	GO TO "Related" subsection	
		Withdrawal document received by Standards staff on MM/DD/YYYY.	GO TO "Final" subsection → (A)	
Related	Motion and Reason (check one)	X	'Related' is mutually agreed upon. (Needs no motion.)	GO TO "Persuasive" subsection
			Negative is not related. (Needs ≥2/3 votes to pass.)	
		Reason	XXXX	
Persuasive	Motion and Reason (check one)	X	Negative is related and persuasive. (Needs >1/3 votes to pass.)	
			Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)	
		Reason	XXXX	

Address by Technical Change Option	Motion by/ 2 nd by		Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)					
	Discussion		None.					
	Result of Vote (check one)		5 Y 0 N; Motion passed.					
			<input checked="" type="checkbox"/>	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input checked="" 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 type="checkbox"/>	90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection			
	Technical Change Recommendations Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.							
	Technical Changes	1	FROM: Section/Paragraph 6.1 6.1 Panel material purchased or fabricated according to this specification will have the largest external dimensions of:					
			TO: Section/Paragraph 6.1 6.1 Panel material purchased or fabricated according to this specification shall will have the largest external dimensions of:					
Justification (if necessary)								
Motion		Negative is addressed by the technical change(s).						
Motion by/2 nd by		Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)						
Discussion		None.						
Result of Vote (check one)		5 Y 0 N; Motion passed.						
		<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).]	GO TO "Incorporation of the Technical Change" subsection				
		<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3	GO TO "Final" subsection → (E)				
Incorporation of the Technical Change	Motion		To incorporate the technical change(s).					
	Motion by/2 nd by		Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)					
	Discussion		None.					
	Result of Vote (check one)		5 Y 0 N; Motion passed.					
			<input checked="" type="checkbox"/>	90% ≤ [Agree to incorporate.]	GO TO "Final" subsection → (F)			
<input type="checkbox"/>	[Disagree to incorporate.] > 10%	GO TO "Final" subsection → (E)						
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)				

		(D)	Not significant (counted under j in disposition)	
		(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS
	X	(F)	Addressed by technical change (counted under k disposition)	
	(check if applicable)		Comment generated. See Section V-(ii) Comment # X.	

This table is needed for each Negative.

Voter Reject 2 (Voter: Larry Hartsough/UA Associates)

Negative 2

Negative	Referenced Section/ Paragraph	Paragraph 6.2					
	Negative Text	N2: in the requirement of 6.2, change 'is' to 'shall be'.					
TF input (optional)							
Withdrawal (check one)	X	No Negative withdrawal made by Voter.		GO TO "Related" subsection			
		Withdrawal document received by Standards staff on MM/DD/YYYY.		GO TO "Final" subsection → (A)			
Related	Motion and Reason (check one)	X	'Related' is mutually agreed upon. (Needs no motion.)		GO TO "Persuasive" subsection		
			Negative is not related. (Needs ≥2/3 votes to pass.)				
		Reason	XXXX				
Persuasive	Motion and Reason (check one)	X	Negative is related and persuasive. (Needs >1/3 votes to pass.)				
			Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)				
		Reason	XXXX				
	Motion by/ 2 nd by	Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)					
	Discussion	None.					
	Result of Vote (check one)	5 Y 0 N; Motion passed.					
		X	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	X	Y	GO TO "Address by Technical Change Option" subsection
			[Negative is related and not persuasive.] < 2/3			N	GO TO "Final" subsection → (E)
		2/3 ≤ [Negative is related and not persuasive.] < 90%	GO TO "Final" subsection → (C)				
	90% ≤ [Negative is related and not persuasive.]	GO TO "Not Significant Finding Option" subsection					
Add res	Technical Change Recommendations Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.						

Technical Changes	1	FROM: Section/Paragraph 6.2			
		6.2 For conveyor based equipment, the shorter edge of the panel (e.g., 510 mm) if appropriate) is the leading edge.			
		TO: Section/Paragraph 6.2			
	6.2 For conveyor based equipment, the shorter edge of the panel (e.g., 510 mm <u>× 515 mm</u>) if appropriate) is <u>shall be</u> the leading edge. <u>(not applicable to square 600 mm × 600 mm).</u>				
		Justification (If necessary)			
Motion		Negative is addressed by the technical change(s).			
Motion by/2 nd by		Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)			
Discussion		None.			
Result of Vote (check one)		5 Y 0 N; Motion passed.			
		<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).]	GO TO "Incorporation of the Technical Change" subsection	
		<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3	GO TO "Final" subsection → (E)	
Incorporation of the Technical Change	Motion		To incorporate the technical change(s).		
	Motion by/2 nd by		Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)		
	Discussion		None.		
	Result of Vote (check one)		5 Y 0 N; Motion passed.		
<input checked="" type="checkbox"/>			90% ≤ [Agree to incorporate.]	GO TO "Final" subsection → (F)	
<input type="checkbox"/>			[Disagree to incorporate.] > 10%	GO TO "Final" subsection → (E)	
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 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 checked="" 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 2

Check only when the Document has not been failed.

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

0	Number of Negatives found not significant		(j)
2	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

IV. Other Technical Issues

None

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)

Technical Issue	Origin	*TF/TC Chapter to choose Commenter 1 Comment 2 (Voter: Larry Hartsough/UAA)		
	Referenced Section/ Paragraph	*TF/TC Chapter to fill in including text in the ballot as appropriate. 5.2.2, 5.2.3		
	Reason	*Original Comment text, if applicable, and problem statement, including justification and suggestion, should be copied. C1: the distinction between the definitions in 5.2.2 and 5.2.3 is unclear to me.		
Handle technical issue identified above as a Negative.				
Related	Motion and Reason (check one)	X	'Related' is mutually agreed upon. (Needs no motion.)	GO TO "Persuasive" subsection
			Negative is not related and assigned to TF. (Needs ≥2/3 votes to pass.)	
			Negative is not related and placed on agenda of current TC Chapter meeting as new business. (Needs ≥2/3 votes to pass.)	
			Reason	XXXX
			2/3 ≤ [Negative is not related] and placed on agenda of current TC Chapter meeting as new business.	
Persuasive	Motion and Reason (check one)	X	Negative is related and persuasive. (Needs >1/3 votes to pass.)	
			Negative is related and not persuasive. (Needs ≥2/3 votes to pass.)	
			Reason	XXXX
	Motion by/ 2 nd by	Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)		
	Discussion	None.		
	5 Y 0 N; Motion passed.			

Result of Vote (check one)	X	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	X	Y	GO TO “Address by Technical Change Option” subsection
		[Negative is related and not persuasive.] < 2/3			N	GO TO “Final” subsection → (E)
		2/3 ≤ [Negative is related and not persuasive.] < 90%		GO TO “Final” subsection → (C)		

Address by Technical Change Option	Technical Changes	1	Technical Change Recommendations Original section/paragraph number and at least one full sentence are required in “FROM” and “TO” fields.		
			FROM: Section/Paragraph Title, 5 BEFORE		
			New Standard: SPECIFICATION FOR PANEL SUBSTRATE CHARACTERISTICS FOR PANEL LEVEL PACKAGING (PLP) APPLICATIONS		
			5 Terminology		
			5.1 Abbreviations and Acronyms		
			5.1.1 FO-PLP — fan-out panel level packaging		
			5.1.2 PLP — panel level packaging		
			5.2 Definitions		
			5.2.1 process carrier — a device or material, usually Si, ceramic, glass, or metal, that provides temporary mechanical support to hold one or more panels during processing.		
			NOTE 1: In front end applications and most SEMI Standards, the term “carrier” is understood to mean any cassette, box or pod that is used to transport and store substrates. In most back end or packaging applications, the same term “carrier” is used to describe the material that provides temporary mechanical support for the substrate during processing. To minimize confusion, the term “process carrier” is used in this Standard for the back-end application.		
5.2.2 panel — the rectangular base material to implement panel level packaging processes.					
5.2.3 panel substrate — the rectangular starting material (often epoxy or glass) that can be used to implement panel level packaging processes.					
5.2.4 PLP substrate — an alternative definition of ¶ 5.2.3.					
5.2.5 PLP substrate carrier — an alternative definition of ¶ 5.2.1.					
TO: Section/Paragraph Title, 5 AFTER					
New Standard: SPECIFICATION FOR PANEL SUBSTRATE CHARACTERISTICS FOR PANEL LEVEL PACKAGING (PLP) APPLICATIONS					
5 Terminology					
5.1 Abbreviations and Acronyms					
5.1.1 FO-PLP — fan-out panel level packaging					
5.1.2-5.1.1 PLP — panel level packaging					
5.2 Definitions					
5.2.1 process carrier — a device or material, usually Si, ceramic, glass, or metal, that provides temporary mechanical support to hold one or more panels during processing.					
NOTE 1: In front end applications and most SEMI Standards, the term “carrier” is understood to mean any cassette, box or pod that is used to transport and store substrates. In most back end or packaging applications, the same term “carrier” is used to describe the material that provides temporary mechanical support for the substrate during processing. To minimize confusion, the term “process carrier” is used in this Standard for the back-end application.					
5.2.2 panel — the rectangular base material to implement panel level packaging processes.					
5.2.3 panel substrate — the rectangular starting material (often epoxy or glass) that can be used to implement panel level packaging processes.					
5.2.4 PLP substrate — an alternative definition of ¶ 5.2.3.					
5.2.5 PLP substrate carrier — an alternative definition of ¶ 5.2.1.					
Justification (If necessary) Removed fan-out panel level packaging from the document to align with the FOUP panel task force.					
Motion		Negative is addressed by the technical change(s).			
Motion by/2 nd by		Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)			
Discussion		None.			

	Result of Vote (check one)		5 Y 0 N; Motion passed.			
			X	2/3 ≤ [Negative is addressed by the technical change(s).]	GO TO “Incorporation of the Technical Change” subsection	
				[Negative is not addressed by the technical change(s).] < 2/3	GO TO “Final” subsection → (E)	
	Incorporation of the Technical Change	Motion		To incorporate the technical change(s).		
		Motion by/2 nd by		Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)		
		Discussion		None.		
		Result of Vote (check one)		5 Y 0 N; Motion passed.		
X				90% ≤ [Agree to incorporate.]	GO TO “Final” subsection → (F)	
	[Disagree to incorporate.] >10%			GO TO “Final” subsection → (E)		
Final	(check one)		(B)	Not related		
			(C)	Related and not persuasive		
			(E)	Related and persuasive and not addressed by technical change	DOCUMENT FAILS	
		X	(F)	Addressed by technical change		
	(check if applicable)		Comment generated. See Section V-(ii) Comment # X.			

V. Comments

V- (i) Voters’ Comments

Commenter 1 (Supika Mashiro/TEL) - Comment 1

Comment	Comment/ The second sentence of 1.2 is not grammatically correct. A comma should be inserted after 'being investigated' and after 'introduction of the technology'.			
	The TC Chapter agreed to do one of the following actions.			
Action	*No motion is required in this step.			
	X	Already addressed by Reject 1, Negative 1		
		No further action was taken by the TC Chapter.		
		Refer to the TF for more consideration.		
		New Business		
		Editorial Change		

This table is needed for each Comment accompanied a Vote

Commenter 2 (Larry Hartsough/UA Associates) - Comment 1

Comment	C1: the distinction between the definitions in 5.2.2 and 5.2.3 is unclear to me.			
	A	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 checked="" type="checkbox"/>	No further action was taken by the TC Chapter. Addressed in Section VI, Commenter 2 Comment 1.
	<input type="checkbox"/>	Refer to the TF for more consideration.
	<input type="checkbox"/>	New Business
	<input type="checkbox"/>	Editorial Change

Commenter 2 (Larry Hartsough/UA Associates) - Comment 2

Comment	C2: In 6.2, the parentheses are unbalanced; and, I think changing 'appropriate' to 'applicable' would be more clear.	
	The TC Chapter agreed to do one of the following actions.	
Action	*No motion is required in this step.	
	<input checked="" type="checkbox"/>	Already addressed by Reject 2, Negative 2
	<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
	<input type="checkbox"/>	Editorial Change

Commenter 3 (CC Chang/Powertech) - Comment 1

Comment	Agree with panel size	
	The TC Chapter agreed to do one of the following actions.	
Action	*No motion is required in this step.	
	<input type="checkbox"/>	Already addressed by Commenter #, Comment #
	<input checked="" type="checkbox"/>	No further action was taken by the TC Chapter. TF addressed commenter via email.
	<input type="checkbox"/>	Refer to the TF for more consideration.
	<input type="checkbox"/>	New Business
	<input type="checkbox"/>	Editorial Change

Commenter 4 (Dustin Weng/Powertech) - Comment 1

Comment	Panel size 500mm and 600mm must use FOUPs of different specification	
	The TC Chapter agreed to do one of the following actions.	
Action	*No motion is required in this step.	

	Already addressed by Commenter #, Comment #
X	No further action was taken by the TC Chapter. TF addressed commenter via email.
	Refer to the TF for more consideration.
	New Business
	Editorial Change

Commenter 5 (Thomas Brillouet/RECIP Technologies) - Comment 1

Comment	Not favorable to the 2 different sizes. Only one size should be standardized. (and unfortunately, the 2 proposed sizes do not allow 450mm handling development reuse...)
Action	The TC Chapter agreed to do one of the following actions.
	*No motion is required in this step.
	Already addressed by Commenter #, Comment #
	X No further action was taken by the TC Chapter. TF addressed commenter via email.
	Refer to the TF for more consideration.
	New Business
	Editorial Change

Commenter 6 (Mei-Chien Lu/Monte Rosa Technologies) - Comment 1

Comment	6.2 pointed out a trailing edge shall be identified. what is the guidance for identifying 'trailing edge' for 600x600?
Action	The TC Chapter agreed to do one of the following actions.
	*No motion is required in this step.
	X Already addressed by Reject 2, Negative 2
	No further action was taken by the TC Chapter.
	Refer to the TF for more consideration.
	New Business
	Editorial Change

Commenter 6 (Mei-Chien Lu/Monte Rosa Technologies) - Comment 2

Comment	8 product labeling is explained. but did not explain panel labeling. does analogy to wafer notches or flats and barcodes apply to panel?
Action	The TC Chapter agreed to do one of the following actions.
	*No motion is required in this step.
	Already addressed by Commenter #, Comment #
	X No further action was taken by the TC Chapter. TF addressed commenter via email.

	Refer to the TF for more consideration.
	New Business
	Editorial Change

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	=	53	/	53	=	100.0%		≥90%	

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

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

<input type="checkbox"/>	Globally Approved (No Ratification Ballot needed): The Letter Ballot meets the Letter Ballot approval conditions for the global technical committee.
<input checked="" type="checkbox"/>	Need a Ratification Ballot: The Letter Ballot meets the Letter Ballot approval conditions for the TC Chapter and a Ratification Ballot will be issued to validate technical changes.

VIII. Safety Check

Note: See *Regulations § 15* 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. (<i>Regulations ¶ 8.7.1</i>)
	<input type="checkbox"/>	This is a Safety Document , when all safety-related information is removed, the Document is not technically sound and complete. (<i>Regulations ¶ 8.7.2</i>)
	<input type="checkbox"/>	Safety Checklist (<i>Regulations ¶ 15.3</i>) is complete and has been included with the Document throughout the balloting process. (<i>Regulations ¶ 15.1.2</i>)

Motion by/2nd by	Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)
Discussion	None.
Vote	5 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*. 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 <i>Regulations ¶ 16.3.1.1</i>) to the Standard or Safety Guideline; or, any copyrighted items or trademarks that are used/reproduced (see <i>Regulations ¶ 16.4.1.2</i>) in the Standard or Safety Guideline. (Also see, <i>Regulations § 8.8</i>)			
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

X. Action for This Document

Motion		This Document passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review.
		This Document passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
	X	This Document 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.
		This Document failed TC Chapter review and will be returned to the TF for rework.
		This Document failed TC Chapter review and work will be discontinued.
Motion by/ 2nd by		Cristina Chu (ASM-NEXX) / Stefan Radloff (Intel)
Discussion		None.
Vote		5 Y 0 N
Final Action	X	Motion passed
		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.