

# Record of Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: **North America**

Global Technical Committee: **Metrics**

TC Chapter Cochairs: **David Bouldin (Fab Consulting); Vladimir Kraz (BestESD)  
Mark Frankfurth (Cymer)**

Standards Staff: **Inna Skvortsova**

	Scheduled in Background Statement	Actual
Date	July 12, 2017	July 12, 2017
Location	San Francisco, CA/USA	San Francisco, CA/USA
Reason for Change of Date and/or Location (if changed)		

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

## I. Document Number and Title

Document Number	Document Title
5596A	New Standard: GUIDE TO ASSESS AND MINIMIZE ELECTROMAGNETIC INTERFERENCE (EMI) IN A SEMICONDUCTOR MANUFACTURING ENVIRONMENT

## 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 (with example values):

Voting Interest:	Returned Votes	Distribution	Return Rate	
Letter Ballot	35	÷ 56	= 62.5%	≥60%
Intercommittee Ballot	28			
Voting Interest Reject(s)	1	Total Voters with Rejects		1
Voting Interest Accept(s)	21			

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

### III. Rejects

Voting Interest Reject 1 (Voting Interest Name: **AFF\_Crockett, Alan**)

Voter Reject 1 (Voter: **Crockett, Alan, self**)

Negative 1

Negative	Referenced Section/ Paragraph	<b>*TF/TC Chapter to fill in, including text in the ballot if necessary.</b>			
		Relevant sections of the document: 13.5 Mitigation of Radiated Emission Recommendations 13.6 Mitigation of Conducted Emission Recommendations			
	Negative Text	<b>*Original complete Negative text (e.g., issue, justification, suggestion) should be copied.</b> General: The document seems to assume that there will be problems with equipment that conforms to EMC requiring possible extensive modifications (paragraphs 13.5 & 13.6), and adopts the philosophy that any measurement that can be done must be done. I don't think there is any value to justify the effort and expense.			
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	<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	<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 are no extensive modifications – just the routine reasonable care (e.g., keeping everything in its proper condition, tidying up things) for reduction of EMI. This document is a Guide. Any measurements are recommended, not required.		
	Motion by/ 2 <sup>nd</sup> by	Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)			
	Discussion	Supika Mashiro (TEL) - while "extensive modification" is stated in negative, no extensive modification exists in the document.			
	Result of Vote (check one)	5 Y-0N; 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”. ( <i>Regulations</i> ¶ 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)
		Whether or not the Negative is “not significant” is decided by a vote.	
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)		Comment generated. See Section V-(ii) Comment # X.	

**Negative 2**

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary. Section 11 Measurements	
	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied. Section 11 covers various type of measurement equipment, but no discussion of antennas.	
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	<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.)	
Persuasive	<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	Measurements by antennae are being addressed by referenced appropriate standards such as EN 55022 and others.
	Motion by/ 2 <sup>nd</sup> by	Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)	
Discussion	NONE		
	5 Y-0N; Motion passed.		

Result of Vote (check one)	<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)					
	<input checked="" type="checkbox"/>	Use of "Not significant finding option" (check one)	X	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.		
Final	<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)		
	<input checked="" type="checkbox"/>	(check if applicable)		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. 12.3.3.1.1				
	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied. 12.3.3.1.1 measurements before installation is only really useful if surrounding equipment is installed and operating. If the room is empty whatever you would learn would change every time a new tool were installed.				
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	<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.)				
	<input type="checkbox"/>	Reason	XXXX			

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	Even in an empty FAB there are already power lines, ground and other infrastructure that may affect EMI environment. Also, this section deals with all cases, including where equipment is installed or moved in already populated FAB.			
	Motion by/ 2 <sup>nd</sup> by	Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)				
	Discussion	None				
Result of Vote (check one)	5 Y-0N; 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)	
	Whether or not the Negative is “not significant” is decided by a vote.					
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.			

This table is needed for each Negative.

### Negative 4

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary. 12.3.3.2 before and after maintenance of semiconductor manufacturing equipment, and at least once per year (i.e., repeated annually).				
	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied. 12.3.3.2 good for consultants and test labs, but is this necessary? Is it practical before and after service? Fabs would need qualified experts every day. Is there any ROI for this? I think this is extreme overkill.				
TF input (optional)						
Withdrawal (check one)		<input 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 <sup>nd</sup> by	Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)				
	Discussion					
	Result of Vote (check one)	5Y-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"/>	<input type="checkbox"/>	GO TO "Address by Technical Change Option" subsection
	<input type="checkbox"/>	[Negative is related and not persuasive.] < 2/3		<input type="checkbox"/>	<input checked="" type="checkbox"/>	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	<b>Technical Change Recommendations</b> Original section/paragraph number and at least one full sentence are required in "FROM" and "TO" fields.					

Technical Changes	1	<p><b>FROM: Section/Paragraph 12.3.3</b>  12.3.3 EMI Surveys and Audits should be performed:  12.3.3.1 before installation of semiconductor manufacturing equipment,  12.3.3.1.1 It is recommended that the supplier or the equipment user conduct the EMI power and ground audit portion of an EMI Audit (see SEMI E33 Appendix 2) on the semiconductor manufacturing equipment ground (i.e., ground port) prior to installation of EMI-sensitive semiconductor manufacturing equipment and after installation of all equipment.  12.3.3.2 before and after maintenance of semiconductor manufacturing equipment, and at least once per year (i.e., repeated annually).</p>	
		<p><b>TO: Section/Paragraph 12.3.3</b>  12.3.3 EMI Surveys and Audits should be performed <b>as appropriate:</b>  12.3.3.1 before installation of semiconductor manufacturing equipment,  12.3.3.1.1 It is recommended that the supplier or the equipment user conduct the EMI power and ground audit portion of an EMI Audit (see SEMI E33 Appendix 2) on the semiconductor manufacturing equipment ground (i.e., ground port) prior to installation of EMI-sensitive semiconductor manufacturing equipment and after installation of all equipment.  12.3.3.2 before and after maintenance of semiconductor manufacturing equipment, and at least once per year (i.e., repeated annually).</p>	
		<p><b>Justification (if necessary)</b></p> <p>The way audit is described at the beginning of section 12, it is implied that survey would involve rather intensive measurement. With 12.3.3 and this paragraph, it is indicated both survey and audit are recommended before and after every maintenance in addition to an annual check. And the recommendation could be an over-specification for certain types of maintenances</p>	
<b>Motion</b>		Negative is addressed by the technical change(s).	
<b>Motion by/2<sup>nd</sup> by</b>		Vladimir (Company)/Arnold (Electronics Workshop)	
<b>Discussion</b>		<b>NONE</b>	
<b>Result of Vote (check one)</b>		5 Y-0 N; Motion passed.	
		<input checked="" type="checkbox"/>	2/3 ≤ [Negative is addressed by the technical change(s).] <b>GO TO "Incorporation of the Technical Change" subsection</b>
		<input type="checkbox"/>	[Negative is not addressed by the technical change(s).] < 2/3 <b>GO TO "Final" subsection → (E)</b>
Incorporation of the Technical Change	<b>Motion</b>		To incorporate the technical change(s).
	<b>Motion by/2<sup>nd</sup> by</b>		Vladimir (Company)/Arnold (Electronics Workshop)
	<b>Discussion</b>		<b>NONE</b>
	<b>Result of Vote (check one)</b>		5 Y-0 N; Motion passed.
<input checked="" type="checkbox"/>			90% ≤ [Agree to incorporate.] <b>GO TO "Final" subsection → (F)</b>
<input type="checkbox"/>			[Disagree to incorporate.] > 10% <b>GO TO "Final" subsection → (E)</b>
Final	<b>(check if applicable)</b>	<input type="checkbox"/>	<b>(A)</b> Withdrawn <b>(counted under h in disposition)</b>
		<input type="checkbox"/>	<b>(B)</b> Not related <b>(counted under i in disposition)</b>
		<input type="checkbox"/>	<b>(C)</b> Related and not persuasive (significant)
		<input type="checkbox"/>	<b>(D)</b> Not significant <b>(counted under j in disposition)</b>
		<input type="checkbox"/>	<b>(E)</b> Related and persuasive and not addressed by technical change <b>DOCUMENT FAILS</b>

	<input checked="" type="checkbox"/>	(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.

**Negative 5**

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary. Section 12.1 Overview			
	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied. The survey described in this section appears to be a lot more involved than the EMC testing we do for compliance			
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	<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	<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 voter does not identify what is the problem.		
	Motion by/ 2 <sup>nd</sup> by	Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)			
	Discussion	None			
	Result of Vote (check one)	5 Y-0N; 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	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)				
	<input checked="" type="checkbox"/>	It is mutually agreed upon to term the Negative "not significant".		GO TO "Final" subsection → (D)	



	Use of “Not significant finding option” (check one)	<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.	
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 6

Negative	Referenced Section/ Paragraph	*TF/TC Chapter to fill in, including text in the ballot if necessary. 13.2.1.5 Radiated Emission		
	Negative Text	*Original complete Negative text (e.g., issue, justification, suggestion) should be copied. 13.2.1.5 How do you take a calibrated reading when a standard (i.e. calibrated) antenna will not fit inside the equipment?		
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.)	
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	Such antennae can be easily found. Examples are <a href="http://www.aaronia.com/products/antennas/BicoLOG-20300-X/">http://www.aaronia.com/products/antennas/BicoLOG-20300-X/</a> - the max. dimension is only 330mm (~1.1') This sensor ( <a href="http://www.ets-lindgren.com/HI-6006">http://www.ets-lindgren.com/HI-6006</a> ) is even smaller - 40mm max. dimension.		
	Motion by/ 2 <sup>nd</sup> by	Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)		
	Discussion	None		
Result of Vote (check one)	<input type="checkbox"/>	[Negative is related and persuasive.] > 1/3	Is a technical change recommended? (check one)	<input type="checkbox"/>
			<input checked="" type="checkbox"/>	Y

			[Negative is related and not persuasive.] < 2/3			<b>N</b>	<b>GO TO “Final” subsection → (E)</b>	
			2/3 ≤ [Negative is related and not persuasive.] < 90%	<b>GO TO “Final” subsection → (C)</b>				
		<b>X</b>	90% ≤ [Negative is related and not persuasive.]	<b>GO TO “Not Significant Finding Option” subsection</b>				
<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>	<b>X</b>	It is mutually agreed upon to term the Negative “not significant”.	<b>GO TO “Final” subsection → (D)</b>				
			It is mutually agreed upon to term the Negative “significant”.	<b>GO TO “Final” subsection → (C)</b>				
			Whether or not the Negative is “not significant” is decided by a vote.					
<b>Final</b>	<b>(check if applicable)</b>		<b>(A)</b>	Withdrawn <b>(counted under h in disposition)</b>				
			<b>(B)</b>	Not related <b>(counted under i in disposition)</b>				
			<b>(C)</b>	Related and not persuasive (significant)				
		<b>X</b>	<b>(D)</b>	Not significant <b>(counted under j in disposition)</b>				
			<b>(E)</b>	Related and persuasive and not addressed by technical change	<b>DOCUMENT FAILS</b>			
			<b>(F)</b>	Addressed by technical change <b>(counted under k disposition)</b>				
	<b>(check if applicable)</b>		Comment generated. <b>See Section V-(ii) Comment # X.</b>					

This table is needed for each Negative.

### Disposition of Voting Interest Reject 1

Check only when the Document has not been failed.

<b>6</b>	Original number (#) of Negatives	<b>(g)</b>	
<b>0</b>	Number of Negatives withdrawn	<b>(h)</b>	
<b>0</b>	Number of Negatives found not related	<b>(i)</b>	
<b>5</b>	Number of Negatives found not significant	<b>(j)</b>	
<b>1</b>	Number of Negatives addressed by technical change <b>(Negative becomes not significant)</b>	<b>(k)</b>	
<b>Final</b>	<b>X</b>	$g - (h + i + j + k) = 0$	<b>Reject is Not Valid and is not included in the denominator of § VI. Approval Conditions Check</b>
		$g - (h + i + j + k) > 0$	<b>Reject is included in the denominator of § VI. Approval Conditions Check</b>
		Reject without a Negative	<b>Not Valid</b>

**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)**

## V. Comments

### V- (i) Voters' Comments

#### Commenter 1 (Alan Crockett/Self) - Comment 1

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.			
	Add to paragraph 5.1 the acronym EOS, which is used paragraph 13.2.1.4.			
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)	<input type="checkbox"/>	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	FROM: Section/Paragraph Section 5.1 Abbreviations and Acronyms	
			TO: Section/Paragraph Section 5.1 Abbreviations and Acronyms EOS -- electrical overstress	
Justification (If necessary) Agreed. EOS is already defined in 5.2.2. Add EOS to list of acronyms in section 5.1.				
Motion		To approve above editorial change(s)		
Motion by/2 <sup>nd</sup> by		Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)		
Discussion		None		
Vote		5 Y-0 N; Motion passed.		

#### Commenter 1 (Alan Crockett/Self) - Comment 2

	*TF/TC Chapter to fill in section/paragraph #, if necessary.
--	--

Comment	<p>1) 7.2.2 Change propagating to many equipment." "...many pieces of equipment" would be better grammar. 14.1 also has "many equipment";</p> <p>2) The line under 12.3.3.2 "at least once per year...." needs either its own paragraph number, or to be part of 12.3.3.2</p>	
Action	The TC Chapter agreed to do one of the following actions.	
	*No motion is required in this step.	
		Already addressed by Commenter #, Comment #
		No further action was taken by the TC Chapter.
		Refer to the TF for more consideration.
		New Business
x	Editorial Change	
	Options for editorial change (check one)	<p><b>Case 1: No vote in this section:</b></p> <p>To be included and voted on as a group in § VI. <i>Editorial Changes Other than Those Voted on in § V.</i></p>
		<p><b>Case 2: Voted in this section:</b></p> <p>Original section number and at least one full sentence are required in "FROM" and "TO" fields.</p>
	X	
	Editorial Changes	1
<p><b>TO: Section/Paragraph</b></p> <p>7.2.2 Power and ground wires are the most common conduit of conducted emissions in the facility since they connect the entire facility together. Since power lines and ground connect all of the equipment in a semiconductor manufacturing environment, electrical noise originated in one location is capable of propagating to many <u>pieces of</u> equipment.</p> <p>14.1 Some equipment is compliant with standards and regulations governing EMC (e.g., SEMI E33, EC EMC Directive), however many <u>pieces of</u> equipment are not. The mere fact of compliance with EMC standards and regulations is not a guarantee that this equipment will not produce electrical noise in actual installations.</p>		
2		<p><b>Justification (If necessary)</b></p> <p>English grammar correction.</p> <p><b>FROM: Section/Paragraph</b></p> <p>12.3.3.2 before and after maintenance of semiconductor manufacturing equipment, and at least once per year (i.e., repeated annually).</p>

	<p><b>TO: Section/Paragraph</b> 12.3.3.2 before and after maintenance of semiconductor manufacturing equipment, and <a href="#">12.3.3.3</a> at least once per year (i.e., repeated annually).</p> <p><b>Justification (if necessary)</b> Formatting error fix.</p>
<b>Motion</b>	To approve above editorial change(s)
<b>Motion by/2<sup>nd</sup> by</b>	Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)
<b>Discussion</b>	None
<b>Vote</b>	4 Y-0 N; Motion <a href="#">passed</a> .

**Commenter 1 (Alan Crockett/Self) - Comment 3**

<b>Comment</b>	<b>*TF/TC Chapter to fill in section/paragraph #, if necessary.</b>	
	13.4 the list of related documents is too long to be helpful.	
<b>Action</b>	The TC Chapter agreed to do one of the following actions.	
	<b>*No motion is required in this step.</b>	
	<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)	<p><b>Case 1: No vote in this section:</b> <b>To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.</b></p>
		<p><b>Case 2: Voted in this section:</b> <b>Original section number and at least one full sentence are required in "FROM" and "TO" fields.</b></p>

**Commenter 2 (Larsen, Sean/LAM) - Comment 1**

<b>Comment</b>	<b>*TF/TC Chapter to fill in section/paragraph #, if necessary.</b>	
	We appear to have a formatting issue here Suggestion / Justification Correct as appropriate	
<b>Action</b>	The TC Chapter agreed to do one of the following actions.	
	<b>*No motion is required in this step.</b>	
	<input type="checkbox"/>	Already addressed by Commenter #, Comment #
	<input checked="" type="checkbox"/>	No further action was taken by the TC Chapter.
<input type="checkbox"/>	Refer to the TF for more consideration.	

		New Business
		Editorial Change
	Options for editorial change (check one)	Case 1: No vote in this section: <i>To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.</i>
		Case 2: Voted in this section: Original section number and at least one full sentence are required in "FROM" and "TO" fields.

**Commenter 3 (Tominaga, Tadamasa/Murata) - Comment 1**

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.	
	<p>The sentences are not consistent with the idea and sentences of the leader, and there is a discrepancy.  The sentences are not consistent with the idea and sentences of the leader, and there is a discrepancy. Therefore, it is not accept.  However, This Guide does not apply to manufacturing equipment within the scope of SEMI E33, therefore I abstain from this ballot.</p>	
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.
		Refer to the TF for more consideration.
		New Business
	Editorial Change	
	Options for editorial change (check one)	Case 1: No vote in this section: <i>To be included and voted on as a group in § VI. Editorial Changes Other than Those Voted on in § V.</i>
		Case 2: Voted in this section: Original section number and at least one full sentence are required in "FROM" and "TO" fields.

**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 ¶ 9.7.1.2)**

**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	=	21	/	21	=	100.0%		≥90%	

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

**Note: See Regulations § 9.7.2 for further information.**

**Globally Approved (No Ratification Ballot needed):**  
The Letter Ballot meets the Letter Ballot approval conditions for the global technical committee.

**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 <b>Safety Document</b> , when all safety-related information is removed, the Document is still technically sound and complete. ( <i>Regulations</i> ¶ 8.7.1)
	<input type="checkbox"/>	This is a <b>Safety Document</b> , when all safety-related information is removed, the Document is not technically sound and complete. ( <i>Regulations</i> ¶ 8.7.2)
	<input type="checkbox"/>	Safety Checklist ( <i>Regulations</i> ¶ 15.3) is complete and has been included with the Document throughout the balloting process. ( <i>Regulations</i> ¶ 15.1.2)
<b>Motion by/2<sup>nd</sup> by</b>		Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)
<b>Discussion</b>		None
<b>Vote</b>		4 Y-0 N; Motion <b>passed</b>

## IX. Intellectual Property (IP) Check

**Note:** This Letter Ballot may cover all or part of a Standard or Safety Guideline. This IP check applies to the entire Standard or Safety Guideline. See *Regulations* § 16 for further information.

<input checked="" type="checkbox"/>	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)	
<input type="checkbox"/>	No potentially material patented technology or reproduction of copyrighted items is known.	<b>GO TO SECTION X.</b>

\* **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	<input type="checkbox"/>	This Document passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review.
	<input type="checkbox"/>	This Document passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
	<input checked="" type="checkbox"/>	This Document passed TC Chapter review with technical changes and with 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"/>	This Document failed TC Chapter review and will be returned to the TF for rework.
	<input type="checkbox"/>	This Document failed TC Chapter review and work will be discontinued.
<b>Motion by/2<sup>nd</sup> by</b>		Vladimir Kraz (BestESD)/ Arnold Steinman (Electronics Workshop)
<b>Discussion</b>		NONE
<b>Vote</b>		4 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	<input type="checkbox"/>	Approved for publication
	<input type="checkbox"/>	Approved pending acceptance of the Ratification Ballot
	<input type="checkbox"/>	Not approved
	<b>Reason:</b>	