Record of Letter Ballot Review by TC Chapter for Procedural Review

Region/Locale: Japan
Global Technical Committee: Silicon Wafer
TC Chapter Cochairs: Tetsuya Nakai (SUMCO), Naoyuki Kawai (Meiji University), Ryuji Takeda (GWJ)
Standards Staff: Mami Nakajo

	Scheduled in Background Statement	Actual
Date	07/21/2020	01/15/2021
Location	Moscone Center	Tokyo, Japan
Reason for Change of Date and/or Location (if changed)	COVID-19 pandemic	

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

I. Document Number and Title

Document Number	Document Title
5981	NEW STANDARD: TEST METHOD FOR RECOMBINATION LIFETIME OF THE EPILAYER OF THE SILICON EPITAXIAL WAFER (p/p+, n/n+) BY THE SHORT WAVELENGTH EXCITATION MICROWAVE PHOTOCONDUCTIVE DECAY METHOD

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 (with example values):

Voting Interest:	Returned Votes		Distribution		Return Rate	
Letter Ballot	55	÷	87	=	63.2%	≥60%
Intercommittee Ballot	40					
Voting Interest Reject(s)	0		Total Voters with Rejects			0
Voting Interest Accept(s)	34					

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)

Technical Issue	**Origin**	***TF/TC Chapter to choose** Comment # (Voter: Name and company) / A reason not addressed by a Vote response		
	Referenced Section/ Paragraph	***TF/TC Chapter to fill in including text in the ballot as appropriate.**		
	Reason	***Original Comment text, if applicable, and problem statement, including justification and suggestion, should be copied.**		
Handle technical issue identified above as a Negative.				
Related	**Motion and Reason (check one)**		‘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
	Motion by/ 2nd by	Name (Company)/Name (Company)		
	Discussion			
	Result of Vote (check one)	XX **Y**-XX **N**; Motion passed/failed.		
			[Negative is not related.] <2/3	**GO TO “Persuasive” subsection**
			2/3 ≤ [Negative is not related] and assigned to TF.	**GO TO “Final” subsection → (B)**
			2/3 ≤ [Negative is not related] and placed on agenda of current TC Chapter meeting as new business.	
Persuasive	**Motion and Reason (check one)**		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/ 2nd by	Name (Company)/Name (Company)		
	Discussion			

	Result of Vote (check one)	XX **Y**-XX **N**; Motion passed/failed.					
			[Negative is related and persuasive.] > 1/3	**Is a technical change recommended? (check one)**		**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 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 XXX**
			TO: Section/Paragraph xxx
			Justification (If necessary)
		2	**FROM: Section/Paragraph XXX**
			TO: Section/Paragraph xxx
			Justification (If necessary)

Motion	Negative is addressed by the technical change(s).			
Motion by/2nd by	Name (Company)/Name (Company)			
Discussion				
Result of Vote (check one)	XX **Y**-XX **N**; Motion passed/failed.			
		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/2nd by	Name (Company)/Name (Company)		
	Discussion			
	Result of Vote (check one)	XX **Y**-XX **N**; Motion passed/failed.		
		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**
		(F)	Addressed by technical change	
	(check if applicable)	Comment generated. See Section V-(ii) Comment # X.		

V. Comments

V- (i) Voters' Comments

Commenter 1 (Tetsuya Nakai / SUMCO) - Comment 1

Comment	***TF/TC Chapter to fill in section/paragraph #, if necessary.**		
	8 Procedure, NOTE8: The lifetime of the sample having an epilayer of lower than 1μm can not be applied. Thinner epilayer is not enough carrier and the lifetime is influenced by the epilyer interface. => epilayer		
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)**		**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 8. Procedure Note8:** The lifetime of the sample having an epilayer of lower than 1μm can not be applied. Thinner epilayer is not enough carrier and the lifetime is influenced by the **epilyer** interface.	
		TO: Section/Paragraph 8. Procedure Note8: The lifetime of the sample having an epilayer of lower than 1μm can not be applied. Thinner epilayer is not enough carrier and the lifetime is influenced by the **epilayer** interface.	
		Justification (If necessary)	
	2	**FROM: Section/Paragraph xxx**	
		TO: Section/Paragraph xxx	
		Justification (If necessary)	

Motion	To approve above editorial change(s)
Motion by/2nd by	Ryuji Takeda (GWJ)/ Tetsuya Nakai (SUMCO)
Discussion	The word 'epilayer' needs to be defined in the future.as it is not defined in the COT or Webister.
Vote	*8X **Y**-0 **N**; Motion passed.*

This table is needed for each Comment accompanied a Vote

Commenter 1 (Tetsuya Nakai / SUMCO) - Comment 2

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.		
	R1-3 Participating organizations : R1 3.1.1 Sumitomo Metal Industries, Ltd. (now, SUMCO); Toshiba ceramics Co., Ltd.（now, Grobal Wafers Japan）=> Global		
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)**		**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 R1-3 Participating organizations** **R1-3.1.1 Sumitomo Metal Industries, Ltd. (now, SUMCO); Toshiba ceramics Co., Ltd.（now, Grobal Wafers Japan）**	
		TO: Section/Paragraph R1-3 Participating organizations **R1-3.1.1 Sumitomo Metal Industries, Ltd. (now, SUMCO); Toshiba ceramics Co., Ltd.（now, Global Wafers Japan）**	
		Justification (If necessary)	
	2	**FROM: Section/Paragraph xxx**	
		TO: Section/Paragraph xxx	
		Justification (If necessary)	

Motion	To approve above editorial change(s)
Motion by/2nd by	Ryuji Takeda (GWJ)/ Tetsuya Nakai (SUMCO)
Discussion	None
Vote	*7 **Y**-0 **N**; Motion passed.*

Commenter 1 (Tetsuya Nakai / SUMCO) - Comment 3

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.		
	Table R1-2 Summary of Round-Robin measurement for 1st mode lifetime Type of Wafer P/p+, N/n+ => p/p+, n/n+		
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)		**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*.
			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 Table R1-2 Summary of Round-Robin measurement for 1st mode lifetime Type of Wafer P/p+, N/n+**	
		TO: Section/Paragraph Table R1-2 Summary of Round-Robin measurement for 1st mode lifetime Type of Wafer p/p+, n/n+	
		Justification (If necessary)	
	2	**FROM: Section/Paragraph xxx**	
		TO: Section/Paragraph xxx	
		Justification (If necessary)	

Motion	To approve above editorial change(s)
Motion by/2nd by	Ryuji Takeda (GWJ)/ Tetsuya Nakai (SUMCO)
Discussion	None
Vote	*8**Y**-0 **N**; Motion passed.*

Commenter 2 (Rafael Vargas-Bernal /Instituto Tecnologico Superior de Irapuato) - Comment 1

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.		
	In subsection 5.3.1 and Note 4 separate values of units		
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)		**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 5.3.1** **0.05Ωcm**	
		TO: Section/Paragraph 5.3.1 **0.05 Ωcm**	
		Justification (If necessary)	
	2	**FROM: Section/Paragraph Note 4:** **26GHz**	
		TO: Section/Paragraph Note 4: **26 GHz**	
		Justification (If necessary)	

Motion	To approve above editorial change(s)
Motion by/2nd by	Ryuji Takeda (GWJ)/ Tetsuya Nakai (SUMCO)
Discussion	None
Vote	*8 **Y**-0 **N**; Motion passed.*

Commenter 2 (Rafael Vargas-Bernal /Instituto Tecnologico Superior de Irapuato) - Comment 2

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.			
	In subsection 5.3.2 use superindex.			
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)		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.*
				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 5.3.2 (/cm2)		
		TO: Section/Paragraph 5.3.2 (/cm^2)		
		Justification (If necessary)		
	2	FROM: Section/Paragraph xxx:		
		TO: Section/Paragraph xxx:		
		Justification (If necessary)		

Motion	To approve above editorial change(s)
Motion by/2nd by	Ryuji Takeda (GWJ)/ Tetsuya Nakai (SUMCO)
Discussion	None
Vote	*7 **Y**-0 **N**; Motion passed.*

Commenter 2 (Rafael Vargas-Bernal /Instituto Tecnologico Superior de Irapuato) - Comment 3

Comment	*TF/TC Chapter to fill in section/paragraph #, if necessary.		
	In subsection 9.1.1, R1-2.3.1 and R1-5.1.6 edit correctly technical variables.		
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)		**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*.
			Case 2: Voted in this section:
			Original section number and at least one full sentence are required in "FROM" and "TO" fields.
Editorial Changes		**FROM: Section/Paragraph 9.1.1 A recorder shall record variation (decay curve: refer to Fig. 2) of the power of the reflective microwave and give a recombination (effective) lifetime. In Fig. 2, t0 represents the moment that excess carriers are injected by optical pulse into a sample. The time constant of decay obtained from such decay part that is deemed to be the exponential function of the decay curve, is the 1st mode lifetime (τ_1). The reflective microwave power V_A at t_A is supposed to decay by the recombination of excess carriers down to 1/e (=0.368), and to reach V_B at t_B. Then, $\tau_1 = t_B - t_A$. Moreover, the reflective microwave power V0 at t0 is supposed to decay down to 1/e$_2$ (0.135) and to reach V_2 at t_2. Then, $t_1 - t_0$ is equal to 1/e lifetime (τ e). Furthermore, when the deviation from an exponential function is not large, τ 1 can be replaced by $t_2 - t_1$.**	
	1	**TO: Section/Paragraph 9.1.1 A recorder shall record variation (decay curve: refer to Fig. 2) of the power of the reflective microwave and give a recombination (effective) lifetime. In Fig. 2, t0 represents the moment that excess carriers are injected by optical pulse into a sample. The time constant of decay obtained from such decay part that is deemed to be the exponential function of the decay curve, is the 1st mode lifetime (τ_1). The reflective microwave power V_A at t_A is supposed to decay by the recombination of excess carriers down to *1/e* (=0.368), and to reach V_B at t_B. Then, $\tau_1 = t_B - t_A$. Moreover, the reflective microwave power V0 at t0 is supposed to decay down to 1/e^2 (=0.135) and to reach V_2 at t_2. Then, $t_1 - t_0$ is equal to 1/e lifetime (τ_e). Furthermore, when the deviation from an exponential function is not large, τ 1 can be replaced by $t_2 - t_1$.**	
		Justification (If necessary)	
	2	**FROM: Section/Paragraph R1-2.3.1 Measured - value — 1/e life-time (τ_e) and 1st mode lifetime (τ_1)**	

		TO: Section/Paragraph R1-2.3.1 Measured value — 1/e lifetime (τ_e) and 1st mode lifetime (τ_1)
		Justification (If necessary)
	3	**FROM: Section/Paragraph R1-5.1.6 The above-mentioned result shows the following. The clearest level difference of Mo concentration was indicated by the 1st mode lifetime and the injection photon density of 2×10^{13}-photons/cm^2. Under this condition, the recommendable number of times of averaging was 1024, 512 and 256 or more for epi-thickness of less than 5 µm, less than 10 µm and 10 µm or more, respectively.**
		TO: Section/Paragraph R1-5.1.6 The above mentioned result shows the following. The clearest level difference of Mo concentration was indicated by the 1st mode lifetime and the injection photon density of 2×10^{13} photons/cm^2. Under this condition, the recommendable number of times of averaging was 1024, 512 and 256 or more for epi-thickness of less than 5 µm, less than 10 µm and 10 µm or more, respectively.
		Justification (If necessary)

Motion	To approve above editorial change(s)
Motion by/2nd by	Ryuji Takeda (GWJ)/ Tetsuya Nakai (SUMCO)
Discussion	None
Vote	*7* ***Y****-0* ***N****; Motion passed.*

Commenter 3 (Name/Company) - Comment 1

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.

1	Origin of this editorial change (Check one)		Commenter(s) / Comment(s) #
			Other [ ]
	FROM: Section/Paragraph XXX		
	TO: Section/Paragraph XXX		
	Justification: (If necessary)		
2	Origin of this editorial change (Check one)		Commenter(s) / Comment(s) #
			Other [ ]
	FROM: Section/Paragraph XXX		
	TO: Section/Paragraph XXX		

	Justification: (If necessary)
Motion	To approve the above editorial change(s).
Motion by/ 2nd by	Name (Company)/Name (Company)
Discussion	XXXX
Vote	XX **Y**-XX **N**; Motion passed (or failed)

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	=	**34**	/	**34**	=	**100.0%**		**≥90%**

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

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

X	**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.

	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)

Motion		**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/2nd by		Ryuji Takeda (GWJ)/ Tetsuya Nakai (SUMCO)
Discussion		None
Vote		7 **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 *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.**
		# **Fill number**	**(n)** Number of patented technologies first became known to the TC Chapter before the day of the issuance of this Letter Ballot	**GO TO IX (a2)**

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.	
					Quit activity.	**The Document is failed and returned to the TF**
					Wait for LOA	**PROCEED to check NEXT one, or if this is the last one, GO TO IX(b1)**
			Motion by/ 2nd 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/ 2nd 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		This Document passed TC Chapter review as balloted and will be forwarded to the ISC A&R SC for procedural review.
	X	This Document passed TC Chapter review with editorial changes and will be forwarded to the ISC A&R SC for procedural review.
		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		Ryuji Takeda (GWJ)/ Tetsuya Nakai (SUMCO)
Discussion		None
Vote		8 **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.