

IEEE P802.3ck D1.3 100/200/400 Gb/s Electrical Interfaces Task Force 4th Task Force review comments

Cl **93A** SC **93A.5.1** P **202** L **41** # **34**
 Healey, Adam Broadcom Inc.
 Comment Type **E** Comment Status **D** ERL tukey (bucket4)
 The notation used in Equation (93A-58a) is unnecessarily obscure. I assume it is intended to set $H_{tw}(f)$ to 1 when $tw = 0$ and to the Tukey window function when $tw = 1$.
SuggestedRemedy
 Remove the "tw" qualification from the terms in Equation (93A-58a). Add a sentence that states that $H_{tw}(f)$ is defined by Equation (93-58a) when tw is 1 and $H_{tw}(f)$ is 1 when tw is 0 or is not defined. Remove the definition of "tw" from the variable list (page 203, line 12).
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 Implement suggested remedy with editorial license.

Cl **93A** SC **93A.5.1** P **202** L **41** # **238**
 Dawe, Piers Nvidia
 Comment Type **T** Comment Status **D** ERL tukey (bucket4)
 This way of writing the middle row of the equation is unnecessarily complicated.
SuggestedRemedy
 Simplify it, remembering that $\cos(x)=\cos(-x)=-\cos(x+\pi)$. Notice that $f < fb$ in this case and f_{per} is +ve, with fb before fr in the formula.
 Something like $0.5(1-\cos(2\pi(fb-f)/f_{per}))$
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 Update the equation with the form proposed in the suggested remedy.
 [Editor's note (to be removed prior to closing this comment): The response to this comment was updated.]

Cl **120F** SC **120.F.3.1** P **208** L **1** # **140**
 Ghiasi, Ali Ghiasi Quantum/Inphi
 Comment Type **T** Comment Status **D** TP0v (bucket4)
 Until it is proven TP0v with real measurement the electrical characteristics should be at TP0a, there is no need create all this confusion and complexity by introducing TP0v when the solution is trivial just increase the DUT board loss to 2.4 dB as we have done for MCB and HCB!
SuggestedRemedy
 Change TP0v to TP0a
 Proposed Response Response Status **W**
 PROPOSED REJECT.
 Resolve using the response to comment #135.

[Editor's note: CC: 120F, 163]

[Editor's note (to be removed when this comment is closed): Added to Bucket #4. The closed response to comment #135 indicates that there is no consensus to make the change proposed by this comment.]

Cl **120G** SC **120G.3.2** P **229** L **26** # **96**
 Brown, Matt Huawei
 Comment Type **T** Comment Status **D** precursor ISI ratio (bucket4)
 Module output far-end pre-cursor ISI ratio value is TBD. The related measurement methodology was rewritten in D1.3.
SuggestedRemedy
 Replace TBD with an appropriate value.
 Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.
 [Editor's note: Addresses incomplete specification.]
 Resolve using the response to comment #150.
 [Editor's note (to be removed prior to closing comment): The closed response comment #150 results in the precursor ISI parameter being removed.]

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Cl **120G** SC **120G.3.2** P **229** L **26** # **246**

Dawe, Piers Nvidia
 Comment Type **T** Comment Status **D** precursor ISI ratio (bucket4)

We don't know what to do with far-end pre-cursor ISI ratio. It was copied in from a spec with a very different reference receiver. In this scenario, we don't know what it's for, what a limit should be, or why.

I believe that the ordinary EH, EW and VEC specs with this reference receiver will defend receivers from the same threats that far-end pre-cursor ISI ratio in 120E was intended to guard against, except possibly for some drivers with exemplary noise, jitter and distortion but not so well tuned which can be received anyway.

SuggestedRemedy

We could leave this TBD hanging around in case someone finds a use for it, or clean it up for now while no-one has. We can bring it back later if justified.

Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.

[Editor's note: Addresses incomplete specification.]

Resolve using the response to comment #150.

[Editor's note (to be removed prior to closing comment): The closed response comment #150 results in the precursor ISI parameter being removed.]

Cl **120G** SC **120G.5.3** P **241** L **34** # **258**

Dawe, Piers Nvidia
 Comment Type **TR** Comment Status **D** precursor ISI ratio (bucket4)

The valid setting would have to satisfy eye width / ESMW too.

SuggestedRemedy

Modify the definition of valid setting or delete the subclause.

Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #150.

[Editor's note (to be removed prior to closing comment): The closed response comment #150 results in the precursor ISI parameter being removed.]

Cl **120G** SC **120G.5.3** P **241** L **37** # **259**

Dawe, Piers Nvidia
 Comment Type **T** Comment Status **D** precursor ISI ratio (bucket4)

The pulse peak is not at the same time as the DFE sampling phase ts determined in step d of 120G.5.2, but it's close. No need for both.

SuggestedRemedy

Change from pmax to the pulse at the DFE sampling phase ts, or delete the subclause.

Proposed Response Response Status **W**
 PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #150.

[Editor's note (to be removed prior to closing comment): The closed response comment #150 results in the precursor ISI parameter being removed.]

Cl **162C** SC **162C.2.1** P **268** L **6** # **271**

Dawe, Piers Nvidia
 Comment Type **E** Comment Status **D** MDI (bucket4)

"SFP+ supports one lane", "QSFP+ supports up to four lanes" and so on

SuggestedRemedy

Would it be clearer to say "SFP+ supports one lane in each direction" and similarly for the other connector types?

Proposed Response Response Status **W**
 PROPOSED REJECT.

Language usage is consistent with 802.3cd.
 Make no changes.

[Editor's note (to be removed before closing this comment): This comment was pulled from bucket #1 and the response was updated.]

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Cl **162C** SC **162C.2.2** P **268** L **46** # **272**

Dawe, Piers Nvidia
 Comment Type **T** Comment Status **D** MDI (bucket4)

SFP-DD supports up to four lanes

SuggestedRemedy

SFP-DD supports up to four lanes [in each direction]
 Similarly for DSFP.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Change "SFP-DD supports up to four lanes" to "SFP-DD supports up to two lanes". Make the equivalent change for DSFP in 162C.2.3.

[Editor's note (to be removed before closing this comment): This comment was pulled from bucket #1 and the response was updated.]

Cl **163** SC **163.9.2.2** P **178** L **33** # **204**

Wu, Mau-Lin MediaTek
 Comment Type **T** Comment Status **D** example TF (bucket4)

The IL and ILD specs here are too challenging to achieve. In this case, I see no points to provide this kind of "example TX test fixture". Based on that, I proposed to relax the IL and ILD specs of this example TX test fixture (TP0a). Detailed information had been included in wu_3ck_adhoc_01_092320.pdf. I plan to prepare one contribution, wu_3ck_02_1120.pdf, for this comment.

SuggestedRemedy

Change IL and ILD specs of the example TX test fixture (TP0a) to "between 2.0 dB and 2.8 dB at 26.56 GHz". ILD is less than or equal to 0.2 dB from 0.05 to 26.56 GHz
 Remove the Equation (163-1), Figure 163-4, and related paragraphs since TP0a is just an example and informative

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #229.

[Editor's note (to be removed when this comment is closed): Added to Bucket #4. The closed response to comment #229 provides a new insertion loss value and curve and leaves the ILD specification unchanged.]

Cl **163** SC **163.9.2.2** P **178** L **33** # **162**

Dudek, Mike Marvell
 Comment Type **TR** Comment Status **D** example TF (bucket4)

The insertion loss of this example test fixture is un-realistically low. This applies to the Rx test fixture as well.

SuggestedRemedy

Change the loss to "between 2.4 and 3.2dB" and double the co-efficients in equation 163-1 and change Figure 163-4 to match. Note that the Rx test fixture refers to this equation and figure as well. Change the loss of the Rx test fixture to "between 2.4 and 3.2dB" on page 181 line 19.

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #229.

[Editor's note (to be removed when this comment is closed): Added to Bucket #4. The closed response to comment #229 provides a new insertion loss value and curve.]

Cl **163** SC **163.9.2.2** P **178** L **39** # **26**

Ben-Artzi, Liav Marvell Semiconductor Ltd.
 Comment Type **T** Comment Status **D** example TF (bucket4)

The transmitter and receiver test fixture informative examples are irrelevant, since they have extremely low loss

SuggestedRemedy

Recommend changing equation 163.1 to $IL(F) = 0.01 + 0.292 \cdot \sqrt{F} + 0.0936 \cdot F$ (F in GHz), which is more realistic and meets 4dB of loss at 26.5625GHz. It is also referred to in 163.9.3.2 on page 181 lines 22-24

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to #229.

[Editor's note (to be removed when this comment is closed): Added to Bucket #4. The closed response to comment #229 provides a new insertion loss value and curve.]

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Cl 163 SC 163.9.2.2 P 178 L 33 # 136

Ghiasi, Ali Ghiasi Quantum/Inphi

Comment Type **TR** Comment Status **D** example TF (bucket4)

Increase the loss from 1.2 dB and 1.6 dB

SuggestedRemedy

to 2.2 and 2.6 dB and update equation 163-1 to
 $=0.0062 + 0.1753*\sqrt{f}+0.0561*f$ the equation nominal loss is 2.4 dB

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the response to comment #229.

[Editor's note (to be removed when this comment is closed): Added to Bucket #4. The closed response to comment #229 provides a new insertion loss value and curve.]

Cl 163 SC 163.9.3.2 P 181 L 18 # 137

Ghiasi, Ali Ghiasi Quantum/Inphi

Comment Type **TR** Comment Status **D** RX test fixture (bucket4)

Increase the loss from 1.2 dB and 1.6 dB

SuggestedRemedy

to 2.2 and 2.6 dB

Proposed Response Response Status **W**

PROPOSED ACCEPT IN PRINCIPLE.

Resolve using the responses to comments #40 and #229.

[Editor's note (to be removed when this comment is closed): Added to Bucket #4. The closed response to comment #229 provides a new insertion loss value and curve and to comment #40 aligns the RX TF with the TX TF.]