Cl **FM**   *SC* **FM**   *P* **1**   *L* **41**   # 39

Grow, Robert   RMG Consulting

Comment Type **E**   *Comment Status* **A**   *Bucket*

Don't forget to update copyright year here and in template text missing from next page, and in the footer when producing the next draft

SuggestedRemedy

Update framemaker variable and inspect front pages and footer to to assure all use the vairable and if not, update.

Response   *Response Status* **C**

ACCEPT.

Cl **FM**   *SC* **FM**   *P* **2**   *L* **40**   # 40

Grow, Robert   RMG Consulting

Comment Type **ER**   *Comment Status* **A**

I can't check the Framemaker templates, but this draft is missing content that is on all other current drafts I've examined and is also included in the 2020 Style Manual Annex C (page 69).

SuggestedRemedy

Please use the correct template.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Include the following with editorial license using the correct FrameMaker template:
"The Institute of Electrical and Electronics Engineers, Inc.
3 Park Avenue, New York, NY 10016-5997, USA
Copyright © 2022 by the Institute of Electrical and Electronics Engineers, Inc.
All rights reserved. Published xx Month 20xx. Printed in the United States of America.
IEEE and 802 are registered trademarks in the U.S. Patent & Trademark Office, owned by the Institute of Electrical and
Electronics Engineers, Incorporated.
PDF: ISBN 978-0-7381-xxxx-x STDxxxxx
Print: ISBN 978-0-7381-xxxx-x STDPDxxxxx
IEEE prohibits discrimination, harassment and bullying.
For more information, visit http://www.ieee.org/web/aboutus/whatis/policies/p9-26.html.
No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher."

Cl **FM**   *SC* **FM**   *P* **4**   *L* **8**   # 41

Grow, Robert   RMG Consulting

Comment Type **E**   *Comment Status* **A**   *Bucket*

The second paragraph is now oblolete, the 2020 Style Manual 11.1 now specifies arabic numbering of front matter.

SuggestedRemedy

Delete second paragraph

Response   *Response Status* **C**

ACCEPT.

Cl **FM**   *SC* **FM**   *P* **16**   *L* **3**   # 7

Dawe, Piers   Nvidia

Comment Type **E**   *Comment Status* **A**   *Bucket*

Amendment:

SuggestedRemedy

Amendment 4:

Response   *Response Status* **C**

ACCEPT.

Cl **00**   *SC* **0**   *P*   *L*   # 38

Grow, Robert   RMG Consulting

Comment Type **E**   *Comment Status* **A**   *Bucket*

I am satisfied with my D2.0 comments #221 and #230.

SuggestedRemedy

Remove from the unsatisfied comments list.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **00**
SC **0**

Page 1 of 13
1/19/2022 7:50:14 PM

Cl **1** *SC* **1.3** *P* **17** *L* **8** # 27

Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, CommScope,

Comment Type **E** *Comment Status* **A**

Does this have to be a dated reference? If undated, it just points to the most current version of 60793-2-10. If dated, particularly with an as-yet-unpublished draft, this standard cannot publish before 60793-2-10:202x (whatever x may be) publishes. Making it an undated reference both achieves the end of getting the new version when it is available, AND allows this draft to move forward without the hitch.

SuggestedRemedy

Delete the inserted date (:202x) on the reference to IEC 60793-2-10:202x

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Remove the reference to IEC document 60793-2-10 in 1.3.

Add an editors' note in the next draft that the IEC document is already in P802.3dc D3.0.

Cl **1** *SC* **1.3** *P* **17** *L* **8** # 30

Ran, Adee Cisco

Comment Type **E** *Comment Status* **A**

IEC 60793-2-10 is listed as 202x. I assume this document is not published yet and it is expected that it is published before 802.3db is finalized.

The "202x" should not find its way to the published amendment.

SuggestedRemedy

Add an editor's note (to be removed prior to publication) to update the year here and in Table 167–15 footnote f.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.
See response to comment #27.

Change first sentence in footnote f:
"These limits are consistent with IEC 60793-2-10 Amendment 1 (202x)."
to
"These limits are consistent with IEC 60793-2-10/AMD1 ED7."

Cl **1** *SC* **1.4.142a** *P* **17** *L* **42** # 33

Dudek, Mike Marvell

Comment Type **E** *Comment Status* **D**

Shouldn't 400GBASE-SR4 be listed after 400GBASE-SR8 rather than between 400GBASE-SR16 and 400GBASE-SR8

SuggestedRemedy

Change the section to 1.4.144a and make 400GBASE-VR4 into section 1.4.144b

Proposed Response *Response Status* **Z**

REJECT.

This comment was WITHDRAWN by the commenter.

Cl **30** *SC* **30.3.2.1.2** *P* **18** *L* **2** # 42

Grow, Robert RMG Consulting

Comment Type **T** *Comment Status* **R**

Though out of scope, it hits me that I do not understand why there is no definition of aPHYType and aPHYTypeList. This is compounded by reference to 100GBASE-VR1, 200GBASE-VR2, 400GBASE-VR4, 100GBASE-SR1, 200GBASE-SR2, and 400GBASE-SR4 in other clauses as PHYs or PHY types.

SuggestedRemedy

Insert enumerations for: 100GBASE-VR1, 200GBASE-VR2, 400GBASE-VR4, 100GBASE-SR1, 200GBASE-SR2, and 400GBASE-SR4, into aPHYType and aPHYTypeList.

Response *Response Status* **C**

REJECT.

We don't think this insertion is necessary, but we welcome further review.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **30**
SC **30.3.2.1.2**

Page 2 of 13
1/19/2022 7:50:14 PM

Cl **30**   *SC* **30.5.1.1.2**   *P* **18**   *L* **19**   # 34

Dudek, Mike   Marvell

Comment Type **T**   *Comment Status* **A**

Removing the reaches has left nothing that differentiates between VR and SR.   Note that draft 3.0 of 802.3cd preserves the reaches to differentiate between FR and LR.

SuggestedRemedy

Re-instate the distances as they were in draft 2.0.   Also in table 116-1

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

These reaches were removed after discussion of comments #66, 67, 68, 70, 71, and 72 on D2.0

Make the following changes

100GBASE-VR1   100GBASE-R PCS/PMA over multimode fiber PMD with reach up to at least 50 m as specified in Clause 167

100GBASE-SR1   100GBASE-R PCS/PMA over multimode fiber PMD with reach up to at least 100 m as specified in Clause 167

200GBASE-VR2   200GBASE-R PCS/PMA over multimode fiber PMD with reach up to at least 50 m as specified in Clause 167

200GBASE-SR2   200GBASE-R PCS/PMA over multimode fiber PMD with reach up to at least 100 m as specified in Clause 167

400GBASE-VR4   400GBASE-R PCS/PMA over multimode fiber PMD with reach up to at least 50 m as specified in Clause 167

400GBASE-SR4   400GBASE-R PCS/PMA over multimode fiber PMD with reach up to at least 100 m as specified in Clause 167

Cl **45**   *SC* **45.2.1.6**   *P* **19**   *L* **7**   # 43

Grow, Robert   RMG Consulting

Comment Type **E**   *Comment Status* **R**   *Bucket*

P802.3/D2.1, Clause 45 is still a mess for capitalization, from the Clause title using too many capitals to the erratic capitalization of "Register" in text throughout.

SuggestedRemedy

A P802 comment on this was withdrawn for resubmission on P802.3/D3.0. Watch P802.3 comment resolution to see if improvement of the capitalization will affect this draft (P802.3 comment resolution discussion indicated some suppport for changing "Register x.y" to "register x.y" from an IEEE publication editor).

Response   *Response Status* **C**

REJECT.
The use of upper and lower case R in the word "register" in P802.3db Clause 45 is the same as P802.3dc D3.0 Clause 45.
No change to the draft follows from this comment.

Cl **45**   *SC* **45.2.1.24**   *P* **22**   *L* **11**   # 44

Grow, Robert   RMG Consulting

Comment Type **E**   *Comment Status* **A**   *Bucket*

Unnecessary ellipsis row.

SuggestedRemedy

Delete the row.

Response   *Response Status* **C**

ACCEPT.

Cl **45**   *SC* **45.2.1.24**   *P* **22**   *L* **22**   # 45

Grow, Robert   RMG Consulting

Comment Type **E**   *Comment Status* **A**   *Bucket*

Misplaced ellipsis row.

SuggestedRemedy

Move between bits 10 and 2.

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **45**
SC **45.2.1.24**

Page 3 of 13
1/19/2022 7:50:14 PM

Cl **45**　　*SC* **45.2.1.24a**　　　　*P* **22**　　*L* **29**　　# 46

Grow, Robert　　　　　　　　　　　RMG Consulting

Comment Type **E**　　*Comment Status* **R**　　　　　　　*Bucket*

Oops on subclause number.

SuggestedRemedy

Number should be 45.1.24.1aa if I remember right. (Also correct in editing instruction.)

Response　　　　　　　*Response Status* **C**

REJECT.
100GBASE-VR1 ability should appear before 45.1.24.1 in the next revision of 802.3, and hence the subclause number is 45.1.24.a.

Cl **80**　　*SC* **80.1.3**　　　　*P* **24**　　*L* **9**　　# 47

Grow, Robert　　　　　　　　　　　RMG Consulting

Comment Type **E**　　*Comment Status* **A**　　　　　　　*Bucket*

Base text problem. P802.3/D3.0 has an em-dashed list following the opening phrase.

SuggestedRemedy

Translate the additions to new em-dash items in the list.

Response　　　　　　　*Response Status* **C**

ACCEPT.

Cl **80**　　*SC* **80.1.4**　　　　*P* **24**　　*L* **27**　　# 48

Grow, Robert　　　　　　　　　　　RMG Consulting

Comment Type **E**　　*Comment Status* **A**　　　　　　　*Bucket*

If there is a logic in the insert point for new items, it is something I can't discern (it isn't in the Description clause number order nor alphanumeric on Name). Comments have been submitted on such tables on P802.3/D3.0. (Also applies to 100GBASE-SR1.)

SuggestedRemedy

Monitor P802.3/D3.0 comment resolution and if a order beyond data rate is found, adjust insert points per that resolution.

Response　　　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment #9

Comment #241 on D2.0 stated:
"Comment #65 against P802.3cj D2.0 defined the order of items in Table 78-1. See:
http://www.ieee802.org/3/cj/comments/P8023-D2p0-Comments-Final-byID.pdf#page=14"

Sort the result in "speed/reach" order using the following set of rules.
1. Increasing speed.
2. Increasing reach (maximum supported distance over the medium).
3. Decreasing number of lanes

The following supplemental rules address are included to address special cases.
4. PHY "family designations, by convention, are assigned a reach of 0.
5. "Copper" PHYs precede "Fiber" PHYs (all else being equal).
6. Alphanumeric sort (all else being equal).

Cl **80**　　*SC* **80.5**　　　　*P* **125**　　*L* **15**　　# 10

Dawe, Piers　　　　　　　　　　　Nvidia

Comment Type **E**　　*Comment Status* **A**　　　　　　　*Bucket*

I suspect that subclauses for 100GBASE-VR1 and 100GBASE-SR1 should be mentioned in tables 80-8, Summary of Skew constraints, and 80-9, Summary of Skew Variation constraints

SuggestedRemedy

Add them

Response　　　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Add Table 80-8 and Table 80-9 and appropriate subclause and add 100GBASE-VR1 and 100GBASE-SR1 to these tables.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general　　　　*Cl* **80**　　　Page 4 of 13
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn　　*SC* **80.5**　　1/19/2022 7:50:14 PM
SORT ORDER: Clause, Subclause, page, line

Cl **91**   *SC* **91.5.3.3**   *P* **27**   *L* **30**   # 28

Ran, Adee   Cisco

Comment Type **ER**   *Comment Status* **A**

Comment #114 against D2.0 was resolved in a way that does not address the comment. The suggested remedy was to include the third paragraph of 91.5.3.3, but the response changed the second paragraph of 91.5.3.3 (first paragraph amended) instead, and the text is unformatted, so 10^-6 now reads as 10-6.

The problem still exists in the third paragraph which says "This option shall not be used". Since this is a normative requirement, it would be friendly to readers to include the text tells what "this option" is about (it is the option to bypass error correction)

The change of the second paragraph is unnecessary and can be reverted.

SuggestedRemedy

Include the entire third paragraph from the base document as listed below:

"The Reed-Solomon decoder may provide the option to perform error detection without error correction to reduce the delay contributed by the RS-FEC sublayer. The presence of this option is indicated by the assertion of the FEC_bypass_correction_ability variable (see 91.6.8). When the option is provided, it is enabled by the assertion of the FEC_bypass_correction_enable variable (see 91.6.1). This option... <remainder of the text as in D2.1>"

Change the editorial instruction accordingly.

Revert the second paragraph (starting with "When used to form a 100GBASE-CR4"), to the text in D2.0.

Response   *Response Status* **W**

ACCEPT.

Cl **91**   *SC* **91.7.3**   *P* **29**   *L* **9**   # 11

Dawe, Piers   Nvidia

Comment Type **E**   *Comment Status* **A**   *Bucket*

"Change" shouldn't be part of the subclause heading

SuggestedRemedy

Delete

Response   *Response Status* **C**

ACCEPT.

Cl **116**   *SC* **116.1.3**   *P* **32**   *L* **34**   # 49

Grow, Robert   RMG Consulting

Comment Type **E**   *Comment Status* **A**

If there is a logic in the insert point for new items, it is something I can't discern. It would appear to be consisttent with the already apparently random (other than data rate grouping) order of the existing table.

SuggestedRemedy

Monitor P802.3/D3.0 comment resolution and if a order beyond data rate is found, adjust insert points per that resolution.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

See response to comment #9

Comment #241 on D2.0 stated:
"Comment #65 against P802.3cj D2.0 defined the order of items in Table 78-1. See: http://www.ieee802.org/3/cj/comments/P8023-D2p0-Comments-Final-byID.pdf#page=14"

Sort the result in "speed/reach" order using the following set of rules.
1. Increasing speed.
2. Increasing reach (maximum supported distance over the medium).
3. Decreasing number of lanes

The following supplemental rules address are included to address special cases.
4. PHY "family designations, by convention, are assigned a reach of 0.
5. "Copper" PHYs precede "Fiber" PHYs (all else being equal).
6. Alphanumeric sort (all else being equal).

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **116**
SC **116.1.3**

Page 5 of 13
1/19/2022 7:50:14 PM

Cl **116**　　*SC* **116.1.3**　　　　*P* **32**　　*L* **35**　　　# 35

Dudek, Mike　　　　　　　　　　Marvell

Comment Type　**T**　　*Comment Status*　**A**

The reach is not included in the descriptions of VR and SR in table 116-1 leaving nothing that differentiates between VR and SR. Note that the reach is included to differentiate the single mode variants.

SuggestedRemedy

Add the reach to the description as is done for 400G in table 116-2

Response　　　　　　*Response Status*　**C**

ACCEPT IN PRINCIPLE.

These reaches were removed after discussion of comments #66, 67, 68, 70, 71, and 72 on D2.0

Change to:

200GBASE-VR2 200 Gb/s PHY using 200GBASE-R encoding over two lanes of multimode fiber, with reach up to at least 50 m (see Clause 167)

200GBASE-SR2 200 Gb/s PHY using 200GBASE-R encoding over two lanes of multimode fiber, with reach up to at least 100 m (see Clause 167)

Cl **116**　　*SC* **116.1.3**　　　　*P* **32**　　*L* **37**　　　# 9

Dawe, Piers　　　　　　　　　　Nvidia

Comment Type　**E**　　*Comment Status*　**A**

Some tables put e.g. 100GBASE-SR1 before 100GBASE-SR2 because the reach on OM3 is a little less, others put e.g. 200GBASE-SR2 before 200GBASE-SR4 because it's narrower. Typically, reach takes precedence. Anyway, we should be consistent.

SuggestedRemedy

If reach takes strict precedence: change tables 78-1 80-1 116-1 116-2 116-4 116-5 and 116-7.
If the other way, change tables 80-5, 80-7 and 116-6.
Either way, the new PMDs have less reach than 400GBASE-SR4.2 (150 m on OM5) - change tables 116-2 and 116-7.
Make the lists in e.g. PICS 91.7.3 consistent with the decision.

Response　　　　　　*Response Status*　**C**

ACCEPT IN PRINCIPLE.

Comment #241 on D2.0 stated:
"Comment #65 against P802.3cj D2.0 defined the order of items in Table 78-1. See: http://www.ieee802.org/3/cj/comments/P8023-D2p0-Comments-Final-byID.pdf#page=14"

Sort the result in "speed/reach" order using the following set of rules.
1. Increasing speed.
2. Increasing reach (maximum supported distance over the medium).
3. Decreasing number of lanes

The following supplemental rules address are included to address special cases.
4. PHY "family designations, by convention, are assigned a reach of 0.
5. "Copper" PHYs precede "Fiber" PHYs (all else being equal).
6. Alphanumeric sort (all else being equal).

In Table 78-1 switch 100GBASE-CR10 and 100GBASE-KR2 consistent with proposed change in D3.0 of 802.3dc.

In Table 80-1 Place the SR rows in the following order consistent with D3.0 of 802.3dc after 100GBASE-VR1: 100GBASE-SR4, 100GBASE-SR2, 100GBASE-SR1, 100GBASE-SR10.

In Table 80-5 switch 100GBASE-SR1 and 100GBASE-SR2 rows and columns.

In Table 80-7 switch 100GBASE-SR1 and 100GBASE-SR2. Place 100GBASE-SR4 above 100GBASE-SR2 consistent with proposed change in D3.0 of 802.3dc. Add row at bottom for 100GBASE-SR10.

In Table 116-2 insert 400GBASE-SR4 above 400GBASE-SR4.2.

In Table 116-6 place 200GBASE-SR2 below 200GBASE-SR4. Add correct row below.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **116**
SC **116.1.3**

Page 6 of 13
1/19/2022 7:50:14 PM

In Table 116-7 place 400GBASE-SR4 above 400GBASE-SR4.2.

Cl **116**	*SC* **116.5**	*P* **37**	*L* **17**	#	12

Dawe, Piers   Nvidia

Comment Type **E**   *Comment Status* **A**   *Bucket*

Missing references to clauses 136 and 137, in tables 116-8 and 116-9

SuggestedRemedy

Add them

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.

Add external cross reference to clauses 136 and 137 in line with latest draft of 802.3dc.

Cl **167**	*SC* **167.1**	*P* **40**	*L* **28**	#	13

Dawe, Piers   Nvidia

Comment Type **E**   *Comment Status* **A**   *Bucket*

in116.2

SuggestedRemedy

in space 116.2 (green)

Response   *Response Status* **C**

ACCEPT.

Cl **167**	*SC* **167.1**	*P* **40**	*L* **36**	#	14

Dawe, Piers   Nvidia

Comment Type **E**   *Comment Status* **A**   *Bucket*

30
m

SuggestedRemedy

Use non-breaking space

Response   *Response Status* **C**

ACCEPT.

Cl **167**	*SC* **167.5.2**	*P* **45**	*L* **43**	#	29

Ran, Adee   Cisco

Comment Type **TR**   *Comment Status* **A**

See comment #121 against D2.0 was not implemented fully - one instance of "signal stream" still exists.

SuggestedRemedy

Change "signal stream" to "signal".

Response   *Response Status* **W**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **167**
SC **167.5.2**

Page 7 of 13
1/19/2022 7:50:14 PM

Cl **167**   *SC* **167.7.1**   *P* **49**   *L* **27**   # 6

Ghiasi, Ali   Ghiasi Quantum/Marvell

Comment Type **TR**   *Comment Status* **R**

It was shown that TDECQ with MMSE is accurate and reduce test time and associated test cost.
https://www.ieee802.org/3/db/public/September-09-September-29-2021/ghiasi_802.3db_01_092321.pdf

SuggestedRemedy

MMSE is representative of real receiver and a full grid search may produce results sliglty better, as shown by in Ghiasi contribution there is excellent correlation for scope measurements. MMSE will reduce test time specillay given 802.3db reference receiver is 9 taps will longer to do full grid search and will increase test cost. Full grid search may produce as much as 0.2 dB of lower TDECQ than real receiver and pushing real TDECQ>4.5 dB is risky. Task force need to make a decision either stay with sull grid search and reduce TDECQ to 4.3 dB or stay with current 4.4 dB with MMSE.

Response   *Response Status* **U**

REJECT.

Based on straw poll, decision is to make no change to the draft.

Straw poll (Chicago rules):
a) Make no change to the draft
b) Adopt MMSE search method with maximum TDECQ of 4.4 dB
c) Maintain current TDECQ methodolgy, but
reduce maximum TDECQ to 4.3 dB

Vote: a) 15/37, b) 7/37, c) 11/37
No answer 14/37

Straw poll (Decisional):
A) Reject: make no change to the draft.
B) Accept in principle: Maintain current TDECQ methodology, but reduce maximum TDECQ to 4.3 dB.

Vote: A) 15/35, B) 8/35
No answer 12/35

Cl **167**   *SC* **167.7.1**   *P* **49**   *L* **47**   # 15

Dawe, Piers   Nvidia

Comment Type **T**   *Comment Status* **A**   *Bucket*

This says "The values of OMAouter, each lane (max) and OMAouter, each lane (min) vary with TDECQ and TECQ, and are illustrated in Figure 167-3", but OMAouter, each lane (max) doesn't vary.

SuggestedRemedy

The values of OMAouter, each lane (max) and OMAouter, each lane (min) and their dependence on TDECQ and TECQ are illustrated in Figure 167-3.

Response   *Response Status* **C**

ACCEPT.

Cl **167**   *SC* **167.8.1**   *P* **53**   *L* **20**   # 1

Ghiasi, Ali   Ghiasi Quantum/Marvell

Comment Type **TR**   *Comment Status* **R**

There is no definition of valid 100GBASE-ZV1/SR1, etc., instead you should reference the PCS sginal

SuggestedRemedy

Please replace PMD signals with PCS signals, 100GBASE-R with CL91 RS-FEC, 200GBASE-R, or 400GBASE-R signals

Response   *Response Status* **U**

REJECT.
Multimode clauses 86, 95, 138, and 150 have defined "valid <PMD name> signal" as a test pattern. To keep consistency with past multimode clauses, no change will be made to Table 167-11.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **167**
SC **167.8.1**

Page 8 of 13
1/19/2022 7:50:14 PM

Cl **167**   *SC* **167.8.2**   *P* **53**   *L* **33**   # 16

Dawe, Piers   Nvidia

Comment Type **E**   *Comment Status* **A**

This description assumes there are 4 lanes, but multi-lane testing considerations apply to a 2-lane PMD also.

SuggestedRemedy

Change "the three unstressed lanes" to "the one or three unstressed lanes", change "multiplying by four if" to "multiplying by two or four if".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement with editorial license.

Change
"If each lane is stressed in turn, the BER is diluted by the three unstressed lanes, and the BER for that stressed lane alone is found, e.g., by multiplying by four if the unstressed lanes have low BER."

to
"If each lane is stressed in turn, the BER is diluted by the unstressed lanes, and the BER for that stressed lane alone is found, e.g., by multiplying by four for 400GBASE-SR4 if the unstressed lanes have low BER."

Cl **167**   *SC* **167.8.4**   *P* **54**   *L* **5**   # 18

Dawe, Piers   Nvidia

Comment Type **T**   *Comment Status* **A**   *Bucket*

This says "per the set up shown in Figure 53-6". That figure is very basic, but the subclause it's in says "with the sum of the optical power from all of the channels not under test below -30 dBm": it's written for a WDM transmitter and the test is done by enabling one lane at a time. For a parallel transmitter, it's likely to be done differently, with a breakout cable. I believe that like 86.8.4.2 for 40GBASE-SR4 and 100GBASE-SR10 and 95.8.3 for 100GBASE-SR4, we should not refer to Figure 53-6.

SuggestedRemedy

Delete ", per the set up shown in Figure 53-6"

Response   *Response Status* **C**

ACCEPT.

Cl **167**   *SC* **167.8.4**   *P* **54**   *L* **5**   # 17

Dawe, Piers   Nvidia

Comment Type **E**   *Comment Status* **A**   *Bucket*

Guidance to editors says "setup (not set-up)". Here we have "set up", in 53.9.2 and Figure 53-6 we have "set-up".

SuggestedRemedy

Change to "setup", but see another comment.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See comment #18.

Cl **167**   *SC* **167.8.5**   *P* **56**   *L* **35**   # 8

Dawe, Piers   Nvidia

Comment Type **T**   *Comment Status* **A**

1.3, Normative references, says "For undated references, the latest edition of the referenced document (including any amendments or corrigenda) applies." So the effect of dating the reference is to exclude future amendments after Amendment 1 (which is forecast for April 2022 by the way) until 802.3 acts to reference them, not to mandate the Amendment 1 which is done anyway.

SuggestedRemedy

Consider deleting ":202x".

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See response to comment #27.

Cl **167**   *SC* **167.8.6**   *P* **54**   *L* **18**   # 19

Dawe, Piers   Nvidia

Comment Type **E**   *Comment Status* **A**   *Bucket*

Typically, the font in figures is Arial not Times New Roman. And, some of it is too small.

SuggestedRemedy

Change to Arial, 8 point

Response   *Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general   *Cl* **167**   Page 9 of 13
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn   *SC* **167.8.6**   1/19/2022 7:50:14 PM
SORT ORDER: Clause, Subclause, page, line

Cl **167**　　　*SC* **167.8.6**　　　　　*P* **54**　　　*L* **49**　　　　# 51

Palkert, Tom　　　　　　　　　　　　Macom

Comment Type **T**　　　*Comment Status* **A**

Section 167.8.6 page 54 lines 49 and 52 (draft 2.1) states that the filter response should not exceed -24dB for both of the cascaded filters used for the TDECQ measurements. The filter BW values were selected base on Lewis_3db_01_070121 with no mention of the filter values at 1.3x BW.
The limit of -24db appears to be valid at a freq. of 1.5x BW. We changed from 1.5x to 1.3x in draft 1.1 but the min value stayed at -24. Based on the graph below we need to change from -24db to -20db.

SuggestedRemedy

Change -24 dB to -20 dB.

Response　　　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.
Change the roll off value to -20 dB for the two filters in section 167.8.6, page 54, lines 49 and 52.

Cl **167**　　　*SC* **167.8.6**　　　　　*P* **55**　　　*L* **11**　　　　# 26

Lingle, Robert　　　　　　　　　　　OFS

Comment Type **E**　　　*Comment Status* **A**

Editor's note states: "Use of minimum mean squared error optimization in place of optimization of TDECQ has been proposed." This topic has had a presentation in TF & discussion in TF and offline. Whatever the TF decides during comment resolution on D2.0, I think the Editor's Note has served its purpose (of stimulating consideration) and should be removed at this point.

SuggestedRemedy

Remove this editor's note

Response　　　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.
Remove the editor's note.
See response to comment #6.

Cl **167**　　　*SC* **167.8.6**　　　　　*P* **55**　　　*L* **19**　　　　# 4

Ghiasi, Ali　　　　　　　　　　Ghiasi Quantum/Marvell

Comment Type **ER**　　　*Comment Status* **A**

Font for table 167-12 is different thatn other tables

SuggestedRemedy

Please use the same font and

Response　　　　　　　*Response Status* **W**

ACCEPT IN PRINCIPLE.
Font in column 1 should not be bold. The interior and exterior borders of Table 167-12 are not in the IEEE format and will be changed to IEEE format.

Use editorial license to modify table size.

Cl **167**　　　*SC* **167.8.6.1**　　　　*P* **55**　　　*L* **30**　　　# 32

Ran, Adee　　　　　　　　　　　　Cisco

Comment Type **E**　　　*Comment Status* **A**　　　　　　*Bucket*

In "9 tap reference equalizer", "9 tap" is a compound adjective, so should be written with a hyphen, "9-tap".

Compare to multiple instances of "<n>-bit" in the base document.

Similar issue with "5 tap" in previous clauses is subject of a comment submitted to 802.3dc.

SuggestedRemedy

Change "9 tap" to "9-tap".

Response　　　　　　　*Response Status* **C**

ACCEPT.

Cl **167**　　　*SC* **167.8.6.1**　　　　*P* **55**　　　*L* **33**　　　# 5

Ghiasi, Ali　　　　　　　　　　Ghiasi Quantum/Marvell

Comment Type **TR**　　　*Comment Status* **A**

measured data from https://www.ieee802.org/3/db/public/September-09-September-29-2021/ghiasi_802.3db_01_092321.pdf
page 6 show that taps 7, 8, and 9 are <5%

SuggestedRemedy

Suggest reducing taps 6 and 7 to 10%, and taps 8 and 9 to 5%

Response　　　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Change the maximum absolute values of taps 7, 8, and 9 to be 0.3, 0.2, and 0.1, respectively.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general　　　　*Cl* **167**　　Page 10 of 13
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn　　*SC* **167.8.6.1**　　1/19/2022 7:50:14 PM
SORT ORDER: Clause, Subclause, page, line

Cl **167**   *SC* **167.8.13**   *P* **57**   *L* **11**   # 20

Dawe, Piers   Nvidia

Comment Type   **T**   *Comment Status* **A**

This says "The receiver sensitivity (OMAouter) *of each lane*", but as we have adopted interface BER for stressed sensitivity, we should be consistent and adopt it for this sensitivity too. Using the interface BER method for sensitivity is still conservative because we don't average the TDECQ, so some Tx-Rx lanes are better than spec.
Also, I didn't see a reference to 167.1.1, which is relevant because errors should be counted correctly considering Gray coding, which is a PMA function.

SuggestedRemedy

Delete "of each lane".
In 167.8.2, change "Stressed receiver sensitivity is defined" to "Receiver sensitivity and stressed receiver sensitivity are defined".
Add cross-references to 167.1.1 Bit error ratio and 167.8.2 Multi-lane testing considerations.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement with editorial license.

In 167.8.13, change
"The receiver sensitivity (OMAouter) of each lane shall be within the limit …"
to
"The receiver sensitivity (OMAouter) shall be within the limit …".

In 167.8.13, add
"BER requirements are given in 167.1.1. For multi-lane testing considerations, see 167.8.2."

In 167.8.2, change
"Stressed receiver sensitivity is defined …"
to
"Receiver sensitivity and stressed receiver sensitivity are defined …".

Cl **167**   *SC* **167.8.14**   *P* **57**   *L* **25**   # 2

Ghiasi, Ali   Ghiasi Quantum/Marvell

Comment Type   **TR**   *Comment Status* **R**

There is no clause 121.8.10

SuggestedRemedy

Please replace 121.8.10 with 121.8.9 for stress receiver sensitivity test

Response   *Response Status* **W**

REJECT.
Stressed receiver sensitivity description is now under 121.8.10 in P802.3dc D3.0.

Cl **167**   *SC* **167.8.14**   *P* **57**   *L* **42**   # 21

Dawe, Piers   Nvidia

Comment Type   **T**   *Comment Status* **A**

This says "The BER is required to be met for each lane under test on its own", contradicting 167.8.2. Using the interface BER method for sensitivity is still conservative because we don't average the TDECQ, so some Tx-Rx lanes are better than spec.
For an example, 95.8.8.1 says: For 100GBASE-SR4 the relevant BER is the interface BER at the PMD service interface. The interface BER is the average of the four BER of the receive lanes when stressed: see 95.8.1.1. If present, the RS-FEC sublayer can measure the lane symbol error ratio at its input. The lane BER can be assumed to be one tenth of the lane symbol error ratio. If each lane is stressed in turn, the PMD interface BER is the average of the BERs of all the lanes when stressed: see 95.8.1.1.
Also, I didn't see a reference to 167.1.1, which is relevant because errors should be counted correctly considering Gray coding, which is a PMA function.

SuggestedRemedy

Delete "The BER is required to be met for each lane under test on its own".
Add an entry to the list of exceptions from 121: "The relevant BER is the interface BER; see 167.1.1 and 167.8.2."
If it is helpful, add text about how to find BER using FEC symbol counters to 167.8.2.

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
Implement with editorial license.

In 167.8.14,
Delete "The BER is required to be met for each lane under test on its own".

Add the following exception from 121.8.10:
"The relevant BER is the interface BER; see 167.1.1 and 167.8.2."

Cl **167**   *SC* **167.8.14**   *P* **57**   *L* **43**   # 36

Dudek, Mike   Marvell

Comment Type   **T**   *Comment Status* **A**

The requirement for the BER to be met for each lane on it's own is conflicting with section

SuggestedRemedy

Change "The BER is required to be met for each lane under test on its own" to "The required BER is specified in 167.1.1. For multilane interfaces the requirements are specified in 167.8.2"

Response   *Response Status* **C**

ACCEPT IN PRINCIPLE.
See response to comment #21.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected   RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **167**
SC **167.8.14**

Page 11 of 13
1/19/2022 7:50:14 PM

Cl **167**　　*SC* **167.8.14.1**　　　　*P* **57**　　*L* **57**　　　# 3

Ghiasi, Ali　　　　　　　　　Ghiasi Quantum/Marvell

Comment Type **TR**　　*Comment Status* **R**

db draft reference CL 121.8.9 for stress receiver sensitivity and this clasue include sinusiodal jitter mask, if we are referencing CL121 why duplicate jitter mask in the db CL 167?

SuggestedRemedy

Remove CL 167.8.14.1

Response　　　　　　　*Response Status* **U**

REJECT.
Past multimode clauses 95, 138 and 150 have carried the description of the sinusoidal jitter for testing receiver jitter tolerance.

There is no other clause with a description of 100G per lane sinusoidal jitter mask.

Cl **167**　　*SC* **167.10.2.1**　　　　*P* **61**　　*L* **15**　　　# 22

Dawe, Piers　　　　　　　　　Nvidia

Comment Type **E**　　*Comment Status* **A**　　　　　　*Bucket*

Font too small: Chromatic dispersion...

SuggestedRemedy

Fix

Response　　　　　　　*Response Status* **C**

ACCEPT.

Cl **167**　　*SC* **167.10.2.1**　　　　*P* **61**　　*L* **20**　　　# 23

Dawe, Piers　　　　　　　　　Nvidia

Comment Type **E**　　*Comment Status* **A**

This sounds like effective guidance, not guidance about modal bandwidth

SuggestedRemedy

Change "Effective modal bandwidth guidance is provided at all wavelengths in" to "Guidance is provided for effective modal bandwidth(s) at all wavelengths in".

Response　　　　　　　*Response Status* **C**

ACCEPT IN PRINCIPLE.

Change "Effective modal bandwidth guidance is provided at all wavelengths in" to "Guidance is provided for effective modal bandwidth at all wavelengths in".

Cl **167**　　*SC* **167.10.3**　　　　*P* **61**　　*L* **37**　　　# 31

Ran, Adee　　　　　　　　　Cisco

Comment Type **TR**　　*Comment Status* **A**

I am repeating comment #133 against D2.0 (which was marked as bucket and not discussed).

The comment said "Receiver compliance testing is done at TP3 which is the MDI per 167.5.1. So the note should apply only to the transmitter."

The NOTE in 167.10.3 seems to have been inherited from some previous clause. The base document has 11 instances of similar notes. However, starting in clause 86, this note was changed to refer only to transmitter compliance, viz. "NOTE—Transmitter compliance testing is performed at TP2 as defined in 86.5.1, not at the MDI." There are 15 instances of this version of the note, which fixes the issue I referred to in the comment.

This project should use the better precedent text.

I have submitted a comment to the maintenance project to align all clauses to the version of the text in clause 86.

SuggestedRemedy

Change the NOTE to read:
NOTE—Transmitter compliance testing is performed at TP2 as defined in 167.5.1, not at the MDI.

Response　　　　　　　*Response Status* **W**

ACCEPT.

Cl **167**　　*SC* **167.11.4.4**　　　　*P* **68**　　*L* **16**　　　# 37

Dudek, Mike　　　　　　　　　Marvell

Comment Type **T**　　*Comment Status* **A**　　　　　　*Bucket*

Incorrect subclauses listed.

SuggestedRemedy

Change OM6 to 167.8.7, OM7 to 167.8.8 and OM8 to 167.8.9

Response　　　　　　　*Response Status* **C**

ACCEPT.

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **167**
SC **167.11.4.4**

Page 12 of 13
1/19/2022 7:50:14 PM

Cl **167**　　　*SC* **167.11.4.6**　　　*P* **69**　　　*L* **13**　　　# 24

Dawe, Piers　　　　　　　　　　　Nvidia

Comment Type　**E**　　*Comment Status*　**A**

This table should mention VRn as well as SRn

SuggestedRemedy

Several places

Response　　　　　　*Response Status*　**C**

ACCEPT IN PRINCIPLE.

Change 167.11.3
Add star to VR1, VR2, and VR4

Change 167.11.4.6 as follows:

OC4
MDI layout for 200GBASE-VR2 and 200GBASE-SR2
(VR2 or SR2) in status

OC5
MDI layout for 400GBASE-VR4 and 400GBASE-SR4
(VR4 or SR4) in status

OC6
MDI mating, 100GBASE-VR1 and 100GBASE-SR1
(VR1 or SR1) in status

OC7
MDI requirements for 100GBASE-VR1 and 100GBASE-SR1

OC8
MDI mating,
200GBASE-VR2, 200GBASE-SR2, 400GBASE-VR4 and 400GBASE-SR4
(VR2, VR4, SR2, or SR4) in status

OC9
MDI dimensions for 200GB ASE-VR2, 200GBASE-SR2, 400GBASE-VR4, and 400GBASE-SR4
(VR2, VR4, SR2, or SR4) in status

OC10
Cabling connector dimensions for 200GBASE-VR2, 200GBASE-SR2, 400GBASE-VR4, and 400GBASE-SR4
(VR2, VR4, SR2, or SR4) in status

OC11

MDI requirements for 200GBASE-VR2, 200GBASE-SR2, 400GBASE-VR4, and 400GBASE-SR4
(VR2, VR4, SR2, or SR4) in status

Cl **167**　　　*SC* **167.11.4.6**　　　*P* **69**　　　*L* **21**　　　# 25

Dawe, Piers　　　　　　　　　　　Nvidia

Comment Type　**E**　　*Comment Status*　**A**

PICS needs modification to align with 167.10.3.2 which allows a 1-lane PMD with an MDI using a multifiber connector

SuggestedRemedy

Per comment

Response　　　　　　*Response Status*　**C**

ACCEPT IN PRINCIPLE.

Change 167.11.4.6 with editorial license

OC7
MDI requirements for 100GBASE-VR1 and 100GBASE-SR1, duplex optical fiber connector
(VR1 or SR1) and INS:M in status

OC11
MDI requirements for 200GBASE-SR2 and 400GBASE-SR4, or 100GBASE-VR1 and 100GBASE-SR1, multifiber connector

OC6
MDI mating for 100GBASE-VR1 and 100GBASE-SR1, duplex optical fiber connector

OC8
MDI mating for 200GBASE-SR2 and 400GBASE-SR4, or 100GBASE-VR1 and 100GBASE-SR1, multifiber connector

OC9
MDI dimensions for 200GBASE-SR2 and 400GBASE-SR4, or 100GBASE-VR1 and 100GBASE-SR1, multifiber connector

OC10
Cabling connector dimensions for 200GBASE-SR2 and 400GBASE-SR4, or 100GBASE-VR1 and 100GBASE-SR1, multifiber connector

TYPE: TR/technical required ER/editorial required GR/general required T/technical E/editorial G/general
COMMENT STATUS: D/dispatched A/accepted R/rejected　　RESPONSE STATUS: O/open W/written C/closed U/unsatisfied Z/withdrawn
SORT ORDER: Clause, Subclause, page, line

Cl **167**　　　Page 13 of 13
SC **167.11.4.6**　　　1/19/2022 7:50:14 PM