

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

CI FM SC FM P1 L41 # 39  
 Grow, Robert RMG Consulting  
 Comment Type E Comment Status X  
 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.  
 Proposed Response Response Status O

CI FM SC FM P2 L40 # 40  
 Grow, Robert RMG Consulting  
 Comment Type ER Comment Status X  
 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.  
 Proposed Response Response Status O

CI FM SC FM P4 L8 # 41  
 Grow, Robert RMG Consulting  
 Comment Type E Comment Status X  
 The second paragraph is now oblolete, the 2020 Style Manual 11.1 now specifies arabic numbering of front matter.  
 SuggestedRemedy  
 Delete second paragraph  
 Proposed Response Response Status O

CI FM SC FM P16 L3 # 7  
 Dawe, Piers Nvidia  
 Comment Type E Comment Status X  
 Amendment:  
 SuggestedRemedy  
 Amendment 4:  
 Proposed Response Response Status O

CI 00 SC 0 P L # 38  
 Grow, Robert RMG Consulting  
 Comment Type E Comment Status X  
 I am satisfied with my D2.0 comments #221 and #230.  
 SuggestedRemedy  
 Remove from the unsatisfied comments list.  
 Proposed Response Response Status O

CI 1 SC 1.3 P17 L8 # 27  
 Zimmerman, George CME Consulting/ADI, APL Gp, Cisco, CommScope, M  
 Comment Type E Comment Status X  
 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 If dated, particularly with an as-yet-unpublished draft, this standard cannot publish before 60793-2-10:202x (whatever x may be) publishes.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  
 Proposed Response Response Status O

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

Cl 1 SC 1.3 P17 L8 # 30  
 Ran, Adee Cisco  
 Comment Type E Comment Status X  
 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.  
 Proposed Response Response Status O

Cl 30 SC 30.5.1.1.2 P18 L19 # 34  
 Dudek, Mike Marvell  
 Comment Type T Comment Status X  
 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  
 Proposed Response Response Status O

Cl 1 SC 1.4.142a P17 L42 # 33  
 Dudek, Mike Marvell  
 Comment Type E Comment Status X  
 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 O

Cl 45 SC 45.2.1.6 P19 L7 # 43  
 Grow, Robert RMG Consulting  
 Comment Type E Comment Status X  
 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 support for changing "Register x.y" to "register x.y" from an IEEE publication editor).  
 Proposed Response Response Status O

Cl 30 SC 30.3.2.1.2 P18 L2 # 42  
 Grow, Robert RMG Consulting  
 Comment Type T Comment Status X  
 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.  
 Proposed Response Response Status O

Cl 45 SC 45.2.1.24 P22 L11 # 44  
 Grow, Robert RMG Consulting  
 Comment Type E Comment Status X  
 Unnecessary ellipsis row.  
 SuggestedRemedy  
 Delete the row.  
 Proposed Response Response Status O

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

---

CI 45 SC 45.2.1.24 P22 L22 # 45  
Grow, Robert RMG Consulting  
Comment Type E Comment Status X  
Misplaced ellipsis row.  
SuggestedRemedy  
Move between bits 10 and 2.  
Proposed Response Response Status O

---

CI 45 SC 45.2.1.24a P22 L29 # 46  
Grow, Robert RMG Consulting  
Comment Type E Comment Status X  
Oops on subclause number.  
SuggestedRemedy  
Number should be 45.1.24.1aa if I remember right. (Also correct in editing instruction.)  
Proposed Response Response Status O

---

CI 80 SC 80.1.3 P24 L9 # 47  
Grow, Robert RMG Consulting  
Comment Type E Comment Status X  
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.  
Proposed Response Response Status O

---

CI 80 SC 80.1.4 P24 L27 # 48  
Grow, Robert RMG Consulting  
Comment Type E Comment Status X  
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.  
Proposed Response Response Status O

---

CI 80 SC 80.5 P125 L15 # 10  
Dawe, Piers Nvidia  
Comment Type E Comment Status X  
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  
Proposed Response Response Status O

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

Cl 91 SC 91.5.3.3 P27 L30 # 28

Ran, Adee Cisco  
 Comment Type ER Comment Status X

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.

Proposed Response Response Status O

Cl 91 SC 91.7.3 P29 L9 # 11

Dawe, Piers Nvidia  
 Comment Type E Comment Status X

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

*SuggestedRemedy*

Delete

Proposed Response Response Status O

Cl 116 SC 116.1.3 P32 L34 # 49

Grow, Robert RMG Consulting  
 Comment Type E Comment Status X

If there is a logic in the insert point for new items, it is something I can't discern. It would appear to be consistent 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.

Proposed Response Response Status O

Cl 116 SC 116.1.3 P32 L35 # 35

Dudek, Mike Marvell  
 Comment Type T Comment Status X

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

Proposed Response Response Status O

Cl 116 SC 116.1.3 P32 L37 # 9

Dawe, Piers Nvidia  
 Comment Type E Comment Status X

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.

Proposed Response Response Status O

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

Cl 116 SC 116.5 P37 L17 # 12  
 Dawe, Piers Nvidia  
 Comment Type E Comment Status X  
 Missing references to clauses 136 and 137, in tables 116-8 and 116-9  
 SuggestedRemedy  
 Add them  
 Proposed Response Response Status O

Cl 167 SC 167.5.2 P45 L43 # 29  
 Ran, Adeo Cisco  
 Comment Type TR Comment Status X  
 See comment #121 against D2.0 was not implemented fully - one instance of "signal stream" still exists.  
 SuggestedRemedy  
 Change "signal stream" to "signal".  
 Proposed Response Response Status O

Cl 167 SC 167.1 P40 L28 # 13  
 Dawe, Piers Nvidia  
 Comment Type E Comment Status X  
 in116.2  
 SuggestedRemedy  
 in space 116.2 (green)  
 Proposed Response Response Status O

Cl 167 SC 167.7.1 P49 L27 # 6  
 Ghiasi, Ali Ghiasi Quantum/Marvell  
 Comment Type TR Comment Status X  
 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](https://www.ieee802.org/3/db/public/September-09-September-29-2021/ghiasi_802.3db_01_092321.pdf)  
 SuggestedRemedy

Cl 167 SC 167.1 P40 L36 # 14  
 Dawe, Piers Nvidia  
 Comment Type E Comment Status X  
 30  
 m  
 SuggestedRemedy  
 Use non-breaking space  
 Proposed Response Response Status O

MMSE is representative of real receiver and a full grid search may produce results slightly 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.  
 Proposed Response Response Status O

Cl 167 SC 167.7.1 P49 L47 # 15  
 Dawe, Piers Nvidia  
 Comment Type T Comment Status X  
 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.  
 Proposed Response Response Status O

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

CI 167 SC 167.8.1 P53 L20 # 1 [REDACTED]  
 Ghiasi, Ali Ghiasi Quantum/Marvell  
 Comment Type TR Comment Status X  
 There is no definition of valid 100GBASE-ZV1/SR1, etc., instead you should reference the PCS signal  
 SuggestedRemedy  
 Please replace PMD signals with PCS signals, 100GBASE-R with CL91 RS-FEC, 200GBASE-R, or 400GBASE-R signals  
 Proposed Response Response Status O

CI 167 SC 167.8.4 P54 L5 # 17 [REDACTED]  
 Dawe, Piers Nvidia  
 Comment Type E Comment Status X  
 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.  
 Proposed Response Response Status O

CI 167 SC 167.8.2 P53 L33 # 16 [REDACTED]  
 Dawe, Piers Nvidia  
 Comment Type E Comment Status X  
 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".  
 Proposed Response Response Status O

CI 167 SC 167.8.5 P56 L35 # 8 [REDACTED]  
 Dawe, Piers Nvidia  
 Comment Type T Comment Status X  
 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".  
 Proposed Response Response Status O

CI 167 SC 167.8.4 P54 L5 # 18 [REDACTED]  
 Dawe, Piers Nvidia  
 Comment Type T Comment Status X  
 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"  
 Proposed Response Response Status O

CI 167 SC 167.8.6 P54 L18 # 19 [REDACTED]  
 Dawe, Piers Nvidia  
 Comment Type E Comment Status X  
 Typically, the font in figures is Arial not Times New Roman. And, some of it is too small.  
 SuggestedRemedy  
 Change to Arial, 8 point  
 Proposed Response Response Status O

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

Cl 167 SC 167.8.6 P55 L11 # 26

Lingle, Robert OFS

Comment Type E Comment Status X

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

Proposed Response Response Status O

Cl 167 SC 167.8.6 P55 L19 # 4

Ghiasi, Ali Ghiasi Quantum/Marvell

Comment Type ER Comment Status X

Font for table 167-12 is different than other tables

SuggestedRemedy  
Please use the same font and

Proposed Response Response Status O

Cl 167 SC 167.8.6.1 P55 L30 # 32

Ran, Adeo Cisco

Comment Type E Comment Status X

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".

Proposed Response Response Status O

Cl 167 SC 167.8.6.1 P55 L33 # 5

Ghiasi, Ali Ghiasi Quantum/Marvell

Comment Type TR Comment Status X

measured data from [https://www.ieee802.org/3/db/public/September-09-September-29-2021/ghiasi\\_802.3db\\_01\\_092321.pdf](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%

Proposed Response Response Status O

Cl 167 SC 167.8.13 P57 L11 # 20

Dawe, Piers Nvidia

Comment Type T Comment Status X

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.

Proposed Response Response Status O

Cl 167 SC 167.8.14 P57 L25 # 2

Ghiasi, Ali Ghiasi Quantum/Marvell

Comment Type TR Comment Status X

There is no clause 121.8.10

SuggestedRemedy  
Please replace 121.8.10 with 121.8.9 for stress receiver sensitivity test

Proposed Response Response Status O

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

Cl 167 SC 167.8.14 P57 L42 # 21

Dawe, Piers Nvidia  
 Comment Type T Comment Status X

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.

Proposed Response Response Status O

Cl 167 SC 167.8.14 P57 L43 # 36

Dudek, Mike Marvell  
 Comment Type T Comment Status X

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

Proposed Response Response Status O

Cl 167 SC 167.8.14.1 P57 L57 # 3

Ghiasi, Ali Ghiasi Quantum/Marvell  
 Comment Type TR Comment Status X

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

SuggestedRemedy

Remove CL 167.8.14.1

Proposed Response Response Status O

Cl 167 SC 167.10.2.1 P61 L15 # 22

Dawe, Piers Nvidia  
 Comment Type E Comment Status X

Font too small: Chromatic dispersion...

SuggestedRemedy

Fix

Proposed Response Response Status O

Cl 167 SC 167.10.2.1 P61 L20 # 23

Dawe, Piers Nvidia  
 Comment Type E Comment Status X

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".

Proposed Response Response Status O

J2.3db D2.1 100G, 200G, 400G Short Reach Fiber Task Force 1st Working Group recirculation ballot con

Cl 167 SC 167.10.3 P61 L37 # 31  
 Ran, Adee Cisco  
 Comment Type **TR** Comment Status **X**  
 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.

*Proposed Response* Response Status **O**

Cl 167 SC 167.11.4.6 P69 L13 # 24  
 Dawe, Piers Nvidia  
 Comment Type **E** Comment Status **X**  
 This table should mention VRn as well as SRn

*SuggestedRemedy*  
 Several places

*Proposed Response* Response Status **O**

Cl 167 SC 167.11.4.6 P69 L21 # 25  
 Dawe, Piers Nvidia  
 Comment Type **E** Comment Status **X**  
 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

*Proposed Response* Response Status **O**

Cl 167 SC 167.11.4.4 P68 L16 # 37  
 Dudek, Mike Marvell  
 Comment Type **T** Comment Status **X**  
 Incorrect subclauses listed.

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

*Proposed Response* Response Status **O**