

IEEE P802.3cw D2.6 400 Gb/s over DWDM systems 6th Working Group recirculation ballot comments

CI **FM** SC **FM** P **8** L **14** # **1**

Dawe, Piers Nvidia

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

Clauses

*SuggestedRemedy*  
clauses

Proposed Response Response Status **W**

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It would be an improvement to change "Clauses" to "clauses", however it is not critical to address at this time.

The commenter is encouraged to resubmit this comment during SA Ballot.

No consensus to make a change at this time.

CI **00** SC **0** P **14** L **51** # **2**

Dawe, Piers Nvidia

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

EEE

*SuggestedRemedy*  
IEEE

Proposed Response Response Status **W**

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It would be an improvement to change "EEE" to "IEEE" as proposed, however it is not critical to address at this time.

The commenter is encouraged to resubmit this comment during SA Ballot.

No consensus to make a change.

CI **116** SC **116.2.4** P **37** L **41** # **3**

Dawe, Piers Nvidia

Comment Type **T** Comment Status **D**

The PMA provides a medium-independent means for the PCS to support the use of a range of physical media - not for this ZR PMA

*SuggestedRemedy*  
Change:  
The PMA provides a medium-independent means for the PCS to support the use of a range of physical media.  
For 200GBASE-R and 400GBASE-R, the PMAs...  
to  
For 200GBASE-R and 400GBASE-R, the PMA provides a medium-independent means for the PCS to support the use of a range of physical media. These PMAs...

Proposed Response Response Status **W**

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

No consensus to make a change.

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Cl 156 SC 156.7.1 P 98 L 27 # 4

Dawe, Piers Nvidia

Comment Type T Comment Status D

Laser frequency noise \*mask\* - we limit the parameter by the mask (as in transmit spectrum above) - the description entry here should not say "mask".

*SuggestedRemedy*

Here, in Table 156-1 and the title of 156.9.5, change "Laser frequency noise mask" to "Laser frequency noise".

In 156.9.5, add a new first sentence: The laser frequency noise shall be below the laser frequency noise mask defined in this subclause.

Proposed Response Response Status W

PROPOSED REJECT.

This is a restatement of unsatisfied comment #2331.

See [https://www.ieee802.org/3/cw/comments/D2p5/8023cw\\_D2p5\\_comments\\_final\\_unsatisfied\\_by\\_ID.pdf](https://www.ieee802.org/3/cw/comments/D2p5/8023cw_D2p5_comments_final_unsatisfied_by_ID.pdf).

The CRG encouraged contributions related to laser frequency noise but none have been received. The CRG previously had no consensus to make a change. No new information has been provided.

No consensus to make a change.

Cl 156 SC 156.7.1 P 98 L 38 # 5

Dawe, Piers Nvidia

Comment Type TR Comment Status D

This says "I-Q amplitude imbalance (mean)" with a spec of 1 dB and no tolerance. That is impossible to meet.

*SuggestedRemedy*

Change "I-Q amplitude imbalance (mean)" to "Mean I-Q amplitude imbalance (max)" as in 400ZR and similar to "Mean I-Q offset per polarization" just above. In 156.9.13?, change "I-Q amplitude imbalance (mean)" to "Mean I-Q amplitude imbalance", twice.

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

No consensus to make a change.

Cl 156 SC 156.8 P 98 L 35 # 6

Dawe, Piers Nvidia

Comment Type T Comment Status D

Still one square bracket too many: see D2.5 comment 1 and 18, and maniloff\_3cw\_01\_230925

*SuggestedRemedy*

Change double square brackets to single

Proposed Response Response Status W

PROPOSED REJECT.

While the formula is not identical to what is shown in [https://www.ieee802.org/3/cw/public/23\\_0925/maniloff\\_3cw\\_01\\_230925.pdf](https://www.ieee802.org/3/cw/public/23_0925/maniloff_3cw_01_230925.pdf), it is accurate and no changes are required.

If the commentor feels the formula can be improved they are invited to submit a comment during SA Ballot.

No consensus to make a change.

Cl 156 SC 156.8 P 102 L 7 # 7

Dawe, Piers Nvidia

Comment Type E Comment Status D

Inconsistent and unusual way of presenting units

*SuggestedRemedy*

Change header row to:  
Frequency offset (GHz) Isolation (dB)  
Delete "GHz from body, delete third row

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

No consensus to make a change.

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CI 156 SC 156.8 P 102 L 34 # 8

Dawe, Piers Nvidia  
 Comment Type ER Comment Status D

Figure is a bitmap - compare Fig 156-7

*SuggestedRemedy*

Re-insert the figure the proper way, document the method in [https://iee802.org/3/WG\\_tools/editorial/](https://iee802.org/3/WG_tools/editorial/)

Proposed Response Response Status W

PROPOSED REJECT.

While the editors agree the quality of the figure can be improved, it not critical to address at this time.

The commenter is encouraged to resubmit this comment during SA Ballot.

No consensus to make a change.

CI 156 SC 156.8 P 102 L 40 # 9

Dawe, Piers Nvidia  
 Comment Type E Comment Status D

There's a standard way to indicate which side of a line one should be, set up years ago.

*SuggestedRemedy*

In Figure 156-6, add "Meets equation constraints". In Figure 156-7, change "Compliant region" to "Meets equation constraints"

Proposed Response Response Status W

PROPOSED REJECT.

Figure 156-7 did not have any substantive changes between IEEE P802.3cw D2.5 and D2.6 or have any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

In Figure 156-6 , while it might be an improvement to add "Meets equation constraints" as proposed, however it is not critical to address at this time.

No consensus to make a change.

CI 156 SC 156.9.1 P 104 L 24 # 10

Dawe, Piers Nvidia  
 Comment Type TR Comment Status D

The information in this table footnote should be in 156.9.26 and 156.9.30 (and possibly Transmit spectrum 156.9.4), not here under an index table.

*SuggestedRemedy*

Delete this footnote. Ensure the information is given in 156.9.26, 156.9.30.

Proposed Response Response Status W

PROPOSED REJECT.

This comment is a restatement of D2.5 comment #15 where the CRG decided to retain the footnote with improved wording.

See [https://www.ieee802.org/3/cw/comments/D2p5/8023cw\\_D2p5\\_comments\\_final\\_by\\_ID.pdf](https://www.ieee802.org/3/cw/comments/D2p5/8023cw_D2p5_comments_final_by_ID.pdf).

This comment does not provide substantive additional rationale for the proposed change.

No consensus to make a change

CI 156 SC 156.9.4 P 104 L 40 # 11

Dawe, Piers Nvidia  
 Comment Type TR Comment Status D

This says "The normalized transmit spectrum shall be within the limits of this subclause if measured per IEC 61280-1-3. As far as I know, IEC 61280-1-3 does not use the word "normalized".

*SuggestedRemedy*

Rewrite the definition to align with the terminology in IEC 61280-1-3 or define what is meant by "normalized".

Proposed Response Response Status W

PROPOSED REJECT.

This comment is a follow-on to D2.5 comment #14 where the CRG decided to add "normalized" in 2 places.

See [https://www.ieee802.org/3/cw/comments/D2p5/8023cw\\_D2p5\\_comments\\_final\\_by\\_ID.pdf](https://www.ieee802.org/3/cw/comments/D2p5/8023cw_D2p5_comments_final_by_ID.pdf).

The proposed change does not contain sufficient detail so that the CRG can understand the specific changes required to satisfy the comment.

No consensus to make a change.

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CI 156 SC 156.9.4 P 105 L 21 # 12

Dawe, Piers Nvidia  
 Comment Type E Comment Status D  
 Upper Mask, Lower Mask, Compliant Region

SuggestedRemedy  
 Upper mask, Lower mask, Meets equation constraints

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

While it might be an improvement to change "Upper Mask" to "Upper mask" and "Lower Mask" to "Lower mask" as proposed, however it not critical to address at this time.

No consensus to make a change.

CI 156 SC 156.9.5 P 105 L 48 # 13

Dawe, Piers Nvidia  
 Comment Type TR Comment Status D

"frequency noise" is still undefined - this has been a known issue for a long time. According to its units, it cannot be a power spectral density.

SuggestedRemedy  
 See previous comments.

Proposed Response Response Status W  
 PROPOSED REJECT.

This issue has been disussed in previous comments including unsatisfied #249 and there was no consensus to make a change.

See  
[https://www.ieee802.org/3/cw/comments/D2p5/8023cw\\_D2p5\\_comments\\_final\\_unsatisfied\\_by\\_ID.pdf](https://www.ieee802.org/3/cw/comments/D2p5/8023cw_D2p5_comments_final_unsatisfied_by_ID.pdf).

The proposed change does not contain sufficient detail so that the CRG can understand the specific changes required to satisfy the comment.

No consensus to make a change.

CI 156 SC 156.9.6 P 106 L 54 # 14

Dawe, Piers Nvidia  
 Comment Type T Comment Status D  
 limits

SuggestedRemedy  
 limit (max, it's unsigned)

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

CI 156 SC 156.9.7 P 107 L 4 # 15

Dawe, Piers Nvidia  
 Comment Type T Comment Status D  
 limits

SuggestedRemedy  
 limit (max, it's unsigned)

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

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CI 156 SC 156.9.8 P 107 L 9 # 16

Dawe, Piers Nvidia  
 Comment Type T Comment Status D  
 limits

SuggestedRemedy  
 limit (max, it's unsigned)

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

CI 156 SC 156.9.9 P 107 L 19 # 17

Dawe, Piers Nvidia  
 Comment Type T Comment Status D  
 limits

SuggestedRemedy  
 limit (it's a single max)

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

CI 156 SC 156.9.10 P 107 L 26 # 18

Dawe, Piers Nvidia  
 Comment Type T Comment Status D  
 limits

SuggestedRemedy  
 limit (it's a single max). Same in 156.9.11.

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

CI 156 SC 156.9.10 P 107 L 28 # 19

Dawe, Piers Nvidia  
 Comment Type E Comment Status D  
 Base of log should be a subscript. Same in 156.9.11.

SuggestedRemedy

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It would be an improvement to change the base of log to a subscript, however it is not critical to address at this time.

The commenter is encouraged to resubmit a comment during SA Ballot.

No consensus to make a change at this time.

IEEE P802.3cw D2.6 400 Gb/s over DWDM systems 6th Working Group recirculation ballot comments

CI 156 SC 156.9.10 P 107 L 28 # 20

Dawe, Piers Nvidia

Comment Type TR Comment Status D

Imean and Qmean are not defined. Same issue in 156.9.11. Note 156.10.2.5 I-Q offset compensation, so these could be obtained from the EVM method, as 400ZR says.

SuggestedRemedy

Define Imean and Qmean and Psignal, e.g. in the EVM section, and cross-reference from here.

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

No consensus to make a change.

CI 156 SC 156.9.10 P 107 L 28 # 21

Dawe, Piers Nvidia

Comment Type T Comment Status D

Measurement interval would be the distance in time between measurement windows. 400ZR says "averaging period"

SuggestedRemedy

Change "measurement interval" to "measurement window for averaging".

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

No consensus to make a change.

CI 156 SC 156.9.12 P 107 L 39 # 22

Dawe, Piers Nvidia

Comment Type T Comment Status D

limits

SuggestedRemedy

limit (it's a single max)

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

CI 156 SC 156.9.13 P 107 L 44 # 23

Dawe, Piers Nvidia

Comment Type T Comment Status D

limits

SuggestedRemedy

limit (it's a single max)

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

IEEE P802.3cw D2.6 400 Gb/s over DWDM systems 6th Working Group recirculation ballot comments

CI 156 SC 156.9.14 P 107 L 50 # 24

Dawe, Piers Nvidia  
 Comment Type T Comment Status D  
 limits

SuggestedRemedy  
 limit (it's a single max)

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

CI 156 SC 156.9.13 P 107 L 43 # 25

Dawe, Piers Nvidia  
 Comment Type TR Comment Status D

"The I-Q phase error magnitude (max) is the \*largest\* phase difference of the in-phase component I and quadrature component Q of the signal" [not -90 degrees!]

SuggestedRemedy  
 Define "largest phase difference".

Proposed Response Response Status W  
 PROPOSED REJECT.

This issue was previously discussed in D2.5 unsatisfied comment #8 and the CRG decided the proposed change did not contain sufficient detail to understand the specific changes required to satisfy the comment and no changes were made to the draft.

See  
[https://www.ieee802.org/3/cw/comments/D2p5/8023cw\\_D2p5\\_comments\\_final\\_unsatisfied\\_by\\_ID.pdf](https://www.ieee802.org/3/cw/comments/D2p5/8023cw_D2p5_comments_final_unsatisfied_by_ID.pdf).

The proposed change does not contain sufficient detail so that the CRG can understand the specific changes required to satisfy the comment.

No consensus to make a change.

CI 156 SC 156.9.14 P 107 L 49 # 26

Dawe, Piers Nvidia  
 Comment Type TR Comment Status D  
 The I-Q quadrature skew is the \*maximum\* relative skew

SuggestedRemedy  
 Define "maximum skew"

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

No consensus to make a change.

CI 156 SC 156.9.14 P 107 L 49 # 27

Dawe, Piers Nvidia  
 Comment Type TR Comment Status D

"The I-Q quadrature skew is the maximum \*relative\* skew": tautology.

SuggestedRemedy  
 Delete "relative", or change "relative skew" to "timing offset"

Proposed Response Response Status W  
 PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

No consensus to make a change.

IEEE P802.3cw D2.6 400 Gb/s over DWDM systems 6th Working Group recirculation ballot comments

Cl 156 SC 156.9.14 P 107 L 50 # 28

Dawe, Piers Nvidia

Comment Type T Comment Status D

limits

*SuggestedRemedy*

limit (it's a single max)

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It might be an improvement to change "limits" to "limit" as proposed, however is not critical to address at this time.

The commenter is invited to resubmit this comment during SA Ballot.

No consensus to make a change.

Cl 156 SC 156.10.2.1 P 112 L 3 # 29

Dawe, Piers Nvidia

Comment Type E Comment Status D

4

*SuggestedRemedy*

four

Proposed Response Response Status W

PROPOSED REJECT.

This comment does not apply to substantive changes between IEEE P802.3cw D2.5 and D2.6 or any unsatisfied negative comments from previous drafts. Hence it is not within the scope of the recirculation ballot.

It would be an improvement to change "4" to "four", however it is not critical to address at this time.

The commenter is encouraged to resubmit a comment during SA Ballot.

No consensus to make a change at this time.

Cl 156 SC 156.9.13 P 107 L 43 # 30

Dawe, Piers Nvidia

Comment Type TR Comment Status D

"phase difference ... measured relative to \*local oscillator\*" - seems wrong.

*SuggestedRemedy*

Delete "measured relative to local oscillator"

Proposed Response Response Status W

PROPOSED REJECT.

This issue was previously discussed in D2.5 unsatisfied comment #9 and the CRG decided it was not critical to address at this time and the commenter was encouraged to resubmit a comment during SA Ballot.

See [https://www.ieee802.org/3/cw/comments/D2p5/8023cw\\_D2p5\\_comments\\_final\\_unsatisfied\\_by\\_ID.pdf](https://www.ieee802.org/3/cw/comments/D2p5/8023cw_D2p5_comments_final_unsatisfied_by_ID.pdf).

The commenter is encouraged again to resubmit a comment during SA Ballot.

No consensus to make a change at this time.