IEE 802.3db D2.0 100G, 200G, 400G Short Reach Fiber Task Force Initial Working Group ballot commen

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Cl **167**   *SC* **167.7.2**   *P* **53**   *L* **44**   # 40

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 slignly 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.

Response   *Response Status* **U**

REJECT.

No specific proposal was presented. A straw poll did not show consensus for a change.

Straw Poll:
I support replacing the existing method of optimizing TDECQ with an MMSE approach
Yes   4
No   5
Abstain   9
Need more information   3

Cl **167**   *SC* **167.9.1**   *P* **59**   *L* **54**   # 69

Wienckowski, Natalie   General Motors

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

Should refer to Annex J. IEC 60950-1 is obsolete.

SuggestedRemedy

Change: All equipment subject to this clause shall conform to IEC 60950-1.
To: All equipment meeting this standard shall conform to the general safety requirements as specified in J.2.

Response   *Response Status* **U**

ACCEPT IN PRINCIPLE.
See also comments #95 and 177

Change this sentence to "All equipment subject to this clause shall conform to J.2."

Cl **167**   *SC* **167.7.1**   *P* **51**   *L* **28**   # 195

Dawe, Piers   Nvidia

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

As the channel or signal is relatively slower than for any other optical PMDs so far, we should expect higher Ceq, contributing to TDECQ, but we should not expect higher K because we have 9 taps rather than 5, and 2% threshold adjust rather than 1%. We expect that TDECQ, Ceq and K measurements with 2% threshold adjust will be more accurate than for previous specs, so we need less padding for measurement issues. We should re-optimise the spec considering these things, encouraging good equalisable signals both after and before the fibre.   The K' limit can catch some bad transmitters that an overshoot limit intended to pass all good signals would miss - and K' is a free by-product of TECQ. The K' limit is similar to VEC in C2M and EVM in coherent: a screen for signals that are bad after equalisation.

SuggestedRemedy

Insert row for K'=TECQ-10.log10(Ceq'), limit 4 dB (where K' and Ceq' are the two parts of TECQ as K and Ceq are the two parts of TDECQ). For both VR and SR.

Response   *Response Status* **U**

REJECT.

Based on Straw Poll:

I favor including a limit on K' for
VR   2
SR   0
Both   1
Neither   5
Abstain   9

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: Comment ID

Comment ID **195**   Page 1 of 3

Cl **1**　　　*SC* **1.4**　　　　　　*P* **18**　　　*L* **12**　　　# 221

Grow, Bob　　　　　　　　　RMG Consulting

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

With the merge of IEEE Std 802.3ct and IEEE Std 802.3cp into P802.3/D2.1, indeed subclause numbering has changed in P802.3/D2.1, but additionally, base text has also changed from that in this draft. With the expected (conditional) approval to advance the revision project to SA ballot, stability of both subclause numbers and base text should be significantly improved with P802.3/D2.1 and future drafts.

SuggestedRemedy

Review changed clauses against the then current draft of the P802.3 revision project. (I have also submitted individual comments for some specific noted differences found in review of P802.3/D2.1 changes.)

Response　　　　　　　*Response Status* **U**

ACCEPT IN PRINCIPLE.

Following are the assignments:

```
1.4.38a   100GBASE-SR1        100GBASE-R encoding
1.4.41a   100GBASE-VR1        100GBASE-R encoding
1.4.108a  200GBASE-SR2        200GBASE-R encoding
1.4.109a  200GBASE-VR2        200GBASE-R encoding
1.4.142a  400GBASE-SR4        400GBASE-R encoding
1.4.144a  400GBASE-VR4        400GBASE-R encoding
```

Cl **45**　　　*SC* **45.2.1.24**　　　　　*P* **23**　　　*L* **49**　　　# 230

Grow, Bob　　　　　　　　　RMG Consulting

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

The editing instructon is wrong. The words "Table" should not be in the parenthetical. Also all three subclause numbers are wrong.

SuggestedRemedy

There is already a 45.2.1.24.7 in P802.3/D2.1 so the final subclause numbers should be 8 and 9 here and on the inserted subclauses on page 24.

Response　　　　　　　*Response Status* **U**

ACCEPT IN PRINCIPLE.

New subclauses and associated registers:
45.2.1.24.a   1.26.10
45.2.1.24.8   1.26.2

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: Comment ID

Comment ID **230**　　　　　Page 2 of 3

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.

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* **167.7.1**   *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.
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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

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: Comment ID

Comment ID **6**   Page 3 of 3