Cl **000** *SC* **0** *P* **0** *L* **0** # r05-1

Turner, Michelle

Comment Type **G** *Comment Status* **A**

This draft meets all editorial requirements.

SuggestedRemedy

Response *Response Status* **C**

ACCEPT.

Cl **138** *SC* **138.8.5** *P* **273** *L* **47** # r05-2

Dawe, Piers J G Mellanox Technologies

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

As noted in previous comments, the combination of all penalties for the MMF PMDs, which is much higher than for SMF, is too high. See
http://ieee802.org/3/cm/public/adhoc/dawe_3cm_adhoc_01_092718.pdf
Also the relation between measured TDECQ and penalties in service should be improved.

SuggestedRemedy

Insert:
Equation (138-1) is used in place of Equation (121-11).
$R=\sqrt{sigmaG^2 + sigmaS^2 - M^2}$ (138-1)
where M = 0.0075Pave
[Note to reader: Pave is already defined in 121.8.5.3]
In 138.8.10 Stressed receiver sensitivity, e.g. at page 275 line 46, insert:
the values of M in Equation (138-1) is set to zero, and

Response *Response Status* **U**

REJECT.

This comment is a restatement of previous comments (r04-11 and r04-12) that have already been recirculated.

The following presentations were presented to and discussed by the task force:
http://www.ieee802.org/3/cd/public/Oct18/king_3cd_01_1018.pdf
http://www.ieee802.org/3/cd/public/Oct18/dawe_3cd_01a_1018.pdf

There was no support other than from the commenter for adopting the newly proposed remedy to the draft.

The response to comment r04-11 was:
REJECT.
Presentation <http://www.ieee802.org/3/cd/public/Sept18/dawe_3cd_01b_0918.pdf> was reviewed.
Previous analysis has shown that the penalty for modal noise is significantly less than 0.1 dB for NRZ. Insufficient evidence has been provided to show that the penalty is large enough to warrant a change to the link budget.
See the following for previous analysis:
http://www.ieee802.org/3/aq/public/nov04/pepeljugoski_1_1104.pdf
There was no support to make a change.
Also, see response to r04-12.

The response to comment r04-12 (to which r04-11 refers) was:
REJECT.
This comment is similar to R03-27.
100GBASE-SR4 does not include receiver equalization, whereas the 100GBASE-SR2 does; therefore the penalty for each cannot be easily compared.
PAM4 transmitters for MMF with measured TDECQ values up to 5 dB have been shown in

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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 **138**
SC **138.8.5**

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http://www.ieee802.org/3/cd/public/May18/king_3cd_03_0518.pdf,
http://www.ieee802.org/3/cd/public/May18/dawe_3cd_01b_0518.pdf (slide 9), and in
http://www.ieee802.org/3/cd/public/July18/king_3cd_02a_0718.pdf (slide 12)
which supports the P802.3cd draft 3.4 TDECQ limit of 4.5 dB, taking account of product
variability with larger sample sizes.
http://www.ieee802.org/3/cd/public/July18/king_3cd_02a_0718.pdf also shows receiver
sensitivity vs estimated SECQ for values up to 4 dB with no indication of problems.
The current TDECQ limit was arrived at as a compromise between transmitter and receiver
capabilities.
The URLs for the presentations cited by the commenter and not called out above are:
http://www.ieee802.org/3/cd/public/Jan18/king_3cd_02_0118.pdf
http://www.ieee802.org/3/cd/public/adhoc/archive/chang_011018_3cd_01_adhoc-v2.pdf
http://www.ieee802.org/3/cd/public/May18/dawe_3cd_01b_0518.pdf
Presentation <http://www.ieee802.org/3/cd/public/Sept18/dawe_3cd_01b_0918.pdf> was
reviewed.
There was no support to make a change.

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 **138**
SC **138.8.5**

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