Cl **1** *SC* **1.4.245c** *P* **22** *L* **34** # 235

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

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

Use of abbreviations - I believe this is the first use of the abbreviation EQ in IEEE Std 802.3. While the previous definition (inserted by .3ca) defined Equalization Time, and inserted an abbreviation in 1.5 for EQ, it forgot to expand the first use, which is in the definition of EQT on line 34. To the reader outside this particular amendment set, EQ has a lot of general meanings (e.g., equalization), so spelling it out will improve clarity, in my opinion. While technically, EQT is actually an abbreviation (in 1.5) and the defined term should be envelope quantum time, it is never used in its spelled out form that I can find, so I suggest just inserting the expansion of EQ and letting EQT - the unit, be just as it is.

SuggestedRemedy

Suggest change "transmit one EQ" to "transmit one envelope quantum (EQ)".

Response *Response Status* **C**

ACCEPT.

Cl **1** *SC* **1.4.275a** *P* **22** *L* **40** # 236

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

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

FSR is defined as though it is a property of "an optical filter" - this doesn't appear to make sense with the usages of FSR in many places. FSR is a 'channel set' (either one or 2), and FSR seems to be the freqeuncy range of a mux "so they may be designed to have a free spectral range (FSR) significantly wider than the defined frequencies of operation" in other places. In the second case, it appears the previous draft's definition (range of frequencies, rather than spacing) seemed more appropriate. Which is it?

SuggestedRemedy

Suggest revert the text, or split the terminology. Editor to review usage.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Page 96, line 29, change "so they may be designed to have a free spectral range (FSR) significantly wider than the defined frequencies of operation" to "so they may be designed to have a much wider free spectral range (FSR)"

Page 99, line 36 strike "and their repetition frequency is referred to as the free spectral range (FSR)" - this is a redefinition of the term for no good reason.

Capitalization alignment: change all instances of "FSR Set" to "FSR set".

Cl **45** *SC* **45.2.1.23a.1** *P* **25** *L* **36** # 237

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

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

This change for the ONU, while appropriate, necessitates another change in the description of the bit in Table 45-26a which is not in this draft (but is in .3ca). This currently says "1 = Downstream differential encoding enabled
0 = Downstream differential encoding disabled". It needs to be aligned.

SuggestedRemedy

Add table 45-26a to the draft, and, in the description of bit 1.29.15, change "enabled" to "enabled/active", and change "disabled" to "disabled/inactive"

Response *Response Status* **C**

ACCEPT.

Cl **56** *SC* **56.1.2** *P* **36** *L* **25** # 238

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

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

There is no editing instruction "Add". Given the marking, Change was apprpriate. Also, there are a whole bunch of missing lines between the header (EFM supports the following systems:) and item d.

SuggestedRemedy

Suggest editing instruction be replaced with "Change lettered list in 56.1.2, as modified by IEEE Std 802.3ca-2020, to add new item d as shown (unchanged list items not shown)"

Response *Response Status* **C**

ACCEPT.

Cl **164** *SC* **164.2.4.2** *P* **46** *L* **3** # 239

Dawe, Piers Nvidia

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

As 1.4.160a says, the DWDM channel (black link) extends from MDI to MDI.

SuggestedRemedy

Make the box with rounded corners wider so its sides are just inside the dashed MDI lines. It's OK to show things over/under the black link (the PMD test points aren't actually in the black link, but are alternative connections to the PMDs when they are out of service).

Response *Response Status* **C**

ACCEPT.

Cl **164** *SC* **164.2.7.2** *P* **51** *L* **12** # 240

Dawe, Piers Nvidia

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

Apply the changes of D2.1 comment 221 (Table 164-6) to Table 164-8

SuggestedRemedy

Put Minimum mean input power and Receiver OSNR tolerance next to each other. Use a single note for both: "Receiver OSNR tolerance is defined at the minimum mean input power with OLT transmitter extinction ratio of 8.2 dB (see 164.2.9.5)"

Response *Response Status* **C**

ACCEPT.

Cl **164** *SC* **164.2.9.7** *P* **53** *L* **22** # 243

Dawe, Piers Nvidia

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

Need to spell out what "according to 158.8.7 divided by 4" means

SuggestedRemedy

Bandwidth of scope filter response and jitter corner frequency of CRU are 1/4 those for 10G.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

Change existing text to read "test method shall be according to 158.8.7 for 10G signal, and according to 158.8.7 with bandwidth of scope filter response and jitter corner frequency of CRU at 1/4 those for 10G."

Update PICS as needed.

Cl **164** *SC* **164.2.9.9** *P* **53** *L* **48** # 245

Dawe, Piers Nvidia

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

This says "See 75.7.12" and "See ITU-T G.698.2, section 7.4.3". These two references give very different ways of defining receiver performance which need to be combined or reconciled. 75.7.12 is stressed sensitivity per 52.9.9 for 10 Gb/s PHYs, with chromatic dispersion that might not apply here.

SuggestedRemedy

Refer directly to 52.9.9, with the appropriate residual chromatic dispersion (as 164.2.9.14? or a table like 52.9.10.2 Channel requirements), OSNR level as "Receiver OSNR tolerance" in Table 164-6 or 8, any qualifications for 2.5G.
52.9.9 refers to the applied sinusoidal jitter in 52.8.1, which is convenient but it may need qualification for 2.5G. You'll need a definition of OSNR: you could start with G.698.2, 7.4.2, but that's rather loose.
You should consider if you want to put residual CD, SJ and OSNR all together in a single stressed receiver definition, or create two stressed receiver criteria.
Also you should consider what the receiver is supposed to do with the entry "Minimum OSNR" in Table 164-6 or 8.

Response *Response Status* **C**

ACCEPT IN PRINCIPLE.

P802.3cs does not use receiver sensitivity in any of the PMD tables, therefore that parameter is likely just an unneccessary copy/paste from .3ca. The changes wre therefore as follows:
- remove from the title of the section the words "sensitivity and",
- remove the first paragraph, and
- modify the second paragraph to read: "See ITU-T G.698.2, section 7.4.3, using a noise bandwidth of 12.5 GHz instead of 0.1 nm."
- update the PICS table (164.2.12.9), by removing the line of the OM8 requirement and update entries for OM9 and OM10, since they both use 164.2.9.10 as reference

Copy Table 52-19 and associated text in 52.8.1 into this subclause, add coverage for 2.5G signals and simplify as needed.

CD is captured on the TX side and also accomodated for in the optical path (OLT>ONU and ONU>OLT).

Cl **164A** *SC* **164A** *P* **96** *L* **32** # 241

Dawe, Piers Nvidia

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

This Annex 164A is informative and following D2.1 comment 208, some normative language was changed, but there is more to do. Avoid "specification" and required". Editorial: position of "only".

SuggestedRemedy

Change "The recommended specifications" to "The recommended characteristics" or "The recommendations".
Change the title of Table 164A-2 from "Specifications for the flat-top AWG based MUX/DEMUX" to "Recommendations for the flat-top AWG based MUX/DEMUX".
Similarly (text and table) in 164A.2.2, 164A.2.3, 164A.2.4 and 164A.3.
Change "... CAWGs are required only at the ..." to "... CAWGs are used/employed/appropriate/beneficial only at the ...".
Change "Gain clamping is therefore required to avoid" to "Gain clamping is therefore used to avoid".
"(DCF) is required... a DCM is only required for the (US) upstream direction" to "(DCF) is used... a DCM is used/present for the (US) upstream direction only"
and so on, except e.g. "high extinction ratio required for the downstream OLT transmitter" to "high extinction ratio of the downstream OLT transmitter" (although as this and a couple more are referring to normative requirements in normative sections, they could be left as is). In "the required upstream powers", "the required power levels", "minimum required downstream power", can "required" just be deleted?

Response *Response Status* **W**

ACCEPT IN PRINCIPLE.

Change "The recommended specifications" to "The recommendations".

Change the title of Table 164A-2 from "Specifications for the flat-top AWG based MUX/DEMUX" to "Recommendations for the flat-top AWG based MUX/DEMUX".

Similarly (text and table) in 164A.2.2, 164A.2.3, 164A.2.4 and 164A.3.
Change "... CAWGs are required only at the ..." to "... CAWGs are used only at the ...".

Change "Gain clamping is therefore required to avoid" to "Gain clamping is therefore used to avoid".

"(DCF) is required... a DCM is only required for the (US) upstream direction" to "(DCF) is used... a DCM is used/present for the (US) upstream direction only"
and so on, except e.g. "high extinction ratio required for the downstream OLT transmitter" to "high extinction ratio of the downstream OLT transmitter" (although as this and a couple more are referring to normative requirements in normative sections, they could be left as is).

In "the required upstream powers", "the required power levels", "minimum required downstream power", "required" to be deleted.

Cl **164A** *SC* **164A.2.1** *P* **97** *L* **13** # 244

Dawe, Piers Nvidia

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

Unwanted new-line

SuggestedRemedy

Remove

Response *Response Status* **C**

ACCEPT.

Cl **164A** *SC* **164A.2.5** *P* **99** *L* **20** # 242

Dawe, Piers Nvidia

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

Repetition of "FBG DCMs are likely to be channelized"

SuggestedRemedy

Could change "FBG DCMs are likely to be channelized. Therefore, it is important" to "As FBG DCMs are likely to be channelized, it is important"

Response *Response Status* **C**

ACCEPT.